



**BASSETT**™



**Solid Carbide Cutting Tools**  
End Mills • Drills • Thread Mills • Burs



**GREENFIELD  
INDUSTRIES**

2016

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## Metalcutting Safety (read this before using Bassett products)

Modern metalcutting operations involve high energy, high spindle or cutter speeds, and high temperatures and cutting forces. Hot, flying chips may be projected from the workpiece during metalcutting. Although advanced cutting tool materials are designed and manufactured to withstand the high cutting forces and temperatures that normally occur in these operations, they are susceptible to fragmenting in service, particularly if they are subjected to over-stress, severe impact or otherwise abused. Therefore, precautions should be taken to adequately protect workers, observers and equipment against hot, flying chips, fragmented cutting tools, broken workpieces or other similar projectiles. Machines should be fully guarded and personal protective equipment should be used at all times.

When grinding advanced cutting tool materials, a suitable means for collection and disposal of dust, mist or sludge should be provided. Overexposure to dust or mist containing metallic particles can be hazardous to health particularly if exposure continues over an extended period of time and may cause eye, skin and mucous membrane irritation and temporary or permanent respiratory disease. Certain existing pulmonary and skin conditions may be aggravated by exposure to dust or mist. Adequate ventilation, respiratory protection and eye protection should be provided when grinding and workers should avoid breathing of and prolonged skin contact with dust or mist. General Industry Safety and Health Regulations, Part 1910. U.S. Department of Labor, published in Title 29 of the Code of Federal Regulations should be consulted. Obtain from Bassett and read the applicable Material Safety Data Sheet before grinding.

Cutting tools are only one part of the worker-machine-tool system. Many variables exist in machining operations, including the metal removal rate; the workpiece size, shape, strength and rigidity; the chucking and fixturing; the load carrying capability of centers; the cutter and spindle speed and torque limitations; the holder and boring bar overhang; the available power; and the condition of the tooling and the machine. A safe metalcutting operation must take all of these variables, and others, into consideration.

Bassett has no control over the end use of its products or the environment into which those products are placed. Bassett urges that its customers adhere to the recommended standards of use of their metalcutting machines and tools, and that they follow procedures that ensure safe metalcutting operations. The information included throughout this catalog under the heading "Technical Data" and other recommendations on machining practices referred to herein are only advisory in nature and do not constitute representations or warranties and are not necessarily appropriate for any particular work environment or application.



**BASSETT**™

Bassett has manufactured the highest quality carbide cutting tools for six decades. Today, we serve clients throughout North America and the world from our modern, high-tech manufacturing facilities in Seneca, South Carolina, and worldwide. Our mission: to invest in the resources, technology, and people that enable us to provide world-class solid carbide round cutting tools for your most demanding applications.

A good tool begins with a good foundation. With Bassett, quality begins with a tradition of excellence. As part of the TDC Group, a vertically integrated company, Bassett has access to the finest raw materials from our own mines, which are refined in our own mills, and made into the blanks used in the manufacture of Bassett solid carbide cutting tools. All Bassett products conform to the strictest quality standards for your satisfaction.

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*start on page 53*



**GREENFIELD**  
*a brand of*  
**INDUSTRIES**



**BASSETT**™



***Solid Carbide End Mills***



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| MCH-4R . . . . .  | .4-flute . . .     | single end . . . . .             | bright . . . . .              | 35       |
| MCH-4D . . . . .  | .4-flute . . .     | double end . . . . .             | bright . . . . .              | 35       |

## Tolerances for Solid Carbide End Mills

Cutting Diameter:

1/32" through 1" +.000 -.002

Shank Diameter:

h6

**Solid Carbide End Mills****Variable Index End Mills****Operating Parameters for Series MSE-V-4\* Variable Index End Mills**

|   |   |                         |        |        |        |        |        |        |        |        |  |
|---|---|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| <b>regular and stub length</b>              | side milling axial 1.5 x D • side milling radial .5 x D • slotting axial 1 x D            |                         |        |        |        |        |        |        |        |        |  |
|   | Speed   | feed per tooth (inches) |        |        |        |        |        |        |        |        |  |
| <b>INCH SIZES</b>                           | sfm   | 5/32                    | 3/16   | 1/4    | 5/16   | 3/8    | 1/2    | 5/8    | 3/4    | 1      |  |
| easy to cut stainless steel (303)           | 340   | 0.0010                  | 0.0012 | 0.0016 | 0.0020 | 0.0024 | 0.0026 | 0.0028 | 0.0028 | 0.0030 |  |
| moderately difficult to cut stainless (304) | 290   | 0.0008                  | 0.0010 | 0.0014 | 0.0018 | 0.0020 | 0.0022 | 0.0024 | 0.0026 | 0.0028 |  |
| difficult to cut stainless steels (316L)    | 240   | 0.0006                  | 0.0010 | 0.0012 | 0.0016 | 0.0018 | 0.0020 | 0.0022 | 0.0024 | 0.0024 |  |
| soft steels (1020)                          | 600   | 0.0010                  | 0.0012 | 0.0016 | 0.0024 | 0.0024 | 0.0028 | 0.0030 | 0.0031 | 0.0039 |  |
| titanium alpha beta alloys (Ti6Al4V)        | 200   | 0.0005                  | 0.0006 | 0.0008 | 0.0012 | 0.0012 | 0.0016 | 0.0018 | 0.0020 | 0.0028 |  |
| gray cast iron (GG)                         | 600   | 0.0010                  | 0.0012 | 0.0016 | 0.0024 | 0.0024 | 0.0028 | 0.0030 | 0.0031 | 0.0039 |  |
| <b>long length</b>                          | side milling axial 1.3 x D • side milling radial .2 - .3 x D • slotting axial .3 - .5 x D |                         |        |        |        |        |        |        |        |        |  |
|   | Speed   | feed per tooth (inches) |        |        |        |        |        |        |        |        |  |
| <b>INCH SIZES</b>                           | sfm   | 5/32                    | 3/16   | 1/4    | 5/16   | 3/8    | 1/2    | 5/8    | 3/4    | 1      |  |
| easy to cut stainless steel (303)           | 340   | 0.0009                  | 0.0011 | 0.0014 | 0.0018 | 0.0022 | 0.0023 | 0.0025 | 0.0025 | 0.0027 |  |
| moderately difficult to cut stainless (304) | 290   | 0.0007                  | 0.0009 | 0.0013 | 0.0016 | 0.0018 | 0.0020 | 0.0022 | 0.0023 | 0.0025 |  |
| difficult to cut stainless steel (316L)     | 240   | 0.0005                  | 0.0009 | 0.0011 | 0.0014 | 0.0016 | 0.0018 | 0.0020 | 0.0022 | 0.0022 |  |
| soft steels (1020)                          | 600   | 0.0009                  | 0.0011 | 0.0014 | 0.0022 | 0.0022 | 0.0025 | 0.0027 | 0.0028 | 0.0035 |  |
| titanium alpha beta alloys (Ti6Al4V)        | 200   | 0.0005                  | 0.0005 | 0.0007 | 0.0011 | 0.0011 | 0.0014 | 0.0016 | 0.0018 | 0.0025 |  |
| gray cast iron (GG)                         | 600   | 0.0009                  | 0.0011 | 0.0014 | 0.0022 | 0.0022 | 0.0025 | 0.0027 | 0.0028 | 0.0035 |  |

**Operating Parameters for Series MSE-V2-5\* Variable Index End Mills**

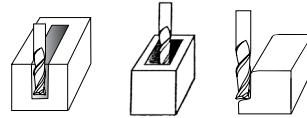
|                                 |   |                              |        |        |        |        |        |        |        |  |  |
|---------------------------------|---|------------------------------|--------|--------|--------|--------|--------|--------|--------|--|--|
|                                 | side milling axial 1.5 x D • side milling radial 0.5 x D • slotting axial 1 x D |                              |        |        |        |        |        |        |        |  |  |
|                                 | speed   | chip load per tooth (inches) |        |        |        |        |        |        |        |  |  |
| <b>INCH SIZES</b>               | sfm   | 3/16                         | 1/4    | 5/16   | 3/8    | 1/2    | 5/8    | 3/4    | 1      |  |  |
| material                        |   |                              |        |        |        |        |        |        |        |  |  |
| medium and high carbon steels   |   |                              |        |        |        |        |        |        |        |  |  |
| >0.3% C                         | 600-750   | 0.0015                       | 0.0021 | 0.0023 | 0.0026 | 0.0028 | 0.0030 | 0.0031 | 0.0039 |  |  |
| alloy steels and tool steels    |   |                              |        |        |        |        |        |        |        |  |  |
| <330HB, <35HRc                  | 600-700   | 0.0011                       | 0.0017 | 0.0020 | 0.0023 | 0.0028 | 0.0030 | 0.0031 | 0.0039 |  |  |
| alloy steels and tool steels    |   |                              |        |        |        |        |        |        |        |  |  |
| 340-450 HB, 36-48 HRc           | 525-625   | 0.0010                       | 0.0015 | 0.0016 | 0.0020 | 0.0028 | 0.0030 | 0.0031 | 0.0039 |  |  |
| austenitic stainless steel      |   |                              |        |        |        |        |        |        |        |  |  |
| 302, 303, 304                   | 350-445   | 0.0011                       | 0.0017 | 0.0020 | 0.0023 | 0.0022 | 0.0024 | 0.0026 | 0.0028 |  |  |
| austenitic stainless steel      |   |                              |        |        |        |        |        |        |        |  |  |
| 316, 316L                       | 225-315   | 0.0009                       | 0.0013 | 0.0016 | 0.0019 | 0.0020 | 0.0024 | 0.0024 | 0.0024 |  |  |
| austenitic stainless steel      |   |                              |        |        |        |        |        |        |        |  |  |
| duplex                          | 190-230   | 0.0008                       | 0.0010 | 0.0014 | 0.0015 | 0.0020 | 0.0024 | 0.0024 | 0.0024 |  |  |
| 0.0024                          |   |                              |        |        |        |        |        |        |        |  |  |
| cast iron, gray                 |   |                              |        |        |        |        |        |        |        |  |  |
| GG                              | 520-660   | 0.0014                       | 0.0022 | 0.0025 | 0.0030 | 0.0028 | 0.0030 | 0.0031 | 0.0039 |  |  |
| ductile and malleable cast iron |   |                              |        |        |        |        |        |        |        |  |  |
| CGI < 80 KSI                    | 430-660   | 0.0009                       | 0.0013 | 0.0018 | 0.0019 | 0.0028 | 0.0030 | 0.0031 | 0.0039 |  |  |
| nickel-based heat-resistant     |   |                              |        |        |        |        |        |        |        |  |  |
| alloys                          | 100-160   | 0.0004                       | 0.0007 | 0.0011 | 0.0015 | 0.0016 | 0.0019 | 0.0023 | 0.0028 |  |  |
| alpha-beta titanium alloys      |   |                              |        |        |        |        |        |        |        |  |  |
| Ti6Al4V                         | 195-240   | 0.0008                       | 0.0010 | 0.0014 | 0.0015 | 0.0016 | 0.0018 | 0.0020 | 0.0028 |  |  |



## Variable Index End Mills for Ferrous Materials

## Series MSE-V-4R

## Applications |

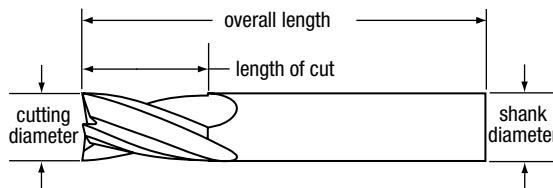
STAINLESS  
STEELHARDENED  
STEELHTTEMP  
ALLOYS

## Features |

SOLID  
CARBIDEVARIABLE  
INDEXCORNER  
RADIUS4 FLUTE  
CC

BRIGHT

TiAlN



|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiAlN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|---------------------|
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/4               | 1/4              | 1-1/2             | 4                | 0.000            | B40165               | B60165              |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/8               | 1/4              | 1-1/2             | 4                | 0.010            | B40140               | B60140              |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 3/16              | 3/8              | 1-1/2             | 4                | 0.000            | B40166               | B60166              |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 3/16              | 3/8              | 1-1/2             | 4                | 0.010            | B40141               | B60141              |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/8               | 1/2              | 1-1/2             | 4                | 0.000            | B40231               | B60231              |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/8               | 1/2              | 1-1/2             | 4                | 0.010            | B40232               | B60232              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 3/8              | 2                 | 4                | 0.000            | B40167               | B60167              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 3/8              | 2                 | 4                | 0.010            | B40142               | B60142              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 7/16             | 2                 | 4                | 0.000            | B40168               | B60168              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 7/16             | 2                 | 4                | 0.010            | B40143               | B60143              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 3/4              | 2-1/2             | 4                | 0.000            | B40169               | B60169              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 3/4              | 2-1/2             | 4                | 0.010            | B40170               | B60170              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1/2              | 2                 | 4                | 0.000            | B40171               | B60171              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1/2              | 2                 | 4                | 0.020            | B40144               | B60144              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 3/16              | 3/4              | 2-1/2             | 4                | 0.000            | B40172               | B60172              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 3/16              | 3/4              | 2-1/2             | 4                | 0.020            | B40145               | B60145              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 3/16              | 3/4              | 2-1/2             | 4                | 0.045            | B40234               | B60234              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1-1/8            | 3                 | 4                | 0.000            | B40173               | B60173              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1-1/8            | 3                 | 4                | 0.020            | B40146               | B60146              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1-1/4            | 3                 | 4                | 0.000            | B40233               | B60233              |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1/2               | 2                | 4                 | 0.000            | B40174           | B60174               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1/2               | 2                | 4                 | 0.020            | B40147           | B60147               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 13/16             | 13/16            | 2-1/2             | 4                | 0.000            | B40175               | B60175              |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 13/16             | 13/16            | 2-1/2             | 4                | 0.020            | B40148               | B60148              |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1-1/4             | 3                | 4                 | 0.000            | B40176           | B60176               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1-1/4             | 3                | 4                 | 0.020            | B40177           | B60177               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 5/8               | 2                | 4                 | 0.000            | B40178           | B60178               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 5/8               | 2                | 4                 | 0.020            | B40149           | B60149               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 7/8               | 2-1/2            | 4                 | 0.000            | B40179           | B60179               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 7/8               | 2-1/2            | 4                 | 0.020            | B40150           | B60150               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 1-1/8             | 3                | 4                 | 0.000            | B40180           | B60180               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 1-1/8             | 3                | 4                 | 0.020            | B40151           | B60151               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2                 | 4                | 4                 | 0.000            | B40181           | B60181               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2                 | 4                | 4                 | 0.020            | B40182           | B60182               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 5/8               | 2-1/2            | 4                 | 0.000            | B40183           | B60183               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 5/8               | 2-1/2            | 4                 | 0.020            | B40152           | B60152               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 1                 | 3                | 4                 | 0.000            | B40184           | B60184               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 1                 | 3                | 4                 | 0.020            | B40153           | B60153               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 2                 | 4                | 4                 | 0.000            | B40185           | B60185               |                     |

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**Solid Carbide End Mills****Variable Index End Mills for Ferrous Materials****BASSETT™****Series MSE-V-4R (continued)****CARBIDE END MILLS****CARBIDE DRILLS****CARBIDE THREAD MILLS****CARBIDE BURS****INDEX**

|  | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiAIN |
|--|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|---------------------|
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 5/8              | 2-1/2             | 4                | 0.000            | B40186               | B60186              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 5/8              | 2-1/2             | 4                | 0.020            | B40237               | B60237              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 5/8              | 2-1/2             | 4                | 0.030            | B40154               | B60154              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 4                | 0.000            | B40187               | B60187              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 4                | 0.030            | B40155               | B60155              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 4                | 0.060            | B40188               | B60188              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 4                | 0.090            | B40189               | B60189              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 4                | 0.125            | B40190               | B60190              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 4                | 0.000            | B40191               | B60191              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 4                | 0.020            | B40238               | B60238              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2 *             | 1-1/4            | 3                 | 4                | 0.020            | -----                | B60235              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 4                | 0.030            | B40192               | B60192              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 4                | 0.060            | B40193               | B60193              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 4                | 0.090            | B40194               | B60194              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 4                | 0.125            | B40195               | B60195              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 4                | 0.000            | B40196               | B60196              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 4                | 0.030            | B40156               | B60156              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 4                | 0.060            | B40197               | B60197              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 4                | 0.090            | B40198               | B60198              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 4                | 0.125            | B40199               | B60199              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 3/4              | 3                 | 4                | 0.000            | B40200               | B60200              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 3/4              | 3                 | 4                | 0.030            | B40157               | B60157              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 4                | 0.000            | B40201               | B60201              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 4                | 0.030            | B40158               | B60158              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 4                | 0.060            | B40202               | B60202              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 4                | 0.090            | B40203               | B60203              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 4                | 0.125            | B40204               | B60204              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 4                | 0.000            | B40205               | B60205              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 4                | 0.030            | B40159               | B60159              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 4                | 0.060            | B40206               | B60206              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 4                | 0.090            | B40207               | B60207              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 4                | 0.125            | B40208               | B60208              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 7/8              | 3                 | 4                | 0.030            | B40236               | B60236              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1                | 3                 | 4                | 0.000            | B40209               | B60209              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1                | 3                 | 4                | 0.030            | B40160               | B60160              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 4                | 0.000            | B40210               | B60210              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 4                | 0.030            | B40161               | B60161              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 4                | 0.060            | B40211               | B60211              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 4                | 0.090            | B40212               | B60212              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 4                | 0.125            | B40213               | B60213              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 4                | 0.000            | B40214               | B60214              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 4                | 0.030            | B40162               | B60162              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 4                | 0.060            | B40215               | B60215              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 4                | 0.090            | B40216               | B60216              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 4                | 0.125            | B40217               | B60217              |

\* Weldon shank; all others plain shank

continued on next page



## Variable Index End Mills for Ferrous Materials

### Series MSE-V-4R (continued)

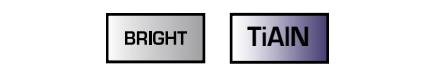
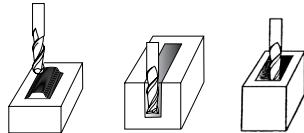
|   | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiAIN |
|---|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|---------------------|
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 1-1/2            | 4                 | 4                | 0.000            | B40218               | B60218              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 1-1/2            | 4                 | 4                | 0.030            | B40163               | B60163              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 1-1/2            | 4                 | 4                | 0.060            | B40219               | B60219              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 1-1/2            | 4                 | 4                | 0.090            | B40220               | B60220              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 1-1/2            | 4                 | 4                | 0.125            | B40221               | B60221              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 2-1/4            | 5                 | 4                | 0.000            | B40222               | B60222              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 2-1/4            | 5                 | 4                | 0.030            | B40164               | B60164              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 2-1/4            | 5                 | 4                | 0.060            | B40223               | B60223              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 2-1/4            | 5                 | 4                | 0.090            | B40224               | B60224              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 2-1/4            | 5                 | 4                | 0.125            | B40225               | B60225              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 3                | 6                 | 4                | 0.000            | B40226               | B60226              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 3                | 6                 | 4                | 0.030            | B40227               | B60227              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 3                | 6                 | 4                | 0.060            | B40228               | B60228              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 3                | 6                 | 4                | 0.090            | B40229               | B60229              |
| 1 | 1.0000                         | 25.40                       | 1                          | 1                 | 3                | 6                 | 4                | 0.125            | B40230               | B60230              |

### Series MSE-V-4B

#### Applications |

STAINLESS  
STEELHARDENED  
STEELHI-TEMP  
ALLOYS

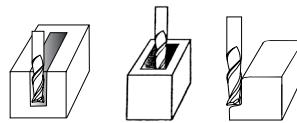
#### Features |

SOLID  
CARBIDEVARIABLE  
INDEX4 FLUTE  
BALL END

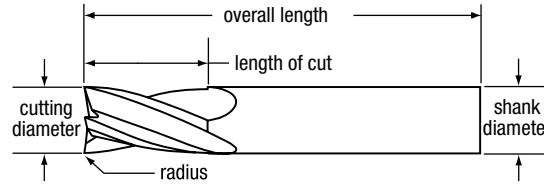
BRIGHT

TiAIN

|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP Number<br>bright | EDP Number<br>TiAIN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|----------------------|---------------------|
| 1/8  | .1250                          | 3.18                        | 1/8                        | 3/8               | 1-1/2            | 4                 | 4                | B40308               | B60308              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 7/16              | 2                | 4                 | 4                | B40309               | B60309              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 3/4               | 2-1/2            | 4                 | 4                | B40310               | B60310              |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 13/16             | 2-1/2            | 4                 | 4                | B40311               | B60311              |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 7/8               | 2-1/2            | 4                 | 4                | B40312               | B60312              |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 1                 | 3                | 4                 | 4                | B40313               | B60313              |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 5/8               | 2-1/2            | 4                 | 4                | B40390               | B70190              |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 1                 | 3                | 4                 | 4                | B40314               | B60314              |
| 5/8  | .6250                          | 15.88                       | 5/8                        | 1-1/4             | 3-1/2            | 4                 | 4                | B40315               | B60315              |
| 3/4  | .7500                          | 19.05                       | 3/4                        | 1-1/2             | 4                | 4                 | 4                | B40316               | B60316              |
| 1    | 1.0000                         | 25.40                       | 1                          | 2-1/4             | 5                | 4                 | 4                | B40317               | B60317              |

**Solid Carbide End Mills****V2 Variable Index End Mills for Ferrous Materials****BASSETT™****Series MSE-V2-5R****Applications |**
STAINLESS STEEL
HARDENED STEEL
HI-TEMP ALLOYS
**Features |**
SOLID CARBIDE
VARIABLE INDEX
CORNER RADIUS
5 FLUTE CC
  
BRIGHT
TiAlN
*improved geometry*


- for slotting up to 1 x D
- minimized chatter from unequal flute spacing
- use one tool for roughing and finishing operations



|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiAlN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|---------------------|
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/8               | 2                | 5                 | 0.000            | B40410           | B60410               |                     |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/8               | 2                | 5                 | 0.010            | B40411           | B60411               |                     |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 7/16              | 2                | 5                 | 0.000            | B40434           | B60434               |                     |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 7/16              | 2                | 5                 | 0.010            | B40412           | B60412               |                     |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/4               | 2-1/2            | 5                 | 0.000            | B40435           | B60435               |                     |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/4               | 2-1/2            | 5                 | 0.010            | B40436           | B60436               |                     |
| 6mm  | 0.2362                         | 6mm                         | 6mm                        | 13mm              | 50mm             | 5                 | .5mm             | B40499           | B70199               |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/2               | 2                | 5                 | 0.000            | B40437           | B60437               |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/2               | 2                | 5                 | 0.020            | B40413           | B60413               |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 3/4               | 2-1/2            | 5                 | 0.000            | B40438           | B60438               |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 3/4               | 2-1/2            | 5                 | 0.020            | B40414           | B60414               |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1-1/8             | 3                | 5                 | 0.010            | B40439           | B60439               |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1-1/8             | 3                | 5                 | 0.020            | B40415           | B60415               |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1-1/4             | 3                | 5                 | 0.000            | B40440           | B60440               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1/2               | 2                | 5                 | 0.000            | B40441           | B60441               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1/2               | 2                | 5                 | 0.020            | B40416           | B60416               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 13/16             | 2-1/2            | 5                 | 0.000            | B40442           | B60442               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 13/16             | 2-1/2            | 5                 | 0.020            | B40417           | B60417               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1-1/4             | 3                | 5                 | 0.000            | B40443           | B60443               |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1-1/4             | 3                | 5                 | 0.020            | B40444           | B60444               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 1/2               | 2                | 5                 | 0.030            | B40320           | B60320               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 5/8               | 2                | 5                 | 0.000            | B40445           | B60445               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 5/8               | 2                | 5                 | 0.020            | B40418           | B60418               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 7/8               | 2-1/2            | 5                 | 0.000            | B40446           | B60446               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 7/8               | 2-1/2            | 5                 | 0.020            | B40419           | B60419               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 1-1/8             | 3                | 5                 | 0.000            | B40447           | B60447               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 1-1/8             | 3                | 5                 | 0.020            | B40420           | B60420               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2                 | 4                | 5                 | 0.000            | B40448           | B60448               |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2                 | 4                | 5                 | 0.020            | B40449           | B60449               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 5/8               | 2-1/2            | 5                 | 0.000            | B40450           | B60450               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 5/8               | 2-1/2            | 5                 | 0.020            | B40421           | B60421               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 1                 | 3                | 5                 | 0.000            | B40451           | B60451               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 1                 | 3                | 5                 | 0.020            | B40422           | B60422               |                     |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 2                 | 4                | 5                 | 0.000            | B40452           | B60452               |                     |

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BASSETT™

Solid Carbide End Mills

**V2 Variable Index End Mills for Ferrous Materials****Series MSE-V2-5R (continued)**

|  | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiAIN |
|--|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|---------------------|
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 5/8              | 2-1/2             | 5                | 0.000            | B40453               | B60453              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 5/8              | 2-1/2             | 5                | 0.030            | B40423               | B60423              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 5                | 0.000            | B40454               | B60454              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2 *             | 1                | 3                 | 5                | 0.020            | B40321               | B60321              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 5                | 0.030            | B40424               | B60424              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2 *             | 1                | 3                 | 5                | 0.030            | B40322               | B60322              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 5                | 0.060            | B40455               | B60455              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 5                | 0.090            | B40456               | B60456              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1                | 3                 | 5                | 0.125            | B40457               | B60457              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 5                | 0.000            | B40458               | B60458              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 5                | 0.020            | B40323               | B60323              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 5                | 0.030            | B40459               | B60459              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2 *             | 1-1/4            | 3                 | 5                | 0.030            | B40324               | B60324              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2 *             | 1-1/4            | 3                 | 5                | 0.045            | B40325               | B60325              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 5                | 0.060            | B40460               | B60460              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 5                | 0.090            | B40461               | B60461              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1-1/4            | 3                 | 5                | 0.125            | B40462               | B60462              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 5                | 0.000            | B40463               | B60463              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 5                | 0.030            | B40425               | B60425              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 5                | 0.060            | B40464               | B60464              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 5                | 0.090            | B40465               | B60465              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 5                | 0.125            | B40466               | B60466              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 3/4              | 3                 | 5                | 0.000            | B40467               | B60467              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 3/4              | 3                 | 5                | 0.030            | B40426               | B60426              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 5                | 0.000            | B40468               | B60468              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 5                | 0.030            | B40427               | B60427              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 5                | 0.060            | B40469               | B60469              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 5                | 0.090            | B40470               | B60470              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1-1/4            | 3-1/2             | 5                | 0.125            | B40471               | B60471              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 5                | 0.000            | B40472               | B60472              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 5                | 0.030            | B40428               | B60428              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 5                | 0.060            | B40473               | B60473              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 5                | 0.090            | B40474               | B60474              |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2-1/4            | 5                 | 5                | 0.125            | B40475               | B60475              |
|  | 3/4                            | .7500                       | 19.05                      | 1/2 *             | 1                | 3                 | 5                | 0.030            | -----                | B60498              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1                | 3                 | 5                | 0.000            | B40476               | B60476              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1                | 3                 | 5                | 0.030            | B40429               | B60429              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 5                | 0.000            | B40477               | B60477              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 5                | 0.030            | B40430               | B60430              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 5                | 0.060            | B40478               | B60478              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 5                | 0.090            | B40479               | B60479              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1-1/2            | 4                 | 5                | 0.125            | B40480               | B60480              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 5                | 0.000            | B40481               | B60481              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 5                | 0.030            | B40431               | B60431              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 5                | 0.060            | B40482               | B60482              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 5                | 0.090            | B40483               | B60483              |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 2-1/4            | 5                 | 5                | 0.125            | B40484               | B60484              |

\* Weldon shank; all others plain shank

continued on next page

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

INDEX

**Solid Carbide End Mills****V2 Variable Index End Mills for Ferrous Materials****BASSETT™****Series MSE-V2-5R (continued)****CARBIDE END MILLS****CARBIDE DRILLS****CARBIDE THREAD MILLS****CARBIDE BURS****INDEX**

|   |        | cutting diameter<br>fractional | cutting diameter<br>decimal | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiAIN |
|---|--------|--------------------------------|-----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|---------------------|
| 1 | 1.0000 | 25.40                          | 1                           | 1-1/2             | 4                | 5                 | 0.000            | B40485           | B60485               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 1-1/2             | 4                | 5                 | 0.030            | B40432           | B60432               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 1-1/2             | 4                | 5                 | 0.060            | B40486           | B60486               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 1-1/2             | 4                | 5                 | 0.090            | B40487           | B60487               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 1-1/2             | 4                | 5                 | 0.125            | B40488           | B60488               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 2-1/4             | 5                | 5                 | 0.000            | B40489           | B60489               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 2-1/4             | 5                | 5                 | 0.030            | B40433           | B60433               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 2-1/4             | 5                | 5                 | 0.060            | B40490           | B60490               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 2-1/4             | 5                | 5                 | 0.090            | B40491           | B60491               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 2-1/4             | 5                | 5                 | 0.125            | B40492           | B60492               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 3                 | 6                | 5                 | 0.000            | B40493           | B60493               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 3                 | 6                | 5                 | 0.030            | B40494           | B60494               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 3                 | 6                | 5                 | 0.060            | B40495           | B60495               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 3                 | 6                | 5                 | 0.090            | B40496           | B60496               |                     |
| 1 | 1.0000 | 25.40                          | 1                           | 3                 | 6                | 5                 | 0.125            | B40497           | B60497               |                     |



## High-Performance End Mills for Steel

### Operating Parameters: HPEM High-Performance End Mills for Steel

| Material   | Hardness |        | Surface Feet per Minute |      | Chip Load per Tooth |             |           |
|--|----------|--------|-------------------------|------|---------------------|-------------|-----------|
|  | Brinell  | HRc    | Speed Range             | SFM  | 1/32" - 1/4"        | 1/4" - 1/2" | 1/2" - 1" |
| low alloy steels   | <220 HB  | <19    | Low                     | 600  | .0005               | .0010       | .0020     |
|  |          |        | High                    | 750  | .0010               | .0020       | .0030     |
| medium alloy steels<br>01 to 07, W1 to W3, M1 to M3, T1 to T5,<br>A2 to A3, S1 to S7, P2 to P3 | 225-286  | 20-30  | Low                     | 600  | .0003               | .0005       | .0010     |
|  |          |        | High                    | 750  | .0005               | .0010       | .0015     |
| high alloy steels<br>M4 to M7, T6 to T15, D2 to D7, A4 to A7, P4                               | 294-371  | 31-40  | Low                     | 525  | .0003               | .0005       | .0008     |
|  |          |        | High                    | 625  | .0005               | .0010       | .0015     |
| stainless steels 200/300 series  | 135-275  | <28    | Low                     | 250  | .0005               | .0010       | .0020     |
|  |          |        | High                    | 350  | .0010               | .0020       | .0030     |
| stainless steels 400/500 series  | 135-330  | <35    | Low                     | 340  | .0003               | .0008       | .0010     |
|  |          |        | High                    | 400  | .0005               | .0010       | .0015     |
| nickel-based alloys  | 140-475  | <32-50 | Low                     | 100  | .0005               | .0010       | .0015     |
|  |          |        | High                    | 160  | .0010               | .0015       | .0040     |
| titanium alloys  | 110-450  | <48    | Low                     | 195  | .0005               | .0010       | .0025     |
|  |          |        | High                    | 240  | .0010               | .0030       | .0050     |
| inconel  | 140-475  | <48    | Low                     | 100  | .0005               | .0010       | .0015     |
|  |          |        | High                    | 160  | .0010               | .0015       | .0030     |
| aluminum, low silicon  | —        | —      | Low                     | 800  | .0030               | .0040       | .0060     |
|  |          |        | High                    | 1600 | .0040               | .0060       | .0080     |

Higher values for surface speed should be used for radial depths of cut less than 25% of the diameter. Lower values for surface speed should be used for radial depths of cut greater than 25% of the diameter. The above recommendations are for axial lengths of cut not to exceed 1 times the cutter diameter for profiling and .5 times the diameter for slotting. Recommended speeds above are for uncoated tools only and should be adjusted when using coated

tools. Generally, speeds can be increased by the following factors: TiCN-coated tools – 20-25% increase; TiAlN-coated tools – 40-50% increase. The above speeds are a recommended starting point only. If the tool is working well, without vibrations or significant noise, increase the SFM in 5-10% increments. Ultimate speeds will depend upon setup conditions. Higher or lower parameters may be required to achieve optimum conditions.

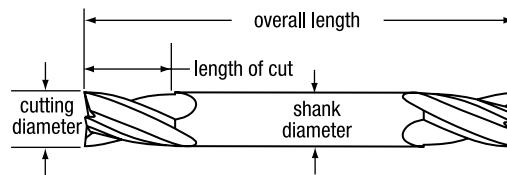
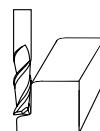
### Series HPEM for stainless steels and exotic materials

#### Features and Benefits of HPEM End Mills

- Maximized strength due to increased cross-sectional area in the core and flute body.
- Combination of micrograin carbide substrate with high-performance coatings.
- Achieve 50% greater chip loads and 20% to 40% higher speeds than conventional end mills.

#### Applications for HPEM End Mills

- Designed for cutting applications involving excessive mechanical stress.
- Ideally suited for use in stainless steel and exotics such as hastalloy, waspalloy, and inconel.
- 3-flute square end for pocketing, slotting, or roughing.
- 3-flute ball nose gives enhanced surface finish in contour cutting and rapid chip removal in plunge cutting.
- 5-flute design for profiling and finishing applications.

**Solid Carbide End Mills****High-Performance End Mills For Steel****BASSETT™****Series HPDEM-5 • Double End****Applications |****HARDENED  
STEEL****STAINLESS  
STEEL****HI-TEMP  
ALLOYS****Features |****SOLID  
CARBIDE****5 FLUTE  
CC****47°  
TIP****BRIGHT****TiCN****TiAlN**

|  | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiCN | EDP Number<br>TiAlN |
|--|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|---------------------|
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1/4              | 1 1/2             | 5                | 0.000            | B05100               | B05605             | B66100              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 5/16             | 2                 | 5                | 0.000            | B05101               | B05609             | B66101              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 3/8              | 2 1/2             | 5                | 0.000            | B05103               | B05613             | B66103              |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 7/16             | 2 1/2             | 5                | 0.000            | B05104               | B05617             | B66104              |
|  | 3/8                            | .3750                       | 9.53                       | 3/8               | 1/2              | 2 1/2             | 5                | 0.000            | B05106               | B05621             | B66106              |
|  | 7/16                           | .4375                       | 11.11                      | 7/16              | 9/16             | 3                 | 5                | 0.000            | B05108               | B05625             | B66108              |
|  | 1/2                            | .5000                       | 12.70                      | 1/2 *             | 5/8              | 3                 | 5                | 0.000            | B05110               | B05629             | B66110              |

\* Weldon shank; all others plain shank



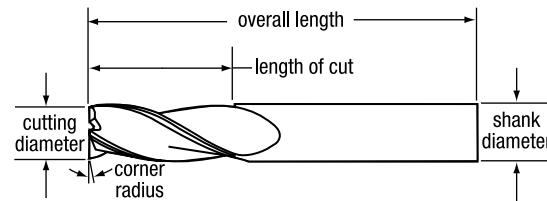
## High-Performance End Mills For Steel

## Series HPEM-3

## Applications |

HARDENED  
STEEL      STAINLESS  
STEEL

## Features |

 SOLID CARBIDE    3 FLUTE CC    CORNER RADIUS    30°  
 BRIGHT            TiCN            TiAlN


|       | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiCN | EDP Number<br>TiAlN |
|-------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|---------------------|
| 1/8   | .1250                          | 3.18                        | 1/8                        | 1/4               | 1/4              | 1 1/2             | 3                | 0.010            | B05105               | B05005             | B05305              |
| 1/8   | .1250                          | 3.18                        | 1/8                        | 1/8               | 1/2              | 1 1/2             | 3                | 0.010            | B05140               | B05040             | B05340              |
| 5/32  | .1562                          | 3.97                        | 3/16                       | 5/16              | 5/16             | 1 1/2             | 3                | 0.010            | B05107               | B05007             | B05307              |
| 5/32  | .1562                          | 3.97                        | 3/16                       | 3/16              | 9/16             | 2                 | 3                | 0.010            | B05142               | B05042             | B05342              |
| 3/16  | .1875                          | 4.76                        | 3/16                       | 3/16              | 5/16             | 2                 | 3                | 0.010            | B05109               | B05009             | B05309              |
| 3/16  | .1875                          | 4.76                        | 3/16                       | 3/16              | 5/8              | 2                 | 3                | 0.010            | B05144               | B05044             | B05344              |
| 7/32  | .2188                          | 5.56                        | 1/4                        | 1/4               | 1/2              | 2                 | 3                | 0.020            | B05111               | B05011             | B05311              |
| 7/32  | .2188                          | 5.56                        | 1/4                        | 1/4               | 3/4              | 2 1/2             | 3                | 0.020            | B05146               | B05046             | B05346              |
| 1/4   | .2500                          | 6.35                        | 1/4                        | 3/8               | 2                | 2                 | 3                | 0.020            | B05113               | B05013             | B05313              |
| 1/4   | .2500                          | 6.35                        | 1/4                        | 3/4               | 2 1/2            | 3                 | 0.020            | B05148           | B05048               | B05348             |                     |
| 9/32  | .2812                          | 7.14                        | 5/16                       | 7/16              | 2                | 3                 | 0.020            | B05115           | B05015               | B05315             |                     |
| 9/32  | .2812                          | 7.14                        | 5/16                       | 13/16             | 13/16            | 2 1/2             | 3                | 0.020            | B05150               | B05050             | B05350              |
| 5/16  | .3125                          | 7.94                        | 5/16                       | 7/16              | 7/16             | 2                 | 3                | 0.020            | B05117               | B05017             | B05317              |
| 5/16  | .3125                          | 7.94                        | 5/16                       | 13/16             | 13/16            | 2 1/2             | 3                | 0.020            | B05152               | B05052             | B05352              |
| 11/32 | .3438                          | 8.73                        | 3/8                        | 1/2               | 2                | 3                 | 0.020            | B05119           | B05019               | B05319             |                     |
| 11/32 | .3438                          | 8.73                        | 3/8                        | 7/8               | 2 1/2            | 3                 | 0.020            | B05154           | B05054               | B05354             |                     |
| 3/8   | .3750                          | 9.53                        | 3/8                        | 1/2               | 2                | 3                 | 0.020            | B05121           | B05021               | B05321             |                     |
| 3/8   | .3750                          | 9.53                        | 3/8                        | 7/8               | 2 1/2            | 3                 | 0.020            | B05156           | B05056               | B05356             |                     |
| 13/32 | .4062                          | 10.32                       | 7/16                       | 9/16              | 2 1/2            | 3                 | 0.020            | B05123           | B05023               | B05323             |                     |
| 13/32 | .4062                          | 10.32                       | 7/16                       | 1                 | 2 1/2            | 3                 | 0.020            | B05158           | B05058               | B05358             |                     |
| 7/16  | .4375                          | 11.11                       | 7/16                       | 9/16              | 2 1/2            | 3                 | 0.020            | B05125           | B05025               | B05325             |                     |
| 7/16  | .4375                          | 11.11                       | 7/16                       | 1                 | 2 1/2            | 3                 | 0.020            | B05160           | B05060               | B05360             |                     |
| 15/32 | .4688                          | 11.91                       | 1/2 *                      | 5/8               | 2 1/2            | 3                 | 0.020            | B05127           | B05027               | B05327             |                     |
| 15/32 | .4688                          | 11.91                       | 1/2 *                      | 1 1/4             | 3                | 3                 | 0.020            | B05162           | B05062               | B05362             |                     |
| 1/2   | .5000                          | 12.70                       | 1/2 *                      | 5/8               | 2 1/2            | 3                 | 0.030            | B05129           | B05029               | B05329             |                     |
| 1/2   | .5000                          | 12.70                       | 1/2 *                      | 1 1/4             | 3                | 3                 | 0.030            | B05164           | B05064               | B05364             |                     |
| 5/8   | .6250                          | 15.88                       | 5/8 *                      | 3/4               | 3                | 3                 | 0.030            | B05131           | B05031               | B05331             |                     |
| 5/8   | .6250                          | 15.88                       | 5/8 *                      | 1 5/8             | 4                | 3                 | 0.030            | B05166           | B05066               | B05366             |                     |
| 3/4   | .7500                          | 19.05                       | 3/4 *                      | 7/8               | 3                | 3                 | 0.030            | B05133           | B05032               | B05332             |                     |
| 3/4   | .7500                          | 19.05                       | 3/4 *                      | 1 5/8             | 4                | 3                 | 0.030            | B05168           | B05067               | B05367             |                     |
| 1     | 1.0000                         | 25.40                       | 1 *                        | 1 1/8             | 3                | 3                 | 0.030            | B05135           | B05034               | B05334             |                     |
| 1     | 1.0000                         | 25.40                       | 1 *                        | 2                 | 4                | 3                 | 0.030            | B05170           | B05069               | B05369             |                     |

\* Weldon shank; all others plain shank

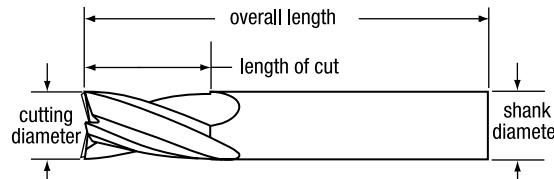
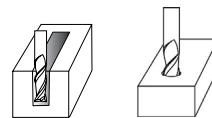
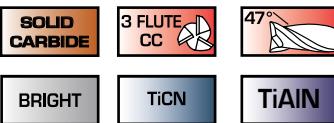


Series HPEM-5

## Applications



## Features |



| Cutting Diameter |         |        | Shank Diameter | Length of Cut | Overall Length | No. of Flutes | Corner Radius | EDP Number |        |        |
|------------------|---------|--------|----------------|---------------|----------------|---------------|---------------|------------|--------|--------|
| Fractional       | Decimal | Metric |                |               |                |               |               | Bright     | TiCN   | TiAlN  |
| 1/8              | .1250   | 3.18   | 1/8            | 1/4           | 1 1/2          | 5             | 0.000         | B05112     | B05405 | B05805 |
| 1/8              | .1250   | 3.18   | 1/8            | 1/2           | 1 1/2          | 5             | 0.000         | B05141     | B05440 | B05840 |
| 1/8              | .1250   | 3.18   | 1/8            | 1/2           | 2              | 5             | 0.000         | B05098     | -----  | B70175 |
| 5/32             | .1562   | 3.97   | 3/16           | 5/16          | 2              | 5             | 0.000         | B05114     | B05407 | B05807 |
| 5/32             | .1562   | 3.97   | 3/16           | 9/16          | 2              | 5             | 0.000         | B05143     | B05442 | B05842 |
| 3/16             | .1875   | 4.76   | 3/16           | 5/16          | 2              | 5             | 0.000         | B05116     | B05409 | B05809 |
| 3/16             | .1875   | 4.76   | 3/16           | 9/16          | 2              | 5             | 0.000         | B05145     | B05444 | B05844 |
| 7/32             | .2188   | 5.56   | 1/4            | 3/8           | 2              | 5             | 0.000         | B05118     | B05411 | B05811 |
| 7/32             | .2188   | 5.56   | 1/4            | 3/4           | 2 1/2          | 5             | 0.000         | B05147     | B05446 | B05846 |
| 1/4              | .2500   | 6.35   | 1/4            | 3/8           | 2              | 5             | 0.000         | B05120     | B05413 | B05813 |
| 1/4              | .2500   | 6.35   | 1/4            | 3/4           | 2 1/2          | 5             | 0.000         | B05149     | B05448 | B05848 |
| 1/4              | .2500   | 6.35   | 1/4            | 1 1/4         | 4              | 5             | 0.000         | B05171     | B05513 | B05913 |
| 9/32             | .2812   | 7.14   | 5/16           | 7/16          | 2              | 5             | 0.000         | B05122     | B05415 | B05815 |
| 9/32             | .2812   | 7.14   | 5/16           | 13/16         | 2 1/2          | 5             | 0.000         | B05151     | B05450 | B05850 |
| 5/16             | .3125   | 7.94   | 5/16           | 7/16          | 2              | 5             | 0.000         | B05124     | B05417 | B05817 |
| 5/16             | .3125   | 7.94   | 5/16           | 13/16         | 2 1/2          | 5             | 0.000         | B05153     | B05452 | B05852 |
| 5/16             | .3125   | 7.94   | 5/16           | 1 1/4         | 4              | 5             | 0.000         | B05173     | B05517 | B05917 |
| 3/8              | .3750   | 9.53   | 3/8            | 1/2           | 2              | 5             | 0.000         | B05126     | B05421 | B05821 |
| 3/8              | .3750   | 9.53   | 3/8            | 7/8           | 2 1/2          | 5             | 0.000         | B05155     | B05456 | B05856 |
| 3/8              | .3750   | 9.53   | 3/8            | 1 1/2         | 4              | 5             | 0.000         | B05175     | B05521 | B05921 |
| 7/16             | .4375   | 11.11  | 7/16           | 9/16          | 2 1/2          | 5             | 0.000         | B05128     | B05425 | B05825 |
| 7/16             | .4375   | 11.11  | 7/16           | 1             | 2 1/2          | 5             | 0.000         | B05157     | B05460 | B05860 |
| 7/16             | .4375   | 11.11  | 7/16           | 2             | 4              | 5             | 0.000         | B05177     | B05525 | B05925 |
| 1/2              | .5000   | 12.70  | 1/2 *          | 5/8           | 2 1/2          | 5             | 0.000         | B05130     | B05429 | B05829 |
| 1/2              | .5000   | 12.70  | 1/2 *          | 1 1/4         | 3              | 5             | 0.000         | B05159     | B05464 | B05864 |
| 1/2              | .5000   | 12.70  | 1/2 *          | 2             | 4              | 5             | 0.000         | B05179     | B05529 | B05929 |
| 9/16             | .5625   | 14.29  | 9/16 *         | 1 1/2         | 3 1/2          | 5             | 0.000         | B05161     | B05465 | B05865 |
| 5/8              | .6250   | 15.88  | 5/8 *          | 3/4           | 3              | 5             | 0.000         | B05132     | B05431 | B05831 |
| 5/8              | .6250   | 15.88  | 5/8 *          | 1 5/8         | 4              | 5             | 0.000         | B05163     | B05466 | B05866 |
| 5/8              | .6250   | 15.88  | 5/8 *          | 2 1/2         | 5              | 5             | 0.000         | B05181     | B05531 | B05931 |
| 3/4              | .7500   | 19.05  | 3/4 *          | 7/8           | 3              | 5             | 0.000         | B05134     | B05432 | B05832 |
| 3/4              | .7500   | 19.05  | 3/4 *          | 1 5/8         | 4              | 5             | 0.000         | B05165     | B05467 | B05867 |
| 3/4              | .7500   | 19.05  | 3/4 *          | 3 1/4         | 6              | 5             | 0.000         | B05183     | B05532 | B05932 |
| 7/8              | .8750   | 22.23  | 7/8 *          | 2             | 4              | 5             | 0.000         | B05167     | B05468 | B05868 |
| 1                | 1.0000  | 25.40  | 1 *            | 1 1/8         | 3              | 5             | 0.000         | B05136     | B05434 | B05834 |
| 1                | 1.0000  | 25.40  | 1 *            | 2             | 4              | 5             | 0.000         | B05169     | B05469 | B05869 |
| 1                | 1.0000  | 25.40  | 1 *            | 3 1/4         | 6              | 5             | 0.000         | B05185     | B05533 | B05933 |

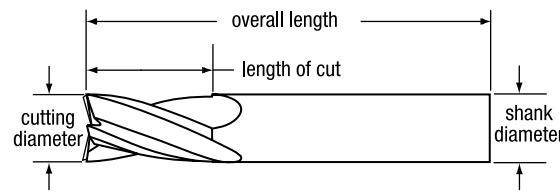
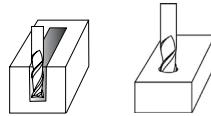
\* Weldon shank; all others plain shank

**High-Performance End Mills For Steel****Series HPEM-6****Applications |**

HARDENED  
STEEL      STAINLESS  
STEEL      HI-TEMP  
ALLOYS

**Features |**

SOLID  
CARBIDE      3 FLUTE  
CC      47°  
BRIGHT      TiAlN



|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | bright | EDP Number | TiAlN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|--------|------------|-------|
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 5/8              | 2                 | 6                | 0.000            | -----  | B70180     |       |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 3/4              | 2 1/2             | 6                | 0.000            | B50187 | B70187     |       |
| 3/8  | .3750                          | 9.52                        | 3/8                        | 3/8               | 7/8              | 2 1/2             | 6                | 0.000            | -----  | B70181     |       |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 1/2               | 1 1/4            | 3                 | 6                | 0.000            | B70185 | B70186     |       |

**Solid Carbide End Mills****High-Performance End Mills for Aluminum**

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

CARBIDE BURS

INDEX

**Operating Parameters: HPAM High-Performance End Mills for Aluminum**

| Type of Cut                      | Aluminum Alloys                            | Depth of Cut<br>% of tool<br>diameter | SFM<br>(speed) | End Mill Diameter Chip Load per Tooth |        |       |        |        |       |
|----------------------------------|--|---------------------------------------|----------------|---------------------------------------|--------|-------|--------|--------|-------|
|                                  |  |                                       |                | 1/4"                                  | 3/8"   | 1/2"  | 5/8"   | 3/4"   | 1"    |
| shallow<br>slotting              | 6061-T6, 7075-T6,<br>440, 356, 380, C61300 | < 50%                                 | 1200 +         | .0045                                 | .0071  | .0100 | .0123  | .0149  | .0200 |
|                                  | > 32 HRC                                   |                                       | 600 +          | .0036                                 | .0057  | .0080 | .0098  | .0119  | .0160 |
| deep slotting                    | < 32 HRC                                   | 75-100%                               | 1200 +         | .0036                                 | .0057  | .0080 | .0098  | .0119  | .0160 |
|                                  | > 32 HRC                                   |                                       | 600 +          | .0027                                 | .0043  | .0060 | .0074  | .0089  | .0120 |
| medium radial<br>1.0 x dia depth | < 32 HRC                                   | 30% x dia.<br>radial                  | 1200 +         | .0045                                 | .0071  | .0100 | .0123  | .0149  | .0200 |
|                                  | > 32 HRC                                   |                                       | 600 +          | .0036                                 | .0057  | .0080 | .0098  | .0119  | .0160 |
| heavy radial<br>1.0 x dia depth  | < 32 HRC                                   | 50% x dia.<br>radial                  | 1200 +         | .0036                                 | .0057  | .0080 | .0098  | .0119  | .016  |
| medium radial<br>2.0 x dia depth | < 32 HRC                                   | 30% x dia.<br>radial                  | 1200 +         | .0045                                 | .0071  | .0100 | .0123  | .0149  | .0200 |
|                                  | > 32 HRC                                   |                                       | 600 +          | .0036                                 | .0057  | .0080 | .0098  | .0119  | .0160 |
| heavy radial<br>2.0 x dia depth  | < 32 HRC                                   | 50% x dia.<br>radial                  | 1200 +         | .0036                                 | .0057  | .0080 | .0098  | .0119  | .0160 |
| finishing<br>medium radial       | < 32 HRC                                   | < 25% of dia.                         | 1200 +         | .0045                                 | .0071  | .0100 | .0123  | .0149  | .0200 |
|                                  | > 32 HRC                                   |                                       | 600 +          | .0036                                 | .0057  | .0080 | .0098  | .0119  | .0160 |
| finishing<br>light radial        | < 32HRC                                    | < 10% of dia.                         | 1200 +         | .0045                                 | .00713 | .0100 | .01225 | .01485 | .0200 |
| finishing                        | < 32 HRC                                   | < .010 radial<br>depth                | 1200 +         | .0054                                 | .0086  | .0120 | .0147  | .0178  | .0240 |
|                                  | > 32 HRC                                   |                                       | 600 +          | .0045                                 | .0071  | .0100 | .0123  | .0149  | .0200 |

This chart represents starting points based on a coated tool. Reduce rates up to 50% when using an uncoated tool.

These speed and feed rates are suggested as general guidelines. Machine type, horsepower, spindle speed limitations, toolholding and workholding devices all may impact a cutting tool's ability to perform properly. Greenfield Industries is not responsible for tool failure, part damage, or injury that may be caused by following these general recommendations..

**Formulae**

$$RPM = (SFM \times 3.82) / \text{tool diameter}$$

$$IPM = \text{number of flutes} \times RPM \times \text{chip load per tooth}$$

**Series HPAM for aluminum and nonferrous materials****Features and Benefits of HPAM End Mills**

- Delivers superior performance, providing increased tool life and improved part finish.
- Concentric margins stabilize the tool in the cut and reduce chatter at elevated speeds.
- Greater resistance to chipping with increased feed and speed rates over conventional carbide tools.
- Design incorporates rake enhancements in the flute for improved chip flow and higher feed rates at high and low spindle speeds.
- Tool design eliminates excess pressure that causes chip packing.

**Applications for HPAM End Mills**

- 2-flute square end offers excellent performance in roughing and finishing, in ramp cutting and in ploughing.
- 2-flute ball nose designed for contouring aluminum, copper, and other non-ferrous materials.
- 3-flute square end gives superior surface finishes without sacrificing metal removal rates in high-speed slotting, profiling, and ramping.



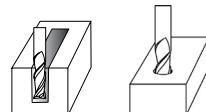
## High-Performance End Mills for Aluminum

Series HPAM-2 • square end

## Applications |

ALUMINUM

NON-FERROUS MATERIALS



## Features |

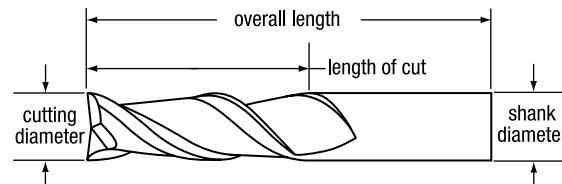
SOLID CARBIDE

2 FLUTE CC

45° HI-HELIX

BRIGHT

TiCN



|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiCN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/8               | 1/4              | 1 1/2             | 2                | 0.000            | B04440               | B06440             |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/8               | 3/8              | 1 1/2             | 2                | 0.000            | B04405               | B06405             |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 5/16             | 2                 | 2                | 0.000            | B04444               | B06444             |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 9/16             | 2                 | 2                | 0.000            | B04409               | B06409             |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 3/8              | 2 1/2             | 2                | 0.000            | B04448               | B06448             |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 3/4              | 2 1/2             | 2                | 0.000            | B04413               | B06413             |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1 1/4            | 3                 | 2                | 0.000            | B04548               | B06548             |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 5/16              | 7/16             | 2 1/2             | 2                | 0.000            | B04452               | B06452             |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 5/16              | 13/16            | 2 1/2             | 2                | 0.000            | B04417               | B06417             |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 5/16              | 1 1/4            | 3 1/2             | 2                | 0.000            | B04552               | B06552             |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 5/16              | 2 1/8            | 4                 | 2                | 0.000            | B04617               | B06617             |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 3/8               | 1/2              | 2 1/2             | 2                | 0.000            | B04456               | B06456             |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 3/8               | 1                | 2 1/2             | 2                | 0.000            | B04421               | B06421             |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 3/8               | 1 1/2            | 4                 | 2                | 0.000            | B04556               | B06556             |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 3/8               | 2 1/2            | 6                 | 2                | 0.000            | B04621               | B06621             |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 7/16              | 9/16             | 2 1/2             | 2                | 0.000            | B04460               | B06460             |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 7/16              | 1                | 2 1/2             | 2                | 0.000            | B04425               | B06425             |
| 7/16 | .4375                          | 11.11                       | 7/16                       | 7/16              | 2                | 4                 | 2                | 0.000            | B04560               | B06560             |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 1/2               | 5/8              | 3                 | 2                | 0.000            | B04464               | B06464             |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 1/2               | 1 1/4            | 3                 | 2                | 0.000            | B04429               | B06429             |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 1/2               | 2                | 4                 | 2                | 0.000            | B04564               | B06564             |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 1/2               | 3 1/8            | 6                 | 2                | 0.000            | B04629               | B06629             |
| 5/8  | .6250                          | 15.88                       | 5/8                        | 5/8               | 3/4              | 3 1/2             | 2                | 0.000            | B04466               | B06466             |
| 5/8  | .6250                          | 15.88                       | 5/8                        | 5/8               | 1 5/8            | 4                 | 2                | 0.000            | B04431               | B06431             |
| 5/8  | .6250                          | 15.88                       | 5/8                        | 5/8               | 2 1/2            | 5                 | 2                | 0.000            | B04566               | B06566             |
| 5/8  | .6250                          | 15.88                       | 5/8                        | 5/8               | 3 3/4            | 6                 | 2                | 0.000            | B04631               | B06631             |
| 3/4  | .7500                          | 19.05                       | 3/4                        | 3/4               | 1                | 4                 | 2                | 0.000            | B04467               | B06467             |
| 3/4  | .7500                          | 19.05                       | 3/4                        | 3/4               | 1 5/8            | 4                 | 2                | 0.000            | B04432               | B06432             |
| 3/4  | .7500                          | 19.05                       | 3/4                        | 3/4               | 3 1/4            | 6                 | 2                | 0.000            | B04567               | B06567             |
| 3/4  | .7500                          | 19.05                       | 3/4                        | 3/4               | 4                | 6 1/2             | 2                | 0.000            | B04632               | B06632             |
| 1    | 1.0000                         | 25.40                       | 1                          | 1                 | 1 1/4            | 5                 | 2                | 0.000            | B04469               | B06469             |
| 1    | 1.0000                         | 25.40                       | 1                          | 1                 | 2                | 5                 | 2                | 0.000            | B04434               | B06434             |
| 1    | 1.0000                         | 25.40                       | 1                          | 1                 | 3 1/4            | 6                 | 2                | 0.000            | B04569               | B06569             |
| 1    | 1.0000                         | 25.40                       | 1                          | 1                 | 4 1/8            | 7                 | 2                | 0.000            | B04634               | B06634             |

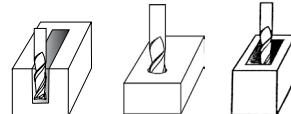
**Solid Carbide End Mills****High-Performance End Mills for Aluminum**

Series HPAM-3 • square end

**Applications |**

ALUMINUM

NON-FERROUS MATERIALS

**Features |**

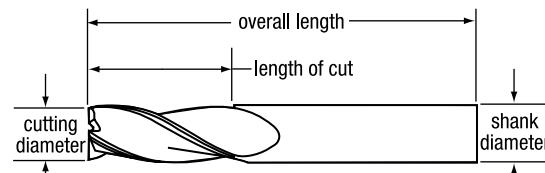
SOLID CARBIDE

3 FLUTE CC

35° CC

BRIGHT

TiCN



|  | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiCN |
|--|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1/4              | 1 1/2             | 3                | 0.000            | B04005               | B06005             |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 3/8              | 1 1/2             | 3                | 0.000            | B04040               | B06040             |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 5/16             | 2                 | 3                | 0.000            | B04009               | B06009             |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 9/16             | 2                 | 3                | 0.000            | B04044               | B06044             |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 3/8              | 2                 | 3                | 0.000            | B04013               | B06013             |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 5/8              | 2 1/2             | 3                | 0.000            | B04048               | B06048             |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1 1/4            | 3                 | 3                | 0.000            | B04148               | B06148             |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 7/16             | 2                 | 3                | 0.000            | B04017               | B06017             |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 5/8              | 2 1/2             | 3                | 0.000            | B04052               | B06052             |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 1 1/4            | 3 1/2             | 3                | 0.000            | B04152               | B06152             |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 2 1/8            | 4                 | 3                | 0.000            | B04217               | B06217             |
|  | 3/8                            | .3750                       | 9.53                       | 3/8               | 1/2              | 2                 | 3                | 0.000            | B04021               | B06021             |
|  | 3/8                            | .3750                       | 9.53                       | 3/8               | 1                | 2 1/2             | 3                | 0.000            | B04056               | B06056             |
|  | 3/8                            | .3750                       | 9.53                       | 3/8               | 1 1/2            | 3 1/2             | 3                | 0.000            | B04156               | B06156             |
|  | 3/8                            | .3750                       | 9.53                       | 3/8               | 2 1/2            | 6                 | 3                | 0.000            | B04221               | B06221             |
|  | 7/16                           | .4375                       | 11.11                      | 7/16              | 9/16             | 2 1/2             | 3                | 0.000            | B04025               | B06025             |
|  | 7/16                           | .4375                       | 11.11                      | 7/16              | 1 1/4            | 2 1/2             | 3                | 0.000            | B04060               | B06060             |
|  | 7/16                           | .4375                       | 11.11                      | 7/16              | 2                | 4                 | 3                | 0.000            | B04160               | B06160             |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 5/8              | 2 1/2             | 3                | 0.000            | B04029               | B06029             |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 1 1/4            | 3                 | 3                | 0.000            | B04064               | B06064             |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 2                | 4                 | 3                | 0.000            | B04164               | B06164             |
|  | 1/2                            | .5000                       | 12.70                      | 1/2               | 3 1/8            | 6                 | 3                | 0.000            | B04229               | B06229             |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 3/4              | 3                 | 3                | 0.000            | B04031               | B06031             |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 1 5/8            | 4                 | 3                | 0.000            | B04066               | B06066             |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 2 1/2            | 5                 | 3                | 0.000            | B04166               | B06166             |
|  | 5/8                            | .6250                       | 15.88                      | 5/8               | 3 3/4            | 6                 | 3                | 0.000            | B04231               | B06231             |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1                | 3                 | 3                | 0.000            | B04032               | B06032             |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 1 5/8            | 4                 | 3                | 0.000            | B04067               | B06067             |
|  | 3/4                            | .7500                       | 19.05                      | 3/4               | 3 1/4            | 6                 | 3                | 0.000            | B04167               | B06167             |
|  | 1                              | 1.0000                      | 25.40                      | 1                 | 1 1/4            | 4                 | 3                | 0.000            | B04034               | B06034             |
|  | 1                              | 1.0000                      | 25.40                      | 1                 | 2                | 5                 | 3                | 0.000            | B04069               | B06069             |
|  | 1                              | 1.0000                      | 25.40                      | 1                 | 3 1/4            | 6                 | 3                | 0.000            | B04169               | B06169             |

**High-Performance Roughers****Operating Parameters for High-Performance Roughers**

| Material  | Hardness               |                    | Surface Feet per Minute |                        |                        | Chip Load per Tooth            |                                |
|---|------------------------|--------------------|-------------------------|------------------------|------------------------|--------------------------------|--------------------------------|
|   | Brinell                | HRc                | Uncoated                | TiCN                   | TiAIN                  | 1/4" to 1/2"                   | 1/2" - 1"                      |
| low and plain carbon, alloy, and tool steels                  | <220 HB                | <19                | —                       | 325 - 500              | 430 - 575              | .0015 - .0030                  | .0030 - .0045                  |
| plain carbon, alloy and tool steels                           | 225 - 286<br>294 - 371 | 20 - 30<br>31 - 40 | —                       | 215 - 375<br>180 - 280 | 350 - 430<br>210 - 320 | .0015 - .0030<br>.0011 - .0021 | .0030 - .0045<br>.0021 - .0032 |
| austenitic stainless steels<br>200 and 300 series             | 135 - 275              | <28                | —                       | 215 - 440              | 250 - 500              | .0010 - .0025                  | .0025 - .0040                  |
| ferritic, martensitic, 400/500 series and PH stainless steels | 135 - 330              | <35                | —                       | 190 - 375              | 225 - 430              | .0015 - .0030                  | .0030 - .0045                  |
| aluminum, low silicon and other non-ferrous alloys            | 50 - 150               | 600                | 2000                    | 2400 - 2500            | —                      | .0020 - .0038                  | .0038 - .0077                  |
| aluminum, high silicon  |                        |                    | 600 - 2000              | 720 - 2500             | —                      | .0018 - .0035                  | .0035 - .0071                  |

Series **MRS** Rougher • multi-flute • center cutting • square end**Applications |**

HARDENED STEEL

HI-TEMP ALLOYS

**Features |**

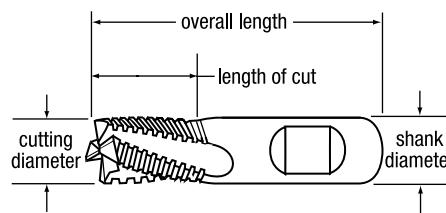
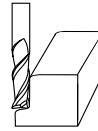
SOLID CARBIDE

FINE PROFILE

BRIGHT

TiCN

TiAIN



|     | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiCN | EDP Number<br>TiAIN |
|-----|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|---------------------|
| 1/4 | .2500                          | 6.35                        | 1/4 *                      | 3/8               | 2                | 3                 | 0.000            | B03416           | B03816               | B66416             |                     |
| 1/4 | .2500                          | 6.35                        | 1/4 *                      | 3/4               | 2 1/2            | 3                 | 0.000            | B03216           | B03316               | B66215             |                     |
| 3/8 | .3750                          | 9.53                        | 3/8 *                      | 1/2               | 2                | 4                 | 0.000            | B03424           | B03824               | B66424             |                     |
| 3/8 | .3750                          | 9.53                        | 3/8 *                      | 7/8               | 2 1/2            | 4                 | 0.000            | B03224           | B03324               | B66223             |                     |
| 1/2 | .5000                          | 12.70                       | 1/2 *                      | 5/8               | 2 1/2            | 4                 | 0.000            | B03432           | B03832               | B66432             |                     |
| 1/2 | .5000                          | 12.70                       | 1/2 *                      | 1                 | 3                | 4                 | 0.000            | B03232           | B03332               | B66232             |                     |
| 5/8 | .6250                          | 15.88                       | 5/8 *                      | 3/4               | 3                | 4                 | 0.000            | B03440           | B03840               | B66440             |                     |
| 5/8 | .6250                          | 15.88                       | 5/8 *                      | 1-1/4             | 3 1/2            | 4                 | 0.000            | B03240           | B03340               | B66240             |                     |
| 3/4 | .7500                          | 19.05                       | 3/4 *                      | 7/8               | 3 1/2            | 4                 | 0.000            | B03448           | B03848               | B66448             |                     |
| 3/4 | .7500                          | 19.05                       | 3/4 *                      | 1-1/2             | 4                | 4                 | 0.000            | B03248           | B03348               | B66248             |                     |
| 1   | 1.0000                         | 25.40                       | 1 *                        | 1                 | 3 1/2            | 4                 | 0.000            | B03464           | B03864               | B66464             |                     |
| 1   | 1.0000                         | 25.40                       | 1 *                        | 1-1/2             | 4                | 4                 | 0.000            | B03264           | B03364               | B66264             |                     |

\* Weldon shank

**Solid Carbide End Mills****High-Performance Roughers**

Series MRA Rougher • square end

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

CARBIDE BURS

INDEX

**Applications |**

ALUMINUM    NONFERROUS MATERIALS

**Features |**

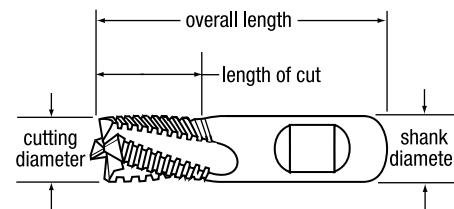
SOLID CARBIDE

3 FLUTE CC

COARSE PROFILE

BRIGHT

TiCN



|     | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP Number<br>bright | EDP Number<br>TiCN |
|-----|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|
| 1/4 | .2500                          | 6.35                        | 1/4 *                      | 3/8               | 2                | 3                 | 0.000            | B10117           | B03117               |                    |
| 1/4 | .2500                          | 6.35                        | 1/4 *                      | 3/4               | 2 1/2            | 3                 | 0.000            | B03016           | B03116               |                    |
| 3/8 | .3750                          | 9.53                        | 3/8 *                      | 1/2               | 2                | 3                 | 0.000            | B10118           | B03118               |                    |
| 3/8 | .3750                          | 9.53                        | 3/8 *                      | 7/8               | 2 1/2            | 3                 | 0.000            | B03024           | B03124               |                    |
| 1/2 | .5000                          | 12.70                       | 1/2 *                      | 5/8               | 2 1/2            | 3                 | 0.000            | B10119           | B03119               |                    |
| 1/2 | .5000                          | 12.70                       | 1/2 *                      | 1                 | 3                | 3                 | 0.000            | B03032           | B03132               |                    |
| 1/2 | .5000                          | 12.70                       | 1/2 *                      | 2                 | 4 1/2            | 3                 | 0.000            | B03532           | B03632               |                    |
| 5/8 | .6250                          | 15.88                       | 5/8 *                      | 3/4               | 3                | 3                 | 0.000            | B10120           | B03120               |                    |
| 5/8 | .6250                          | 15.88                       | 5/8 *                      | 1 1/4             | 3 1/2            | 3                 | 0.000            | B03040           | B03140               |                    |
| 5/8 | .6250                          | 15.88                       | 5/8 *                      | 2 1/4             | 5                | 3                 | 0.000            | B03540           | B03640               |                    |
| 3/4 | .7500                          | 19.05                       | 3/4 *                      | 1                 | 3 1/2            | 3                 | 0.000            | B10121           | B03121               |                    |
| 3/4 | .7500                          | 19.05                       | 3/4 *                      | 1 1/2             | 4                | 3                 | 0.000            | B03048           | B03148               |                    |
| 3/4 | .7500                          | 19.05                       | 3/4 *                      | 2 1/4             | 5                | 3                 | 0.000            | B03548           | B03648               |                    |
| 1   | 1.0000                         | 25.40                       | 1 *                        | 1 1/8             | 3 1/2            | 3                 | 0.000            | B10122           | B03122               |                    |
| 1   | 1.0000                         | 25.40                       | 1 *                        | 1 1/2             | 4                | 3                 | 0.000            | B03064           | B03164               |                    |
| 1   | 1.0000                         | 25.40                       | 1 *                        | 2 1/4             | 5                | 3                 | 0.000            | B03564           | B03664               |                    |

\* Weldon shank



## General-Purpose End Mills

### Features and Benefits of General-Purpose End Mills

- 10% cobalt submicron grain carbide substrate.
- 30° right-hand spiral, right-hand cut helix designed for maximum chip clearance.
- 2-, 3-, and 4-flute configurations available.
- Square end and ball nose end geometries available.
- Multiple lengths in select styles and sizes.
- TiCN-coated tools available in most styles.

### Applications for General-Purpose End Mills

- Use in general milling applications in medium to low-carbon steels, cast iron, non-ferrous light metals, and plastics.
- Double-end end mills economically increase productivity.
- 2-flute end mills are generally used for plunging, slotting, and heavy peripheral cuts.
- 3-flute end mills provide a compromise between the chip clearance of a 2-flute tool and the rigidity and wear resistance of a 4-flute tool; especially useful for many slotting operations.
- 4-flute end mills are most commonly used in profiling and in harder materials; stiffer construction results in minimal deflection. They also provide good surface finishes and wear-resistant characteristics for excellent size control.

### Cutting Data for General-Purpose Solid Carbide End Mills

| Material  | Hardness |       | Surface Feet per Minute | Chip Load per Tooth |       |       |       |       |       |       |       |       |             |
|---|----------|-------|-------------------------|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------------|
|   | Brinell  | HRc   |                         | 1/16"               | 1/8"  | 3/16" | 1/4"  | 5/16" | 3/8"  | 1/2"  | 5/8"  | 3/4"  | 1"          |
| low and plain carbon, alloy and tool steels       | <220 HB  | <19   | Low<br>High             | 270<br>360          | .0004 | .0006 | .0010 | .0015 | .0020 | .0025 | .0030 | .0035 | .0040 .0045 |
| plain carbon, alloy, and tool steels              | 225-286  | 20-30 | Low<br>High             | 180<br>270          | .0004 | .0006 | .0010 | .0015 | .0020 | .0025 | .0030 | .0035 | .0040 .0045 |
| austenitic stainless steels<br>200 and 300 series | 294-371  | 31-40 | Low<br>High             | 135<br>180          | .0003 | .0004 | .0007 | .0011 | .0014 | .0018 | .0021 | .0025 | .0028 .0032 |
| ductile and malleable cast iron                   | 120-320  | <35   | Low<br>High             | 160<br>270          | .0003 | .0004 | .0007 | .0011 | .0014 | .0018 | .0021 | .0025 | .0028 .0032 |
| cast iron (gray)                                  | 120-220  | <18   | Low<br>High             | 315<br>450          | .0008 | .0012 | .0020 | .0030 | .0040 | .0050 | .0060 | .0070 | .0080 .0090 |
| low-silicon aluminum & other non-ferrous alloys   | 220-320  | 19-34 | Low<br>High             | 225<br>315          | .0005 | .0007 | .0012 | .0018 | .0024 | .0030 | .0036 | .0042 | .0048 .0055 |
| cobalt-based high-temperature alloys              | 50-150   | <45   | Low<br>High             | 720<br>900          | .0006 | .0010 | .0016 | .0024 | .0032 | .0040 | .0048 | .0560 | .0064 .0072 |
| nickel-based high-temperature alloys              | 140-300  | <32   | Low<br>High             | 45<br>90            | .0002 | .0004 | .0006 | .0009 | .0012 | .0015 | .0018 | .0021 | .0024 .0027 |
| 300-475   | 32-50    | —     | Low<br>High             | 40<br>70            | .0002 | .0004 | .0006 | .0009 | .0012 | .0015 | .0018 | .0021 | .0024 .0027 |

Higher values for surface speed should be used for radial depths of cut less than 25% of the diameter. Lower values for surface speed should be used for radial depths of cut greater than 25% of the diameter. The above recommendations are for axial lengths of cut not to exceed 1 times the cutter diameter for profiling and .5 times the diameter for slotting.

Recommended speeds above are for uncoated tools only and should be adjusted when using coated tools. Generally, speeds can be increased by the following factors:

- TiCN-coated tools – 20-25% increase
- TiAIN-coated tools – 40-50% increase

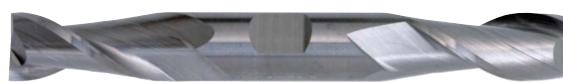
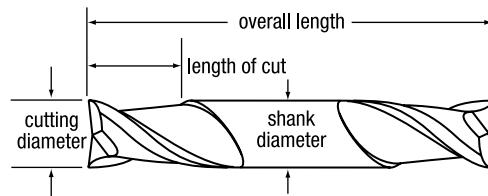
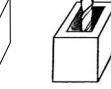
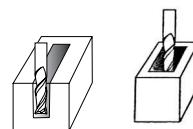
The above speeds are a recommended starting point only. If the tool is working well, without vibrations or significant noise, increase the SFM in 5-10% increments. Ultimate speeds will depend upon setup conditions. Higher or lower parameters may be required to achieve optimum conditions.

**Solid Carbide End Mills****Double End General-Purpose****Series MDE-2****Applications |**STAINLESS  
STEELCAST  
IRONHI-TEMP  
ALLOYSNON-FERROUS  
MATERIALSSOLID  
CARBIDE2 FLUTE  
CC

BRIGHT

TiCN

TiAlN

**Features |**

|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP number<br>bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|---------------------|
| 1/16 | .0625                          | 1.59                        | 1/8                        | 1/8               | 1/8              | 1 1/2             | 2                | 0.000            | B52801               | B01681             | B00207              |
| 3/32 | .0938                          | 2.38                        | 1/8                        | 1/8               | 3/16             | 1 1/2             | 2                | 0.000            | B52803               | B01682             | B00208              |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/8               | 1/4              | 1 1/2             | 2                | 0.000            | B52805W              | B01683W            | B00209              |
| 1/8  | .1250                          | 3.18                        | 3/8 *                      | 3/8               | 3/8              | 3                 | 2                | 0.000            | B52401               | B01577             | B00220              |
| 5/32 | .1562                          | 3.97                        | 3/16                       | 5/16              | 2                | 2                 | 2                | 0.000            | B52807               | B01684             | B00210              |
| 5/32 | .1562                          | 3.97                        | 3/8 *                      | 7/16              | 3                | 2                 | 2                | 0.000            | B52403               | B01578             | B00221              |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 3/8              | 2                 | 2                | 0.000            | B52809               | B01685             | B00211              |
| 3/16 | .1875                          | 4.76                        | 3/8 *                      | 1/2               | 3                | 2                 | 2                | 0.000            | B52405               | B01579             | B11987              |
| 7/32 | .2188                          | 5.56                        | 3/8 *                      | 9/16              | 9/16             | 3 1/2             | 2                | 0.000            | B52407               | B01580             | B00212              |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1/2              | 2 1/2             | 2                | 0.000            | B52814               | B01687             | B00213              |
| 1/4  | .2500                          | 6.35                        | 3/8 *                      | 5/8               | 5/8              | 3 1/2             | 2                | 0.000            | B52410               | B01581             | B00222              |
| 9/32 | .2812                          | 7.14                        | 3/8 *                      | 11/16             | 11/16            | 3 1/2             | 2                | 0.000            | B52412               | B01582             | B00215              |
| 5/16 | .3125                          | 7.94                        | 3/8 *                      | 3/4               | 3/4              | 3 1/2             | 2                | 0.000            | B52414               | B01583             | B00224              |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 9/16              | 9/16             | 3                 | 2                | 0.000            | B52818               | B01689             | B40779              |
| 3/8  | .3750                          | 9.53                        | 3/8 *                      | 3/4               | 3/4              | 3 1/2             | 2                | 0.000            | B52418               | B01585             | B00225              |
| 7/16 | .4375                          | 11.11                       | 1/2 *                      | 7/8               | 7/8              | 4                 | 2                | 0.000            | B52420               | B01586             | B00226              |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 5/8               | 5/8              | 3                 | 2                | 0.000            | B52823               | B01691             | B00217              |
| 1/2  | .5000                          | 12.70                       | 1/2 *                      | 1                 | 1                | 4                 | 2                | 0.000            | B52423               | B01587             | B00227              |

\* Weldon shank; all others plain shank



## Double End General-Purpose

## Series MDE-2B

## Applications |

CAST IRON

STEEL

HI-TEMP ALLOYS

NON-FERROUS MATERIALS

## Features |

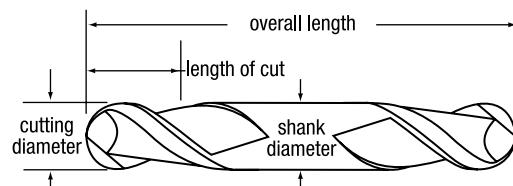
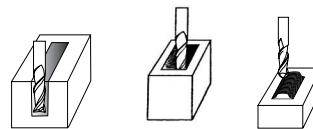
SOLID CARBIDE

2 FLUTE BALL CO.

BRIGHT

TiCN

TiAlN



|      | fractional<br>cutting diameter | decimal<br>cutting diameter | metric<br>cutting diameter | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP number<br>bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|----------------------|--------------------|---------------------|
| 1/16 | .0625                          | 1.59                        | 1/8                        | 1/8               | 1/8              | 1 1/2             | 2                | B52881               | B01703             | B69881              |
| 3/32 | .0938                          | 2.38                        | 1/8                        | 1/8               | 3/16             | 1 1/2             | 2                | B52883               | B01704             | B69883              |
| 1/8  | .1250                          | 3.18                        | 3/8 *                      | 3/8               | 3/8              | 3                 | 2                | B52481               | B01599             | B69481              |
| 5/32 | .1562                          | 3.97                        | 3/8 *                      | 3/8               | 7/16             | 3                 | 2                | B52483               | B01600             | B69483              |
| 3/16 | .1875                          | 4.76                        | 3/8 *                      | 3/8               | 1/2              | 3                 | 2                | B52485               | B01601             | B69485              |
| 7/32 | .2188                          | 5.56                        | 3/8 *                      | 3/8               | 9/16             | 3 1/2             | 2                | B52487               | B01602             | B69487              |
| 1/4  | .2500                          | 6.35                        | 3/8 *                      | 3/8               | 5/8              | 3 1/2             | 2                | B52490               | B01603             | B69490              |
| 9/32 | .2812                          | 7.14                        | 3/8 *                      | 3/8               | 11/16            | 3 1/2             | 2                | B52492               | B01604             | B69492              |
| 5/16 | .3125                          | 7.94                        | 3/8 *                      | 3/8               | 3/4              | 3 1/2             | 2                | B52494               | B01605             | B69494              |
| 3/8  | .3750                          | 9.53                        | 3/8 *                      | 3/8               | 3/4              | 3 1/2             | 2                | B52498               | B01607             | B69498              |
| 7/16 | .4375                          | 11.11                       | 1/2 *                      | 1/2               | 7/8              | 4                 | 2                | B52500               | B01608             | B69500              |
| 1/2  | .5000                          | 12.70                       | 1/2 *                      | 1/2               | 1                | 4                 | 2                | B52503               | B01609             | B69503              |

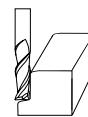
\* Weldon shank; all others plain shank

**Solid Carbide End Mills****Double End General-Purpose****Series MDE-4****Applications |**STAINLESS  
STEELCAST  
IRONHI-TEMP  
ALLOYSNON-FERROUS  
MATERIALS**Features |**SOLID  
CARBIDE4+ FLUTE  
CC

BRIGHT

TiCN

TiAlN



|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP number<br>bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|---------------------|
| 1/16 | .0625                          | 1.59                        | 1/8                        | 1/8               | 1/8              | 1 1/2             | 4                | 0.000            | B52841               | B01692             | B00342              |
| 3/32 | .0938                          | 2.38                        | 1/8                        | 1/8               | 3/16             | 1 1/2             | 4                | 0.000            | B52843               | B01693             | B69843              |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/8               | 1/4              | 1 1/2             | 4                | 0.000            | B52845W              | B01694W            | B69846              |
| 1/8  | .1250                          | 3.18                        | 3/16                       | 1/8               | 1/4              | 2                 | 4                | 0.000            | B52845               | B01694             | B69845              |
| 1/8  | .1250                          | 3.18                        | 3/8 *                      | 7/16              | 3                | 4                 | 0.000            | B52441           | B01588               | B11999             |                     |
| 5/32 | .1562                          | 3.97                        | 3/16                       | 3/16              | 5/16             | 2                 | 4                | 0.000            | B52847               | B01695             | B00345              |
| 5/32 | .1562                          | 3.97                        | 3/8 *                      | 7/16              | 3                | 4                 | 0.000            | B52443           | B01589               | B69443             |                     |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 3/16              | 3/8              | 2                 | 4                | 0.000            | B52849               | B01696             | B00346              |
| 3/16 | .1875                          | 4.76                        | 3/8 *                      | 1/2               | 3                | 4                 | 0.000            | B52445           | B01590               | B12000             |                     |
| 7/32 | .2188                          | 5.56                        | 3/8 *                      | 9/16              | 3 1/2            | 4                 | 0.000            | B52447           | B01591               | B69447             |                     |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 1/4               | 1/2              | 2 1/2             | 4                | 0.000            | B52854               | B01698             | B00348              |
| 1/4  | .2500                          | 6.35                        | 3/8 *                      | 5/8               | 3 1/2            | 4                 | 0.000            | B52450           | B01592               | B00357             |                     |
| 9/32 | .2812                          | 7.14                        | 3/8 *                      | 11/16             | 3 1/2            | 4                 | 0.000            | B52452           | B01593               | B69452             |                     |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 1/2               | 2 1/2            | 4                 | 0.000            | B52856           | B01699               | B00349             |                     |
| 5/16 | .3125                          | 7.94                        | 3/8 *                      | 3/4               | 3 1/2            | 4                 | 0.000            | B52454           | B01594               | B00359             |                     |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 9/16              | 3                | 4                 | 0.000            | B52858           | B01700               | B40780             |                     |
| 3/8  | .3750                          | 9.53                        | 3/8 *                      | 3/4               | 3 1/2            | 4                 | 0.000            | B52458           | B01596               | B00360             |                     |
| 7/16 | .4375                          | 11.11                       | 1/2 *                      | 7/8               | 4                | 4                 | 0.000            | B52460           | B01597               | B69460             |                     |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 5/8               | 3                | 4                 | 0.000            | B52863           | B01702               | B00352             |                     |
| 1/2  | .5000                          | 12.70                       | 1/2 *                      | 1                 | 4                | 4                 | 0.000            | B52463           | B01598               | B00362             |                     |

\* Weldon shank; all others plain shank



## Double End General-Purpose

## Series MDE-4B

## Applications |

STEEL

CAST IRON

HI-TEMP ALLOYS

NON-FERROUS MATERIALS

## Features |

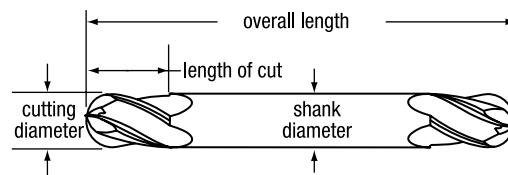
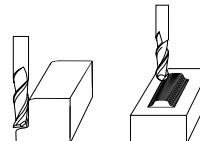
SOLID CARBIDE

4 FLUTE BALL END

BRIGHT

TiCN

TiAlN



|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP number<br>bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|----------------------|--------------------|---------------------|
| 1/16 | .0625                          | 1.59                        | 1/8                        | 1/8               | 1/8              | 1 1/2             | 4                | B52921               | B01714             | B69921              |
| 3/32 | .0938                          | 2.38                        | 1/8                        | 1/8               | 3/16             | 1 1/2             | 4                | B52923               | B01715             | B69923              |
| 1/8  | .1250                          | 3.18                        | 3/8 *                      | 3/8               | 3/8              | 3                 | 4                | B52521               | B01610             | B69521              |
| 5/32 | .1562                          | 3.97                        | 3/8 *                      | 3/8               | 7/16             | 3                 | 4                | B52523               | B01611             | B69523              |
| 3/16 | .1875                          | 4.76                        | 3/8 *                      | 3/8               | 1/2              | 3                 | 4                | B52525               | B01612             | B69525              |
| 7/32 | .2188                          | 5.56                        | 3/8 *                      | 3/8               | 9/16             | 3 1/2             | 4                | B52527               | B01613             | B69527              |
| 1/4  | .2500                          | 6.35                        | 3/8 *                      | 3/8               | 5/8              | 3 1/2             | 4                | B52530               | B01614             | B69530              |
| 9/32 | .2812                          | 7.14                        | 3/8 *                      | 3/8               | 11/16            | 3 1/2             | 4                | B52532               | B01615             | B69532              |
| 5/16 | .3125                          | 7.94                        | 3/8 *                      | 3/8               | 3/4              | 3 1/2             | 4                | B52534               | B01616             | B69534              |
| 3/8  | .3750                          | 9.53                        | 3/8 *                      | 3/8               | 3/4              | 3 1/2             | 4                | B52538               | B01618             | B69538              |
| 7/16 | .4375                          | 11.11                       | 1/2 *                      | 1/2               | 7/8              | 4                 | 4                | B52540               | B01619             | B69540              |
| 1/2  | .5000                          | 12.70                       | 1/2 *                      | 1/2               | 1                | 4                 | 4                | B52543               | B01620             | B69543              |

\* Weldon shank; all others plain shank

**Solid Carbide End Mills****Single End General-Purpose****Series MSE-2****Applications |**

STEEL

CAST IRON

HI-TEMP ALLOYS

NON-FERROUS MATERIALS

**Features |**

SOLID CARBIDE

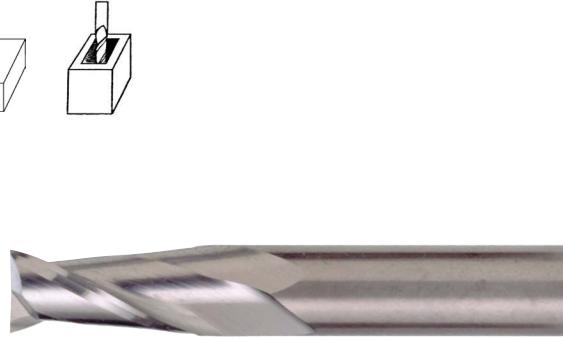
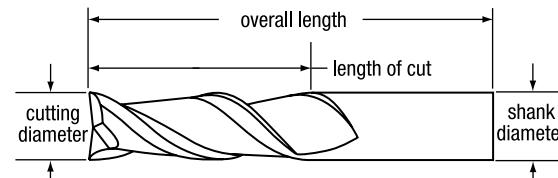
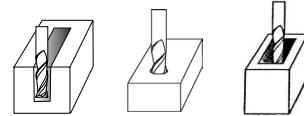
2 FLUTE CC

CORNER RADIUS

BRIGHT

TiCN

TiAlN



|  | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | corner<br>radius | EDP number<br>bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|--|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------------|----------------------|--------------------|---------------------|
|  | 1/32                           | .0312                       | 0.79                       | 1/8               | 1/8              | 1 1/2             | 2                | 0.000            | B52601               | B01621             | B69601              |
|  | 3/64                           | .0469                       | 1.19                       | 1/8               | 1/8              | 1 1/2             | 2                | 0.000            | B52602               | B01622             | B69602              |
|  | 1/16                           | .0625                       | 1.59                       | 1/8               | 1/8              | 1 1/2             | 2                | 0.000            | B52604               | B01623             | B69604              |
|  | 1/16                           | .0625                       | 1.59                       | 1/8               | 1/4              | 1 1/2             | 2                | 0.000            | B52001               | B01441             | B69001              |
|  | 5/64                           | .0781                       | 1.98                       | 1/8               | 1/4              | 1 1/2             | 2                | 0.000            | B52002               | B01442             | B69002              |
|  | 3/32                           | .0938                       | 2.38                       | 1/8               | 1/4              | 1 1/2             | 2                | 0.000            | B52606               | B01624             | B69606              |
|  | 3/32                           | .0938                       | 2.38                       | 1/8               | 3/8              | 1 1/2             | 2                | 0.000            | B52004               | B01443             | B69004              |
|  | 7/64                           | .1094                       | 2.78                       | 1/8               | 3/8              | 1 1/2             | 2                | 0.000            | B52005               | B01444             | B69005              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1/4              | 1 1/2             | 2                | 0.000            | B52608               | B01625             | B69608              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1/2              | 1 1/2             | 2                | 0.000            | B52007               | B01445             | B69007              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1/2              | 1 1/2             | 2                | 0.010            | B52060               | B06800             | B69060              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 3/4              | 2 1/4             | 2                | 0.000            | B51200               | B01329             | B68200              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1                | 3                 | 2                | 0.000            | B51400               | B01318             | B68400              |
|  | 9/64                           | .1406                       | 3.57                       | 3/16              | 9/16             | 2                 | 2                | 0.000            | B52008               | B01446             | B69008              |
|  | 5/32                           | .1562                       | 3.97                       | 3/16              | 9/16             | 2                 | 2                | 0.000            | B52010               | B01447             | B69010              |
|  | 11/64                          | .1719                       | 4.37                       | 3/16              | 5/8              | 2                 | 2                | 0.000            | B52011               | B01448             | B00059              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 5/16             | 2                 | 2                | 0.000            | B52612               | B01627             | B62612              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 5/8              | 2                 | 2                | 0.000            | B52013               | B01449             | B69013              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 5/8              | 2                 | 2                | 0.010            | B52061               | B06801             | B69061              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 3/4              | 2 1/2             | 2                | 0.000            | B51202               | B01330             | B68202              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 1 1/8            | 3                 | 2                | 0.000            | B51402               | B01386             | B68402              |
|  | 13/64                          | .2031                       | 5.16                       | 1/4               | 5/8              | 2 1/2             | 2                | 0.000            | B52014               | B01450             | B69014              |
|  | 7/32                           | .2188                       | 5.56                       | 1/4               | 5/8              | 2 1/2             | 2                | 0.000            | B52016               | B01451             | B10575              |
|  | 15/64                          | .2344                       | 5.95                       | 1/4               | 3/4              | 2 1/2             | 2                | 0.000            | B52017               | B01452             | B69017              |
|  | 6mm                            | .2362                       | 6.00                       | 6mm               | 25mm             | 75mm              | 2                | 0.000            | B52019               | -----              | B69112              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1/2              | 2                 | 2                | 0.000            | B52617               | B01629             | B81577              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 3/4              | 2 1/2             | 2                | 0.000            | B52020               | B01453             | B69020              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 3/4              | 2 1/2             | 2                | 0.020            | B52062               | B06802             | B69062              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 3/4              | 2 1/2             | 2                | 0.030            | B52063               | B06803             | B69063              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1 1/8            | 3                 | 2                | 0.000            | B51204               | B01331             | B68204              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1 1/2            | 4                 | 2                | 0.000            | B51404               | B01319             | B68404              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1 1/2            | 6                 | 2                | 0.000            | B51405               | B01388             | B68405              |
|  | 17/64                          | .2656                       | 6.75                       | 5/16              | 3/4              | 2 1/2             | 2                | 0.000            | B52021               | B01454             | B69021              |
|  | 9/32                           | .2812                       | 7.14                       | 5/16              | 3/4              | 2 1/2             | 2                | 0.000            | B52023               | B01455             | B69023              |

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## Single End General-Purpose

## Series MSE-2 (continued)

|            | cutting diameter |        | shank diameter | length of cut | overall length | no. of flutes | corner radius | EDP number | bright | TiCN   | TiAlN |
|------------|------------------|--------|----------------|---------------|----------------|---------------|---------------|------------|--------|--------|-------|
| fractional | decimal          | metric |                |               |                |               |               |            |        |        |       |
| 5/16       | .3125            | 7.94   | 5/16           | 1/2           | 2              | 2             | 0.000         | B52619     | B01630 | B81578 |       |
| 5/16       | .3125            | 7.94   | 5/16           | 13/16         | 2 1/2          | 2             | 0.000         | B52026     | B01457 | B69026 |       |
| 5/16       | .3125            | 7.94   | 5/16           | 13/16         | 2 1/2          | 2             | 0.020         | B52065     | B06805 | B69065 |       |
| 5/16       | .3125            | 7.94   | 5/16           | 13/16         | 2 1/2          | 2             | 0.030         | B52066     | B06806 | B69066 |       |
| 5/16       | .3125            | 7.94   | 5/16           | 1 1/8         | 3              | 2             | 0.000         | B51206     | B01333 | B68206 |       |
| 5/16       | .3125            | 7.94   | 5/16           | 1 5/8         | 4              | 2             | 0.000         | B51406     | B01389 | B68406 |       |
| 3/8        | .3750            | 9.53   | 3/8            | 5/8           | 2              | 2             | 0.000         | B52621     | B01631 | B81579 |       |
| 3/8        | .3750            | 9.53   | 3/8            | 1             | 2 1/2          | 2             | 0.000         | B52032     | B01461 | B00062 |       |
| 3/8        | .3750            | 9.53   | 3/8            | 1             | 2 1/2          | 2             | 0.020         | B52068     | B06808 | B69068 |       |
| 3/8        | .3750            | 9.53   | 3/8            | 1             | 2 1/2          | 2             | 0.030         | B52069     | B06809 | B69069 |       |
| 3/8        | .3750            | 9.53   | 3/8            | 1 1/8         | 3              | 2             | 0.045         | B52070     | B06810 | B69070 |       |
| 3/8        | .3750            | 9.53   | 3/8            | 1 3/4         | 4              | 2             | 0.000         | B51408     | B01320 | B68408 |       |
| 3/8        | .3750            | 9.53   | 3/8            | 1 1/2         | 6              | 2             | 0.000         | B51409     | B01391 | B68409 |       |
| 7/16       | .4375            | 11.11  | 7/16           | 5/8           | 2 1/2          | 2             | 0.000         | B52623     | B01632 | B69623 |       |
| 7/16       | .4375            | 11.11  | 7/16           | 1             | 2 1/2          | 2             | 0.000         | B52038     | B01465 | B69038 |       |
| 7/16       | .4375            | 11.11  | 7/16           | 2             | 4              | 2             | 0.000         | B51210     | B01321 | B68210 |       |
| 7/16       | .4375            | 11.11  | 7/16           | 3             | 6              | 2             | 0.000         | B51410     | B01322 | B68410 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 5/8           | 2 1/2          | 2             | 0.000         | B52626     | B01633 | B81581 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 1             | 3              | 2             | 0.000         | B52045     | B01469 | B69045 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 1             | 3              | 2             | 0.030         | B52072     | B06812 | B69072 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 1             | 3              | 2             | 0.060         | B52073     | B06813 | B69073 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 1             | 3              | 2             | 0.090         | B52074     | B06814 | B69074 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 2             | 4              | 2             | 0.000         | B51212     | B01338 | B68212 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 1 1/2         | 6              | 2             | 0.000         | B51411     | B01323 | B68411 |       |
| 1/2        | .5000            | 12.70  | 1/2            | 3             | 6              | 2             | 0.000         | B51412     | B01394 | B68412 |       |
| 9/16       | .5625            | 14.29  | 9/16           | 1 1/4         | 3              | 2             | 0.000         | B52047     | B01470 | B69047 |       |
| 5/8        | .6250            | 15.88  | 5/8            | 3/4           | 3              | 2             | 0.000         | B52628     | B01634 | B69628 |       |
| 5/8        | .6250            | 15.88  | 5/8            | 1 1/4         | 3 1/2          | 2             | 0.000         | B52049     | B01471 | B00064 |       |
| 5/8        | .6250            | 15.88  | 5/8            | 1 1/4         | 3 1/2          | 2             | 0.030         | B52076     | B06816 | B69076 |       |
| 5/8        | .6250            | 15.88  | 5/8            | 1 1/4         | 3 1/2          | 2             | 0.060         | B52077     | B06817 | B69077 |       |
| 5/8        | .6250            | 15.88  | 5/8            | 1 1/4         | 3 1/2          | 2             | 0.090         | B52078     | B06818 | B69078 |       |
| 5/8        | .6250            | 15.88  | 5/8            | 2 1/4         | 5              | 2             | 0.000         | B51214     | B01324 | B68214 |       |
| 5/8        | .6250            | 15.88  | 5/8            | 3             | 6              | 2             | 0.000         | B51414     | B01395 | B68414 |       |
| 3/4        | .7500            | 19.05  | 3/4            | 1             | 3              | 2             | 0.000         | B52631     | B01635 | B81583 |       |
| 3/4        | .7500            | 19.05  | 3/4            | 1 1/2         | 4              | 2             | 0.000         | B52051     | B01472 | B00065 |       |
| 3/4        | .7500            | 19.05  | 3/4            | 1 1/2         | 4              | 2             | 0.030         | B52080     | B06820 | B69080 |       |
| 3/4        | .7500            | 19.05  | 3/4            | 1 1/2         | 4              | 2             | 0.060         | B52081     | B06821 | B69081 |       |
| 3/4        | .7500            | 19.05  | 3/4            | 1 1/2         | 4              | 2             | 0.090         | B52082     | B06822 | B69082 |       |
| 3/4        | .7500            | 19.05  | 3/4            | 2 1/4         | 5              | 2             | 0.000         | B51216     | B61216 | B68216 |       |
| 3/4        | .7500            | 19.05  | 3/4            | 3             | 6              | 2             | 0.000         | B51416     | B01396 | B68416 |       |
| 7/8        | .8750            | 22.23  | 7/8            | 1 1/2         | 4              | 2             | 0.000         | B52053     | B01473 | B69053 |       |
| 7/8        | .8750            | 22.23  | 7/8            | 2 1/4         | 5              | 2             | 0.000         | B51218     | B01325 | B68218 |       |
| 7/8        | .8750            | 22.23  | 7/8            | 3             | 6              | 2             | 0.000         | B51418     | B01326 | B68418 |       |
| 1          | 1.0000           | 25.40  | 1              | 1 1/2         | 4              | 2             | 0.000         | B52057     | B01474 | B00067 |       |
| 1          | 1.0000           | 25.40  | 1              | 1 1/2         | 4              | 2             | 0.030         | B52084     | B06824 | B69084 |       |
| 1          | 1.0000           | 25.40  | 1              | 1 1/2         | 4              | 2             | 0.060         | B52085     | B06825 | B69085 |       |
| 1          | 1.0000           | 25.40  | 1              | 1 1/2         | 4              | 2             | 0.090         | B52086     | B06826 | B69086 |       |
| 1          | 1.0000           | 25.40  | 1              | 2 1/4         | 5              | 2             | 0.000         | B51220     | B01327 | B68220 |       |
| 1          | 1.0000           | 25.40  | 1              | 3             | 6              | 2             | 0.000         | B51420     | B01398 | B68420 |       |

**Solid Carbide End Mills****Single End General-Purpose****Series MSE-2B****Applications |**

STEEL

CAST IRON

HI-TEMP ALLOYS

NON-FERROUS MATERIALS

**Features |**

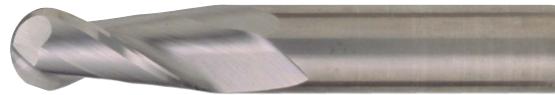
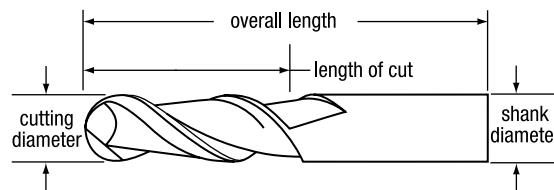
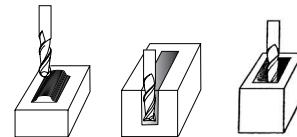
SOLID CARBIDE

2 FLUTE BALL CC

BRIGHT

TiCN

TiAlN



|  | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP number<br>bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|--|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|----------------------|--------------------|---------------------|
|  | 1/32                           | .0312                       | 0.79                       | 1/8               | 1/8              | 1 1/2             | 2                | B52681               | B01651             | B69681              |
|  | 3/64                           | .0469                       | 1.19                       | 1/8               | 1/8              | 1 1/2             | 2                | B52682               | B01652             | B69682              |
|  | 1/16                           | .0625                       | 1.59                       | 1/8               | 1/8              | 1 1/2             | 2                | B52684               | B01653             | B69684              |
|  | 1/16                           | .0625                       | 1.59                       | 1/8               | 1/4              | 1 1/2             | 2                | B52201               | B01509             | B69201              |
|  | 5/64                           | .0781                       | 1.98                       | 1/8               | 1/4              | 1 1/2             | 2                | B52202               | B01564             | B69202              |
|  | 3/32                           | .0938                       | 2.38                       | 1/8               | 3/8              | 1 1/2             | 2                | B52204               | B01511             | B69204              |
|  | 7/64                           | .1094                       | 2.78                       | 1/8               | 3/8              | 1 1/2             | 2                | B52205               | B01512             | B69205              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1/4              | 1 1/2             | 2                | B52688               | B01655             | B69688              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1/2              | 1 1/2             | 2                | B52207               | B01513             | B69207              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 3/4              | 2 1/4             | 2                | B51300               | B01360             | B68300              |
|  | 1/8                            | .1250                       | 3.18                       | 1/8               | 1                | 3                 | 2                | B51500               | B01414             | B68500              |
|  | 9/64                           | .1406                       | 3.57                       | 3/16              | 9/16             | 2                 | 2                | B52208               | B01566             | B69208              |
|  | 5/32                           | .1562                       | 3.97                       | 3/16              | 9/16             | 2                 | 2                | B52210               | B01515             | B69210              |
|  | 11/64                          | .1719                       | 4.37                       | 3/16              | 5/8              | 2                 | 2                | B52211               | B01516             | B69211              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 5/16             | 2                 | 2                | B52692               | B01657             | B69692              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 5/8              | 2                 | 2                | B52213               | B01517             | B00236              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 3/4              | 2 1/2             | 2                | B51302               | B01363             | B68302              |
|  | 3/16                           | .1875                       | 4.76                       | 3/16              | 1 1/8            | 3                 | 2                | B51502               | B01415             | B68502              |
|  | 13/64                          | .2031                       | 5.16                       | 1/4               | 5/8              | 2 1/2             | 2                | B52214               | B01364             | B69214              |
|  | 7/32                           | .2188                       | 5.56                       | 1/4               | 5/8              | 2 1/2             | 2                | B52216               | B01568             | B69216              |
|  | 15/64                          | .2344                       | 5.95                       | 1/4               | 3/4              | 2 1/2             | 2                | B52217               | B01570             | B69217              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1/2              | 2                 | 2                | B52697               | B01659             | B69697              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 3/4              | 2 1/2             | 2                | B52220               | B01521             | B69220              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1 1/8            | 3                 | 2                | B51304               | B01359             | B68304              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1 1/2            | 4                 | 2                | B51504               | B01427             | B68504              |
|  | 1/4                            | .2500                       | 6.35                       | 1/4               | 1 1/2            | 6                 | 2                | B51505               | B01416             | B68505              |
|  | 17/64                          | .2656                       | 6.75                       | 5/16              | 3/4              | 2 1/2             | 2                | B52221               | B01572             | B69221              |
|  | 9/32                           | .2812                       | 7.14                       | 5/16              | 3/4              | 2 1/2             | 2                | B52223               | B01575             | B69223              |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 1/2              | 2                 | 2                | B52699               | B01660             | B69699              |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 13/16            | 2 1/2             | 2                | B52226               | B01525             | B00241              |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 1 1/8            | 3                 | 2                | B51306               | B01361             | B68306              |
|  | 5/16                           | .3125                       | 7.94                       | 5/16              | 1 5/8            | 4                 | 2                | B51506               | B01417             | B68506              |

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**Single End General-Purpose**Series **MSE-2B** (continued)

| fractional | cutting diameter<br>decimal | shank<br>metric | diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP number<br>bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|------------|-----------------------------|-----------------|----------|------------------|-------------------|------------------|----------------------|--------------------|---------------------|
| 3/8        | .3750                       | 9.53            | 3/8      | 5/8              | 2                 | 2                | B52701               | B01661             | B69701              |
| 3/8        | .3750                       | 9.53            | 3/8      | 1                | 2 1/2             | 2                | B52232               | B01529             | B12014              |
| 3/8        | .3750                       | 9.53            | 3/8      | 1 1/8            | 3                 | 2                | B51308               | B01362             | B68308              |
| 3/8        | .3750                       | 9.53            | 3/8      | 1 3/4            | 4                 | 2                | B51508               | B01418             | B68508              |
| 3/8        | .3750                       | 9.53            | 3/8      | 1 1/2            | 6                 | 2                | B51509               | B01419             | B68509              |
| 7/16       | .4375                       | 11.11           | 7/16     | 5/8              | 2 1/2             | 2                | B52703               | B01662             | B69703              |
| 7/16       | .4375                       | 11.11           | 7/16     | 7/8              | 2 1/2             | 2                | B52238               | B01584             | B12015              |
| 7/16       | .4375                       | 11.11           | 7/16     | 2                | 4                 | 2                | B51310               | B01365             | B68310              |
| 7/16       | .4375                       | 11.11           | 7/16     | 3                | 6                 | 2                | B51510               | B01420             | B68510              |
| 1/2        | .5000                       | 12.70           | 1/2      | 5/8              | 2 1/2             | 2                | B52706               | B01663             | B69706              |
| 1/2        | .5000                       | 12.70           | 1/2      | 1                | 3                 | 2                | B52245               | B01537             | B00244              |
| 1/2        | .5000                       | 12.70           | 1/2      | 2                | 4                 | 2                | B51312               | B01367             | B68312              |
| 1/2        | .5000                       | 12.70           | 1/2      | 3                | 6                 | 2                | B51512               | B01422             | B68512              |
| 1/2        | .5000                       | 12.70           | 1/2      | 1 1/2            | 6                 | 2                | B51511               | B01366             | B68511              |
| 9/16       | .5625                       | 14.29           | 9/16     | 1 1/4            | 3                 | 2                | B52247               | B01617             | B69247              |
| 5/8        | .6250                       | 15.88           | 5/8      | 3/4              | 3                 | 2                | B52708               | B01664             | B69708              |
| 5/8        | .6250                       | 15.88           | 5/8      | 1 1/4            | 3 1/2             | 2                | B52249               | B01539             | B00246              |
| 5/8        | .6250                       | 15.88           | 5/8      | 2 1/4            | 5                 | 2                | B51314               | B01368             | B68314              |
| 5/8        | .6250                       | 15.88           | 5/8      | 3                | 6                 | 2                | B51514               | B01423             | B68514              |
| 3/4        | .7500                       | 19.05           | 3/4      | 1                | 3                 | 2                | B52711               | B01665             | B69711              |
| 3/4        | .7500                       | 19.05           | 3/4      | 1 1/2            | 4                 | 2                | B52251               | B01540             | B69251              |
| 3/4        | .7500                       | 19.05           | 3/4      | 2 1/4            | 5                 | 2                | B51316               | B01369             | B68316              |
| 3/4        | .7500                       | 19.05           | 3/4      | 3                | 6                 | 2                | B51516               | B01424             | B68516              |
| 7/8        | .8750                       | 22.23           | 7/8      | 1 1/2            | 4                 | 2                | B52253               | B01595             | B69253              |
| 7/8        | .8750                       | 22.23           | 7/8      | 2 1/4            | 5                 | 2                | B51318               | B01370             | B68318              |
| 7/8        | .8750                       | 22.23           | 7/8      | 3                | 6                 | 2                | B51518               | B01425             | B68518              |
| 1          | 1.0000                      | 25.40           | 1        | 1 1/2            | 4                 | 2                | B52257               | B01542             | B00250              |
| 1          | 1.0000                      | 25.40           | 1        | 2 1/4            | 5                 | 2                | B51320               | B01371             | B68320              |
| 1          | 1.0000                      | 25.40           | 1        | 3                | 6                 | 2                | B51520               | B01426             | B68520              |

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NON-FERROUS MATERIALS

**Features |**

SOLID CARBIDE

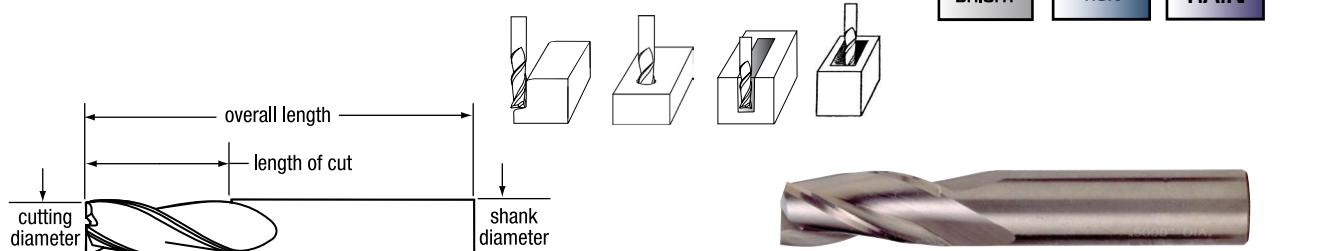
3 FLUTE CC

CORNER RADIUS

BRIGHT

TiCN

TiAlN



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## Single End General-Purpose

## Series MSE-4

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## Features |

SOLID CARBIDE

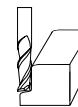
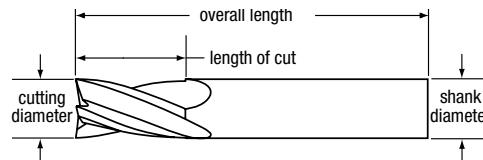
4+ FLUTE CC

CORNER RADIUS

BRIGHT

TiCN

TiAlN



| fractional cutting diameter | decimal cutting diameter | metric cutting diameter | shank diameter | length of cut | overall length | no. of flutes | corner radius | EDP number bright | EDP number TiCN | EDP number TiAlN |
|-----------------------------|--------------------------|-------------------------|----------------|---------------|----------------|---------------|---------------|-------------------|-----------------|------------------|
| 1/32                        | .0312                    | 0.79                    | 1/8            | 1/16          | 1 1/2          | 4             | 0.000         | B52643            | -----           | B69643           |
| 1/32                        | .0312                    | 0.79                    | 1/8            | 1/8           | 1 1/2          | 4             | 0.000         | B52641            | B01636          | B69641           |
| 3/64                        | .0469                    | 1.19                    | 1/8            | 1/8           | 1 1/2          | 4             | 0.000         | B52642            | B01637          | B69642           |
| 1/16                        | .0625                    | 1.59                    | 1/8            | 1/8           | 1 1/2          | 4             | 0.000         | B52644            | B01638          | B69644           |
| 1/16                        | .0625                    | 1.59                    | 1/8            | 1/4           | 1 1/2          | 4             | 0.000         | B52101            | B01475          | B69101           |
| 1/16                        | .0625                    | 1.59                    | 1/8            | 1/4           | 1 1/2          | 4             | 0.010         | B52645            | -----           | B69645           |
| 5/64                        | .0781                    | 1.98                    | 1/8            | 1/4           | 1 1/2          | 4             | 0.000         | B52102            | B01476          | B69102           |
| 3/32                        | .0938                    | 2.38                    | 1/8            | 1/4           | 1 1/2          | 4             | 0.000         | B52646            | B01639          | B69646           |
| 3/32                        | .0938                    | 2.38                    | 1/8            | 3/8           | 1 1/2          | 4             | 0.000         | B52104            | B01477          | B69104           |
| 3/32                        | .0938                    | 2.38                    | 1/8            | 3/8           | 1 1/2          | 4             | 0.010         | B52106            | -----           | B69106           |
| 3/32                        | .0938                    | 2.38                    | 1/8            | 3/8           | 1 1/2          | 4             | 0.020         | B52190            | -----           | B69157           |
| 7/64                        | .1094                    | 2.78                    | 1/8            | 1/4           | 1 1/2          | 4             | 0.000         | B52118            | -----           | B62118           |
| 7/64                        | .1094                    | 2.78                    | 1/8            | 3/8           | 1 1/2          | 4             | 0.000         | B52105            | B01478          | B69105           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1/4           | 1 1/2          | 4             | 0.000         | B52648            | B01640          | B69648           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1/2           | 1 1/2          | 4             | 0.000         | B52107            | B01479          | B69107           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1/2           | 1 1/2          | 4             | 0.010         | B52160            | B01750          | B69160           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1/2           | 1 1/2          | 4             | 0.015         | B52191            | -----           | B69158           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1/2           | 1 1/2          | 4             | 0.020         | B52095            | -----           | B62095           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1/2           | 1 1/2          | 4             | 0.030         | B52192            | -----           | B69159           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 3/4           | 2 1/4          | 4             | 0.000         | B51250            | B01343          | B68250           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1             | 3              | 4             | 0.000         | B51450            | B01399          | B68450           |
| 1/8                         | .1250                    | 3.18                    | 1/8            | 1             | 3              | 4             | 0.045         | B52096            | -----           | B62096           |
| 9/64                        | .1406                    | 3.57                    | 3/16           | 9/16          | 2              | 4             | 0.000         | B52108            | B01480          | B69108           |
| 5/32                        | .1562                    | 3.97                    | 3/16           | 5/16          | 2              | 4             | 0.000         | B52650            | B01641          | B69650           |
| 5/32                        | .1562                    | 3.97                    | 3/16           | 9/16          | 2              | 4             | 0.000         | B52110            | B01481          | B69110           |
| 11/64                       | .1719                    | 4.37                    | 3/16           | 5/8           | 2              | 4             | 0.000         | B52111            | B01482          | B69111           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 5/16          | 2              | 4             | 0.000         | B52652            | B01642          | B69652           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 5/8           | 2              | 4             | 0.000         | B52113            | B01483          | B69113           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 5/8           | 2              | 4             | 0.010         | B52162            | B01751          | B69162           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 5/8           | 2              | 4             | 0.015         | B52087            | -----           | B62087           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 5/8           | 2              | 4             | 0.020         | B52088            | -----           | B62088           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 5/8           | 2              | 4             | 0.030         | B52089            | -----           | B62089           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 3/4           | 2 1/2          | 4             | 0.000         | B51252            | B01344          | B68252           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 1             | 3              | 4             | 0.000         | B52090            | -----           | B62090           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 1             | 3              | 4             | 0.045         | B52193            | -----           | B69163           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 1             | 4              | 4             | 0.000         | B51451            | -----           | B68451           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 1             | 4              | 4             | 0.045         | B52091            | -----           | B62091           |
| 3/16                        | .1875                    | 4.76                    | 3/16           | 1 1/8         | 3              | 4             | 0.000         | B51452            | B01400          | B68452           |

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|  |       |       |       |      |       |       |   |        | EDP number |        |        |
|--|-------|-------|-------|------|-------|-------|---|--------|------------|--------|--------|
|  |       |       |       |      |       |       |   | bright | TiCN       | TiAIN  |        |
|  | 13/64 | .2031 | 5.16  | 1/4  | 5/8   | 2 1/2 | 4 | 0.000  | B52114     | B01484 | B69114 |
|  | 7/32  | .2188 | 5.56  | 1/4  | 5/8   | 2 1/2 | 4 | 0.000  | B52116     | B01485 | B69116 |
|  | 15/64 | .2344 | 5.95  | 1/4  | 3/4   | 2 1/2 | 4 | 0.000  | B52117     | B01486 | B69117 |
|  | 6mm   | .2362 | 6.00  | 6mm  | 32mm  | 100mm | 4 | 0.000  | B52194     | -----  | B69115 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 1/2   | 2     | 4 | 0.000  | B52657     | B01644 | B69657 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 3/4   | 2 1/2 | 4 | 0.000  | B52120     | B01487 | B69120 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 3/4   | 2 1/2 | 4 | 0.010  | B52092     | -----  | B62092 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 3/4   | 2 1/2 | 4 | 0.015  | B52093     | -----  | B62093 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 3/4   | 2 1/2 | 4 | 0.020  | B52164     | B01752 | B69164 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 3/4   | 2 1/2 | 4 | 0.030  | B52165     | B01753 | B69165 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 3/4   | 2 1/2 | 4 | 0.045  | B69118     | -----  | B69119 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 3/4   | 2 1/2 | 4 | 0.060  | B52195     | -----  | B69122 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 1 1/8 | 3     | 4 | 0.000  | B51254     | B01340 | B68254 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 1 1/2 | 4     | 4 | 0.000  | B51454     | B01732 | B68454 |
|  | 1/4   | .2500 | 6.35  | 1/4  | 1 1/2 | 6     | 4 | 0.000  | B51455     | B01402 | B68455 |
|  | 17/64 | .2656 | 6.75  | 5/16 | 3/4   | 2 1/2 | 4 | 0.000  | B52121     | B01730 | B69121 |
|  | 9/32  | .2812 | 7.14  | 5/16 | 3/4   | 2 1/2 | 4 | 0.000  | B52123     | B01489 | B69123 |
|  | 19/64 | .2969 | 7.54  | 5/16 | 7/8   | 2 1/2 | 4 | 0.000  | B52196     | -----  | B69124 |
|  | 5/16  | .3125 | 7.94  | 5/16 | 1/2   | 2     | 4 | 0.000  | B52659     | B01645 | B81587 |
|  | 5/16  | .3125 | 7.94  | 5/16 | 13/16 | 2 1/2 | 4 | 0.000  | B52126     | B01491 | B69126 |
|  | 5/16  | .3125 | 7.94  | 5/16 | 13/16 | 2 1/2 | 4 | 0.020  | B52167     | B01755 | B69167 |
|  | 5/16  | .3125 | 7.94  | 5/16 | 13/16 | 2 1/2 | 4 | 0.030  | B52168     | B01756 | B69168 |
|  | 5/16  | .3125 | 7.94  | 5/16 | 1     | 3     | 4 | 0.000  | B52097     | -----  | B68457 |
|  | 5/16  | .3125 | 7.94  | 5/16 | 1 1/8 | 3     | 4 | 0.000  | B51256     | B01347 | B68256 |
|  | 5/16  | .3125 | 7.94  | 5/16 | 1 5/8 | 4     | 4 | 0.000  | B51456     | B01403 | B68456 |
|  | 21/64 | .3281 | 8.33  | 3/8  | 7/8   | 2 1/2 | 4 | 0.000  | B51475     | -----  | B68475 |
|  | 11/32 | .3438 | 8.73  | 3/8  | 7/8   | 2 1/2 | 4 | 0.000  | B51476     | -----  | B69129 |
|  | 23/64 | .3594 | 9.13  | 3/8  | 7/8   | 2 1/2 | 4 | 0.000  | B51477     | -----  | B68477 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 5/8   | 2     | 4 | 0.000  | B52661     | B01646 | B81588 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 2 1/2 | 4 | 0.000  | B52132     | B01495 | B69132 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 2 1/2 | 4 | 0.010  | B52430     | -----  | B69130 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 2 1/2 | 4 | 0.015  | B52431     | -----  | B69131 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 2 1/2 | 4 | 0.020  | B52170     | B01758 | B69170 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 2 1/2 | 4 | 0.030  | B52171     | B01759 | B69171 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 2 1/2 | 4 | 0.045  | B52172     | B01760 | B69172 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 2 1/2 | 4 | 0.060  | B52134     | -----  | B69134 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 4     | 4 | 0.000  | B52472     | -----  | B68472 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1     | 4     | 4 | 0.020  | B52436     | -----  | B69136 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1 1/8 | 3     | 4 | 0.000  | B51258     | B01348 | B68258 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1 3/4 | 4     | 4 | 0.000  | B51458     | B01733 | B68458 |
|  | 3/8   | .3750 | 9.53  | 3/8  | 1 1/2 | 6     | 4 | 0.000  | B51459     | B01405 | B68459 |
|  | 25/64 | .3906 | 9.92  | 7/16 | 7/8   | 2 3/4 | 4 | 0.000  | B52274     | -----  | B61074 |
|  | 13/32 | .4062 | 10.32 | 7/16 | 7/8   | 2-3/4 | 4 | 0.000  | B52098     | -----  | B62098 |
|  | 27/64 | .4218 | 10.71 | 7/16 | 7/8   | 2-3/4 | 4 | 0.000  | B52099     | -----  | B62099 |
|  | 7/16  | .4375 | 11.11 | 7/16 | 5/8   | 2 1/2 | 4 | 0.000  | B52663     | B01647 | B69663 |
|  | 7/16  | .4375 | 11.11 | 7/16 | 1     | 2 1/2 | 4 | 0.000  | B52138     | B01499 | B69138 |
|  | 7/16  | .4375 | 11.11 | 7/16 | 2     | 4     | 4 | 0.000  | B51260     | B01341 | B68260 |
|  | 7/16  | .4375 | 11.11 | 7/16 | 3     | 6     | 4 | 0.000  | B51460     | B01734 | B68460 |

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**Single End General-Purpose**

Series MSE-4 (continued)

| fractional | cutting diameter |        |      | shank diameter | length of cut | overall length | no. of flutes | corner radius | EDP number |        |  |
|------------|------------------|--------|------|----------------|---------------|----------------|---------------|---------------|------------|--------|--|
|            | decimal          | metric | TiCN |                |               |                |               |               | bright     | TiAIN  |  |
| 29/64      | .4531            | 11.51  | 1/2  | 1              | 3             | 4              | 0.000         | B52276        | -----      | B62276 |  |
| 15/32      | .4688            | 11.91  | 1/2  | 1              | 3             | 4              | 0.000         | B52277        | -----      | B62077 |  |
| 31/64      | .4844            | 12.30  | 1/2  | 1              | 3             | 4              | 0.000         | B52278        | -----      | B62078 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 5/8            | 2 1/2         | 4              | 0.000         | B52666        | B01648     | B81590 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.000         | B52145        | B01503     | B69145 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.015         | B52243        | -----      | B69143 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.020         | B52244        | -----      | B69144 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.030         | B52173        | B01762     | B69173 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.045         | B52246        | -----      | B69146 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.060         | B52174        | B01763     | B69174 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.090         | B52175        | B01764     | B69175 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1              | 3             | 4              | 0.125         | B52185        | -----      | B62100 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 2              | 4             | 4              | 0.000         | B51262        | B01352     | B68262 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 3              | 6             | 4              | 0.000         | B51462        | B01408     | B68462 |  |
| 1/2        | .5000            | 12.70  | 1/2  | 1 1/2          | 6             | 4              | 0.000         | B51461        | B01407     | B68461 |  |
| 9/16       | .5625            | 14.29  | 9/16 | 1 1/4          | 3             | 4              | 0.000         | B52147        | B01765     | B69147 |  |
| 5/8        | .6250            | 15.88  | 5/8  | 3/4            | 3             | 4              | 0.000         | B52668        | B01649     | B81591 |  |
| 5/8        | .6250            | 15.88  | 5/8  | 1 1/4          | 3 1/2         | 4              | 0.000         | B52149        | B01505     | B69149 |  |
| 5/8        | .6250            | 15.88  | 5/8  | 1 1/4          | 3 1/2         | 4              | 0.030         | B52176        | B01766     | B69176 |  |
| 5/8        | .6250            | 15.88  | 5/8  | 1 1/4          | 3 1/2         | 4              | 0.060         | B52177        | B01767     | B69177 |  |
| 5/8        | .6250            | 15.88  | 5/8  | 1 1/4          | 3 1/2         | 4              | 0.090         | B52178        | B01768     | B69178 |  |
| 5/8        | .6250            | 15.88  | 5/8  | 2 1/4          | 5             | 4              | 0.000         | B51264        | B01342     | B68264 |  |
| 5/8        | .6250            | 15.88  | 5/8  | 3              | 6             | 4              | 0.000         | B51464        | B01409     | B68464 |  |
| 3/4        | .7500            | 19.05  | 3/4  | 1              | 3             | 4              | 0.000         | B52671        | B01650     | B81592 |  |
| 3/4        | .7500            | 19.05  | 3/4  | 1 1/2          | 4             | 4              | 0.000         | B52151        | B01506     | B69151 |  |
| 3/4        | .7500            | 19.05  | 3/4  | 1 1/2          | 4             | 4              | 0.030         | B52179        | B01770     | B69179 |  |
| 3/4        | .7500            | 19.05  | 3/4  | 1 1/2          | 4             | 4              | 0.060         | B52180        | B01771     | B69180 |  |
| 3/4        | .7500            | 19.05  | 3/4  | 1 1/2          | 4             | 4              | 0.090         | B52181        | B01772     | B69181 |  |
| 3/4        | .7500            | 19.05  | 3/4  | 2 1/4          | 5             | 4              | 0.000         | B51266        | B01351     | B68266 |  |
| 3/4        | .7500            | 19.05  | 3/4  | 3              | 6             | 4              | 0.000         | B51466        | B01410     | B68466 |  |
| 7/8        | .8750            | 22.23  | 7/8  | 1 1/2          | 4             | 4              | 0.000         | B52153        | B01507     | B69153 |  |
| 7/8        | .8750            | 22.23  | 7/8  | 2 1/4          | 5             | 4              | 0.000         | B51268        | B01355     | B68268 |  |
| 7/8        | .8750            | 22.23  | 7/8  | 3              | 6             | 4              | 0.000         | B51468        | B01735     | B68468 |  |
| 1          | 1.0000           | 25.40  | 1    | 1 1/2          | 4             | 4              | 0.000         | B52157        | B01508     | B00046 |  |
| 1          | 1.0000           | 25.40  | 1    | 1 1/2          | 4             | 4              | 0.030         | B52182        | B01774     | B69182 |  |
| 1          | 1.0000           | 25.40  | 1    | 1 1/2          | 4             | 4              | 0.060         | B52183        | B01775     | B69183 |  |
| 1          | 1.0000           | 25.40  | 1    | 1 1/2          | 4             | 4              | 0.090         | B52184        | B01776     | B69184 |  |
| 1          | 1.0000           | 25.40  | 1    | 2 1/4          | 5             | 4              | 0.000         | B51270        | B01356     | B68270 |  |
| 1          | 1.0000           | 25.40  | 1    | 3              | 6             | 4              | 0.000         | B51470        | B01412     | B68470 |  |

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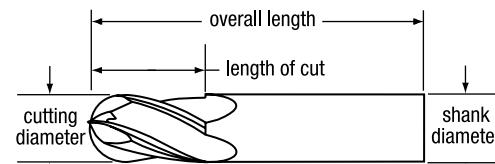
SOLID CARBIDE

4 FLUTE BALL END

BRIGHT

TiCN

TiAlN



|       | fractional cutting diameter | decimal cutting diameter | metric cutting diameter | shank diameter | length of cut | overall length | no. of flutes | bright | EDP number<br>TiCN | EDP number<br>TiAlN |
|-------|-----------------------------|--------------------------|-------------------------|----------------|---------------|----------------|---------------|--------|--------------------|---------------------|
| 1/32  | .0312                       | 0.79                     | 1/8                     | 1/16           | 1 1/2         | 4              | 4             | B52516 | -----              | B69716              |
| 1/32  | .0312                       | 0.79                     | 1/8                     | 1/8            | 1 1/2         | 4              | 4             | B52721 | B01434             | B69721              |
| 1/32  | .0312                       | 0.79                     | 1/8                     | 3/32           | 1 1/2         | 4              | 4             | B52517 | -----              | B69717              |
| 1mm   | .0394                       | 1mm                      | 3mm                     | 2mm            | 38mm          | 4              | 4             | B52518 | -----              | B69718              |
| 1mm   | .0394                       | 1mm                      | 3mm                     | 4mm            | 38mm          | 4              | 4             | B52219 | -----              | B69719              |
| 3/64  | .0469                       | 1.19                     | 1/8                     | 1/8            | 1 1/2         | 4              | 4             | B52722 | B01435             | B69722              |
| 1.5mm | .0591                       | 1.5mm                    | 3mm                     | 6mm            | 38mm          | 4              | 4             | B52520 | -----              | B69720              |
| 1/16  | .0625                       | 1.59                     | 1/8                     | 1/8            | 1 1/2         | 4              | 4             | B52724 | B01668             | B69724              |
| 1/16  | .0625                       | 1.59                     | 1/8                     | 1/4            | 1 1/2         | 4              | 4             | B52301 | B01901             | B69301              |
| 5/64  | .0781                       | 1.98                     | 1/8                     | 1/4            | 1 1/2         | 4              | 4             | B52302 | B01902             | B69302              |
| 2mm   | .0790                       | 2mm                      | 3mm                     | 8mm            | 38mm          | 4              | 4             | B52187 | -----              | B69303              |
| 3/32  | .0938                       | 2.38                     | 1/8                     | 3/8            | 1 1/2         | 4              | 4             | B52304 | B01904             | B69304              |
| 3/32  | .0938                       | 2.38                     | 1/8                     | 3/16           | 1 1/2         | 4              | 4             | B52506 | -----              | B69306              |
| 7/64  | .1094                       | 2.78                     | 1/8                     | 3/8            | 1 1/2         | 4              | 4             | B52305 | B01905             | B69305              |
| 1/8   | .1250                       | 3.18                     | 1/8                     | 1/4            | 1 1/2         | 4              | 4             | B52728 | B01670             | B69728              |
| 1/8   | .1250                       | 3.18                     | 1/8                     | 1/2            | 1 1/2         | 4              | 4             | B52307 | B01547             | B00018              |
| 1/8   | .1250                       | 3.18                     | 1/8                     | 5/8            | 2             | 4              | 4             | B52599 | -----              | B68499              |
| 1/8   | .1250                       | 3.18                     | 1/8                     | 3/4            | 2 1/4         | 4              | 4             | B51350 | B01374             | B68350              |
| 1/8   | .1250                       | 3.18                     | 1/8                     | 1              | 3             | 4              | 4             | B51550 | B01850             | B68550              |
| 9/64  | .1406                       | 3.57                     | 3/16                    | 9/16           | 2             | 4              | 4             | B52308 | B01908             | B69308              |
| 5/32  | .1562                       | 3.97                     | 3/16                    | 5/16           | 2             | 4              | 4             | B52509 | -----              | B69309              |
| 5/32  | .1562                       | 3.97                     | 3/16                    | 9/16           | 2             | 4              | 4             | B52310 | B01549             | B69310              |
| 11/64 | .1719                       | 4.37                     | 3/16                    | 5/8            | 2             | 4              | 4             | B52311 | B01911             | B69311              |
| 3/16  | .1875                       | 4.76                     | 3/16                    | 5/16           | 2             | 4              | 4             | B52732 | B01672             | B69732              |
| 3/16  | .1875                       | 4.76                     | 3/16                    | 5/8            | 2             | 4              | 4             | B52313 | B01551             | B69313              |
| 3/16  | .1875                       | 4.76                     | 3/16                    | 3/4            | 2 1/2         | 4              | 4             | B51352 | B01377             | B68352              |
| 3/16  | .1875                       | 4.76                     | 3/16                    | 1 1/8          | 3             | 4              | 4             | B51552 | B01852             | B68552              |
| 13/64 | .2031                       | 5.16                     | 1/4                     | 5/8            | 2 1/2         | 4              | 4             | B52314 | B01914             | B69314              |
| 7/32  | .2188                       | 5.56                     | 1/4                     | 5/8            | 2 1/2         | 4              | 4             | B52316 | B01553             | B69316              |
| 15/64 | .2344                       | 5.95                     | 1/4                     | 3/4            | 2 1/2         | 4              | 4             | B52317 | B01917             | B69317              |
| 1/4   | .2500                       | 6.35                     | 1/4                     | 1/2            | 2             | 4              | 4             | B52737 | B01674             | B69737              |
| 1/4   | .2500                       | 6.35                     | 1/4                     | 3/4            | 2 1/2         | 4              | 4             | B52320 | B01555             | B69320              |
| 1/4   | .2500                       | 6.35                     | 1/4                     | 1              | 4             | 4              | 4             | B52293 | -----              | B68503              |
| 1/4   | .2500                       | 6.35                     | 1/4                     | 1 1/8          | 3             | 4              | 4             | B51354 | B01373             | B68354              |
| 1/4   | .2500                       | 6.35                     | 1/4                     | 1 1/2          | 4             | 4              | 4             | B51554 | B01854             | B68554              |
| 1/4   | .2500                       | 6.35                     | 1/4                     | 1 1/2          | 6             | 4              | 4             | B51555 | B01430             | B68555              |
| 17/64 | .2656                       | 6.75                     | 5/16                    | 3/4            | 2 1/2         | 4              | 4             | B52321 | B01921             | B69321              |
| 9/32  | .2812                       | 7.14                     | 5/16                    | 3/4            | 2 1/2         | 4              | 4             | B52323 | B01557             | B69323              |

continued on next page

**Single End General-Purpose**Series **MSE-4B** (continued)

| fractional | cutting diameter |        | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP number |        |        |
|------------|------------------|--------|-------------------|------------------|-------------------|------------------|------------|--------|--------|
|            | decimal          | metric |                   |                  |                   |                  | TiCN       | TiAlN  |        |
| 5/16       | .3125            | 7.94   | 5/16              | 1/2              | 2                 | 4                | B52739     | B01675 | B69739 |
| 5/16       | .3125            | 7.94   | 5/16              | 13/16            | 2 1/2             | 4                | B52326     | B01559 | B69326 |
| 5/16       | .3125            | 7.94   | 5/16              | 1 1/8            | 3                 | 4                | B51356     | B01375 | B68356 |
| 5/16       | .3125            | 7.94   | 5/16              | 1 5/8            | 4                 | 4                | B51556     | B01856 | B68556 |
| 23/64      | .3594            | 9.13   | 3/8               | 7/8              | 2 1/2             | 4                | B52457     | -----  | B01857 |
| 3/8        | .3750            | 9.53   | 3/8               | 5/8              | 2                 | 4                | B52741     | B01676 | B69741 |
| 3/8        | .3750            | 9.53   | 3/8               | 1                | 2 1/2             | 4                | B52332     | B01563 | B00025 |
| 3/8        | .3750            | 9.53   | 3/8               | 1 1/8            | 3                 | 4                | B51358     | B01376 | B68358 |
| 3/8        | .3750            | 9.53   | 3/8               | 1 1/2            | 6                 | 4                | B51559     | B01433 | B68559 |
| 3/8        | .3750            | 9.53   | 3/8               | 1 3/4            | 4                 | 4                | B51558     | B01858 | B68558 |
| 25/64      | .3906            | 9.92   | 7/16              | 7/8              | 2-3/4             | 4                | B52188     | -----  | B68574 |
| 27/64      | .4219            | 10.71  | 7/16              | 7/8              | 2 3/4             | 4                | B52475     | -----  | B68575 |
| 7/16       | .4375            | 11.11  | 7/16              | 5/8              | 2 1/2             | 4                | B52743     | B01439 | B69743 |
| 7/16       | .4375            | 11.11  | 7/16              | 1                | 2 1/2             | 4                | B52338     | B01567 | B35859 |
| 7/16       | .4375            | 11.11  | 7/16              | 2                | 4                 | 4                | B51360     | B01378 | B68360 |
| 7/16       | .4375            | 11.11  | 7/16              | 3                | 6                 | 4                | B51560     | B01860 | B68560 |
| 31/64      | .4844            | 12.30  | 1/2               | 1                | 3                 | 4                | B52363     | -----  | B68563 |
| 1/2        | .5000            | 12.70  | 1/2               | 5/8              | 2 1/2             | 4                | B52746     | B01678 | B69746 |
| 1/2        | .5000            | 12.70  | 1/2               | 1                | 3                 | 4                | B52345     | B01571 | B69345 |
| 1/2        | .5000            | 12.70  | 1/2               | 2                | 4                 | 4                | B51362     | B01380 | B68362 |
| 1/2        | .5000            | 12.70  | 1/2               | 1 1/2            | 6                 | 4                | B51561     | B01431 | B68561 |
| 1/2        | .5000            | 12.70  | 1/2               | 3                | 6                 | 4                | B51562     | B01436 | B68562 |
| 9/16       | .5625            | 14.29  | 9/16              | 1 1/4            | 3                 | 4                | B52347     | B01947 | B69347 |
| 5/8        | .6250            | 15.88  | 5/8               | 3/4              | 3                 | 4                | B52748     | B01679 | B69748 |
| 5/8        | .6250            | 15.88  | 5/8               | 1 1/4            | 3 1/2             | 4                | B52349     | B01573 | B00028 |
| 5/8        | .6250            | 15.88  | 5/8               | 2 1/4            | 5                 | 4                | B51364     | B01379 | B68364 |
| 5/8        | .6250            | 15.88  | 5/8               | 3                | 6                 | 4                | B51564     | B01437 | B68564 |
| 3/4        | .7500            | 19.05  | 3/4               | 1                | 3                 | 4                | B52751     | B01680 | B69751 |
| 3/4        | .7500            | 19.05  | 3/4               | 1 1/2            | 4                 | 4                | B52351     | B01574 | B00030 |
| 3/4        | .7500            | 19.05  | 3/4               | 2 1/4            | 5                 | 4                | B51366     | B01381 | B68366 |
| 3/4        | .7500            | 19.05  | 3/4               | 3                | 6                 | 4                | B51566     | B01438 | B68566 |
| 7/8        | .8750            | 22.23  | 7/8               | 1 1/2            | 4                 | 4                | B52353     | B01953 | B69353 |
| 7/8        | .8750            | 22.23  | 7/8               | 2 1/4            | 5                 | 4                | B51368     | B01382 | B68368 |
| 7/8        | .8750            | 22.23  | 7/8               | 3                | 6                 | 4                | B51568     | B01868 | B68568 |
| 1          | 1.0000           | 25.40  | 1                 | 1 1/2            | 4                 | 4                | B52357     | B01576 | B00032 |
| 1          | 1.0000           | 25.40  | 1                 | 2 1/4            | 5                 | 4                | B51370     | B01383 | B68370 |
| 1          | 1.0000           | 25.40  | 1                 | 3                | 6                 | 4                | B51570     | B01440 | B68570 |

CARBIDE END MILLS

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**Solid Carbide End Mills****Single End General-Purpose**

Series MSEST-2 • straight flutes

**Applications |**

STEEL

CAST IRON

HI-TEMP ALLOYS

NONFERROUS MATERIALS

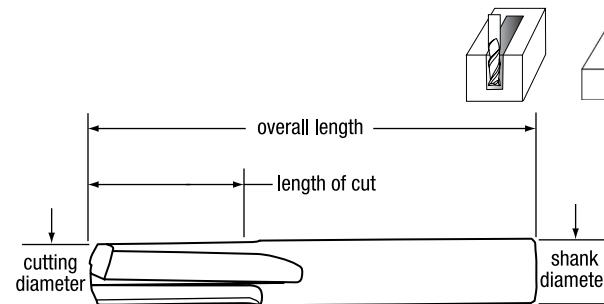
**Features |**

SOLID CARBIDE

2 FLUTE CC

BRIGHT

TiAIN



|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP number | TiAIN |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------|-------|
| 1/16 | .0625                          | 1.59                        | 1/8                        | 3/16              | 1 1/2            | 2                 | B53201           | B70201     |       |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1/2               | 1 1/2            | 2                 | B53203           | B70203     |       |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 5/8               | 2                | 2                 | B53205           | B70205     |       |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 3/4               | 2 1/2            | 2                 | B53207           | B70207     |       |
| 5/16 | .3125                          | 7.94                        | 5/16                       | 13/16             | 2 1/2            | 2                 | B53210           | B70210     |       |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 7/8               | 2 1/2            | 2                 | B53212           | B70212     |       |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 1                 | 3                | 2                 | B53215           | B70215     |       |

Series MEG-2 Engraving Tool

**Applications |**

STEEL

CAST IRON

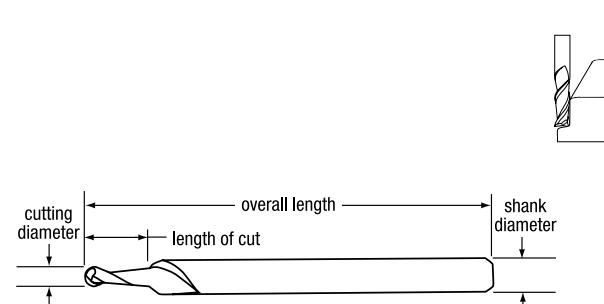
NONFERROUS MATERIALS

**Features |**

SOLID CARBIDE

2 FLUTE BALL CC

TiCN



|      | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | length<br>of cut | overall<br>length | no. of<br>flutes | EDP number | TiCN |
|------|-----------------------------|----------------------------|-------------------|------------------|-------------------|------------------|------------|------|
| .021 | 0.53                        | 1/8                        | .040              | 1 1/2            | 2                 |                  | B10901     |      |
| .025 | 0.64                        | 1/8                        | .040              | 1 1/2            | 2                 |                  | B10903     |      |
| .030 | 0.76                        | 1/8                        | .040              | 1 1/2            | 2                 |                  | B10906     |      |



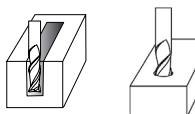
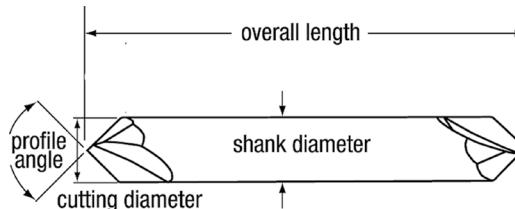
## Chamfer Tools

Series MCH-2R Single End and MCH-2D Double End Chamfer Tool • 60°, 82°, 90°, and 120° point

## Applications |



## Features |



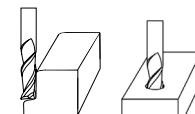
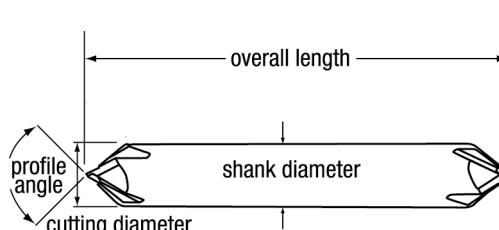
|      | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | overall<br>length | no. of<br>flutes | profile<br>angle (°) | EDP number<br>single end | EDP number<br>double end |
|------|--------------------------------|-----------------------------|----------------------------|-------------------|-------------------|------------------|----------------------|--------------------------|--------------------------|
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1 1/2             | 2                 | 60               | B10010               | -----                    |                          |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1 1/2             | 2                 | 82               | B10013               | -----                    |                          |
| 1/8  | .1250                          | 3.18                        | 1/8                        | 1 1/2             | 2                 | 90               | B10014               | B10026                   |                          |
| 3/16 | .1875                          | 4.76                        | 3/16                       | 2                 | 2                 | 90               | B10016               | B10027                   |                          |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 2 1/2             | 2                 | 60               | B10017               | -----                    |                          |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 2 1/2             | 2                 | 82               | B10018               | -----                    |                          |
| 1/4  | .2500                          | 6.35                        | 1/4                        | 2 1/2             | 2                 | 90               | B10019               | B10028                   |                          |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 2                 | 60               | B10020               | -----                    |                          |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 2                 | 82               | B10021               | -----                    |                          |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 2                 | 90               | B10022               | B10029                   |                          |
| 3/8  | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 2                 | 120              | B10012               | -----                    |                          |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 3                 | 2                 | 60               | B10023               | -----                    |                          |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 3                 | 2                 | 82               | B10024               | -----                    |                          |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 3                 | 2                 | 90               | B10025               | B10030                   |                          |
| 1/2  | .5000                          | 12.70                       | 1/2                        | 3                 | 2                 | 120              | B10232               | -----                    |                          |
| 3/4  | .7500                          | 19.05                       | 3/4                        | 4                 | 2                 | 90               | B10233               | B10231                   |                          |

Series MCH-4R Single End and MCH-4D Double End Chamfer Tool • 60°, 82°, 90°, and 120° point

## Applications |



## Features |



|     | cutting diameter<br>fractional | cutting diameter<br>decimal | cutting diameter<br>metric | shank<br>diameter | overall<br>length | no. of<br>flutes | profile<br>angle (°) | EDP number<br>single end | EDP number<br>double end |
|-----|--------------------------------|-----------------------------|----------------------------|-------------------|-------------------|------------------|----------------------|--------------------------|--------------------------|
| 1/4 | .2500                          | 6.35                        | 1/4                        | 2 1/2             | 4                 | 60               | B10219               | -----                    |                          |
| 1/4 | .2500                          | 6.35                        | 1/4                        | 2 1/2             | 4                 | 82               | B10220               | -----                    |                          |
| 1/4 | .2500                          | 6.35                        | 1/4                        | 2 1/2             | 4                 | 90               | B10221               | B10228                   |                          |
| 3/8 | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 4                 | 60               | B10222               | -----                    |                          |
| 3/8 | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 4                 | 82               | B10223               | -----                    |                          |
| 3/8 | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 4                 | 90               | B10224               | B10229                   |                          |
| 3/8 | .3750                          | 9.53                        | 3/8                        | 2 1/2             | 4                 | 120              | B10011               | -----                    |                          |
| 1/2 | .5000                          | 12.70                       | 1/2                        | 3                 | 4                 | 60               | B10225               | -----                    |                          |
| 1/2 | .5000                          | 12.70                       | 1/2                        | 3                 | 4                 | 82               | B10226               | -----                    |                          |
| 1/2 | .5000                          | 12.70                       | 1/2                        | 3                 | 4                 | 90               | B10227               | B10230                   |                          |
| 1/2 | .5000                          | 12.70                       | 1/2                        | 3                 | 4                 | 120              | B10235               | -----                    |                          |
| 3/4 | .7500                          | 19.05                       | 3/4                        | 4                 | 4                 | 90               | B10236               | B10234                   |                          |



**BASSETT**™



***Carbide Drills***



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## Feeds and Speeds for Bassett General Purpose Solid Carbide Drills

| Material Group                    | Recommended Speed<br>(SFM) | 1/16-in. | 1/8-in. | Feed (IPR)<br>1/4-in. | 1/2-in |
|-----------------------------------|----------------------------|----------|---------|-----------------------|--------|
| Low Carbon Steels, Annealed       | 85-150                     | .0005    | .0010   | .0020                 | .0040  |
| Medium Carbon Steels 275-425 BHn  | 65-120                     | .0005    | .0010   | .0020                 | .0030  |
| Stainless Steel, Soft 135-275 BHn | 50-150                     | .0005    | .0005   | .0020                 | .0040  |
| Stainless Steel, Hard 275-425 BHn | 30-90                      | .0005    | .0005   | .0010                 | .0015  |
| Cast Iron, Soft 120-220 BHn       | 100-300                    | .0010    | .0020   | .0040                 | .0050  |
| Cast Iron, Hard 220-320 BHn       | 60-200                     | .0015    | .0010   | .0020                 | .0030  |
| Ductile Iron                      | 70-250                     | .0010    | .0020   | .0030                 | .0050  |
| Malleable iron                    | 80-250                     | .0010    | .0020   | .0030                 | .0050  |
| Aluminum / Aluminum Alloys        | 150-400                    | .0010    | .0020   | .0030                 | .0050  |
| Brass / Bronze                    | 100-300                    | .0005    | .0010   | .0020                 | .0040  |
| Copper / Copper Alloys            | 150-400                    | .0010    | .0030   | .0050                 | .0060  |
| Magnesium / Magnesium Alloys      | 200-650                    | .0015    | .0030   | .0050                 | .0080  |
| Plastics - Glass Filled           | 150-300                    | .0010    | .0020   | .0030                 | .0050  |
| Plastics                          | 250-600                    | .0015    | .0030   | .0040                 | .0060  |

**Solid Carbide Drills****High-Performance****Series DHP-5 High-Performance Jobber Length Drill**

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

CARBIDE BURS

INDEX

**Applications |**

STAINLESS STEEL

STEEL

HARDENED STEEL

**Features |**

SUB-MICRON CARBIDE SUBSTRATE

142°

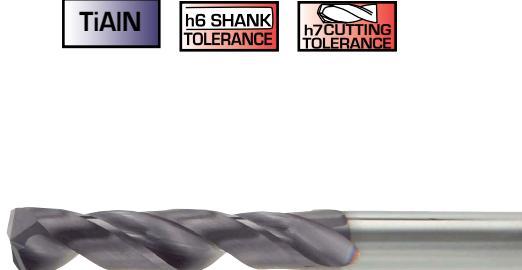
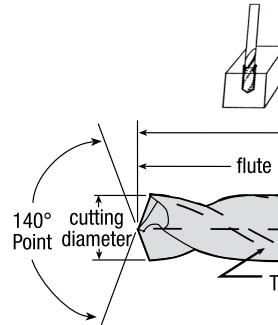
5 X DIA DEPTH

30°

TiAlN

h6 SHANK TOLERANCE

h7 CUTTING TOLERANCE



| fraction | cutting diameter |           |          | shank diameter | flute length |      | overall length | EDP number |       |        |
|----------|------------------|-----------|----------|----------------|--------------|------|----------------|------------|-------|--------|
|          | metric           | dec equiv | mm equiv | inch           | metric       | inch | mm             |            |       |        |
|          | 3.0              | .1181     |          | .118           | 3.0          | .94  | 24.0           | 2.48       | 63.0  | B56000 |
|          | 3.3              | .1299     |          | .157           | 4.0          | 1.26 | 32.0           | 2.72       | 69.0  | B56006 |
|          | 3.8              | .1496     |          | .157           | 4.0          | 1.26 | 32.0           | 2.72       | 69.0  | B56017 |
|          | 4.2              | .1654     |          | .197           | 5.0          | 1.50 | 38.0           | 3.15       | 80.0  | B56027 |
|          | 5.0              | .1969     |          | .197           | 5.0          | 1.50 | 38.0           | 3.15       | 80.0  | B56046 |
|          | 5.5              | .2165     |          | .236           | 6.0          | 1.57 | 40.0           | 3.23       | 82.0  | B56058 |
|          | 6.0              | .2362     |          | .236           | 6.0          | 1.57 | 40.0           | 3.23       | 82.0  | B56068 |
| 1/4      | .2500            | 6.4       |          | .250           | 6.4          | 2.00 | 50.8           | 3.75       | 95.3  | B56075 |
|          | 6.5              | .2559     |          | .315           | 8.0          | 1.89 | 48.0           | 3.58       | 91.0  | B56077 |
|          | 6.8              | .2677     |          | .315           | 8.0          | 1.89 | 48.0           | 3.58       | 91.0  | B56084 |
|          | 7.0              | .2756     |          | .315           | 8.0          | 1.89 | 48.0           | 3.58       | 91.0  | B56087 |
| 9/32     | .2813            | 7.1       |          | .438           | 11.1         | 2.00 | 50.8           | 3.75       | 95.3  | B56091 |
| 19/64    | .2969            | 7.5       |          | .438           | 11.1         | 2.00 | 50.8           | 3.75       | 95.3  | B56098 |
| 5/16     | .3125            | 7.9       |          | .438           | 11.1         | 2.00 | 50.8           | 3.75       | 95.3  | B56104 |
|          | 8.0              | .3150     |          | .315           | 8.0          | 1.89 | 48.0           | 3.58       | 91.0  | B56105 |
| 21/64    | .3281            | 8.3       |          | .375           | 9.5          | 2.00 | 50.8           | 4.00       | 101.6 | B56111 |
|          | 8.5              | .3346     |          | .394           | 10.0         | 2.17 | 55.0           | 4.06       | 103.0 | B56115 |
|          | 9.0              | .3543     |          | .394           | 10.0         | 2.17 | 55.0           | 4.06       | 103.0 | B56123 |
| 23/64    | .3594            | 9.1       |          | .375           | 9.5          | 2.00 | 50.8           | 4.00       | 101.6 | B56126 |
| 3/8      | .3750            | 9.5       |          | .375           | 9.5          | 2.00 | 50.8           | 4.00       | 101.6 | B56132 |
| 25/64    | .3906            | 9.9       |          | .375           | 9.5          | 2.00 | 50.8           | 4.00       | 101.6 | B56139 |
|          | 10.0             | .3937     |          | .394           | 10.0         | 2.17 | 55.0           | 4.06       | 103.0 | B56140 |
| 13/32    | .4063            | 10.3      |          | .500           | 12.7         | 2.50 | 63.5           | 4.75       | 120.7 | B56144 |
|          | 10.5             | .4134     |          | .472           | 12.0         | 2.36 | 60.0           | 4.72       | 120.0 | B56146 |
|          | 11.0             | .4331     |          | .472           | 12.0         | 2.36 | 60.0           | 4.72       | 120.0 | B56149 |
| 7/16     | .4375            | 11.1      |          | .500           | 12.7         | 2.50 | 63.5           | 4.75       | 120.7 | B56150 |
| 29/64    | .4531            | 11.5      |          | .500           | 12.7         | 2.50 | 63.5           | 4.75       | 120.7 | B56153 |
| 15/32    | .4688            | 11.9      |          | .500           | 12.7         | 2.50 | 63.5           | 4.75       | 120.7 | B56155 |
|          | 12.0             | .4724     |          | .472           | 12.0         | 2.60 | 66.0           | 4.72       | 120.0 | B56156 |
| 31/64    | .4844            | 12.3      |          | .500           | 12.7         | 3.00 | 76.2           | 5.00       | 127.0 | B56158 |
|          | 12.5             | .4921     |          | .551           | 14.0         | 2.83 | 72.0           | 4.96       | 126.0 | B56159 |
| 1/2      | .5000            | 12.7      |          | .500           | 12.7         | 3.00 | 76.2           | 5.00       | 127.0 | B56160 |

**TOLERANCE** - Drill Diameter: h7; Shank Diameter: h6



## High-Performance

## Series DHPCF-5 High-Performance Coolant Fed Jobber Length Drill

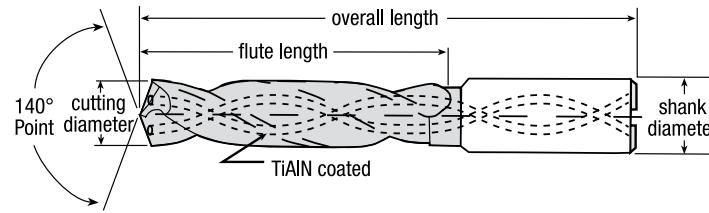
## Applications |

STAINLESS STEEL   ALLOY-HARD STEEL   CARBON STEEL   HARDENED STEEL



## Features |

SUB-MICRON CARBIDE SUBSTRATE   140° FLUTE ANGLE   5X DIA. DEPTH   TiAlN COATING   h6 SHANK TOLERANCE   h7 CUTTING TOLERANCE



| fraction | cutting diameter |           |          | shank diameter |        | flute length |      | overall length |       | EDP number |
|----------|------------------|-----------|----------|----------------|--------|--------------|------|----------------|-------|------------|
|          | metric           | dec equiv | mm equiv | inch           | metric | inch         | mm   | inch           | mm    |            |
|          | 3.0              | .1181     |          | .236           | 6.0    | 1.102        | 28.0 | 2.598          | 66.0  | B54300     |
|          | 3.3              | .1299     |          | .236           | 6.0    | 1.102        | 28.0 | 2.598          | 66.0  | B54306     |
|          | 3.8              | .1496     |          | .236           | 6.0    | 1.417        | 36.0 | 2.913          | 74.0  | B54317     |
|          | 4.2              | .1654     |          | .236           | 6.0    | 1.417        | 36.0 | 2.913          | 74.0  | B54327     |
|          | 5.0              | .1969     |          | .236           | 6.0    | 1.732        | 44.0 | 3.228          | 82.0  | B54346     |
|          | 5.5              | .2165     |          | .236           | 6.0    | 1.732        | 44.0 | 3.228          | 82.0  | B54358     |
|          | 6.0              | .2362     |          | .236           | 6.0    | 1.732        | 44.0 | 3.228          | 82.0  | B54368     |
| 1/4      | .2500            | 6.4       |          | .250           | 6.4    | 2.080        | 52.8 | 3.580          | 90.9  | B54375     |
|          | 6.5              | .2559     |          | .315           | 8.0    | 2.087        | 53.0 | 3.583          | 91.0  | B54377     |
|          | 6.8              | .2677     |          | .315           | 8.0    | 2.087        | 53.0 | 3.583          | 91.0  | B54384     |
|          | 7.0              | .2756     |          | .315           | 8.0    | 2.087        | 53.0 | 3.583          | 91.0  | B54387     |
| 9/32     | .2813            | 7.1       |          | .313           | 7.9    | 2.080        | 52.8 | 3.580          | 90.9  | B54391     |
| 19/64    | .2969            | 7.5       |          | .313           | 7.9    | 2.080        | 52.8 | 3.580          | 90.9  | B54398     |
| 5/16     | .3125            | 7.9       |          | .313           | 7.9    | 2.080        | 52.8 | 3.580          | 90.9  | B54404     |
|          | 8.0              | .3150     |          | .315           | 8.0    | 2.087        | 53.0 | 3.583          | 91.0  | B54405     |
| 21/64    | .3281            | 8.3       |          | .375           | 9.5    | 2.400        | 61.0 | 4.050          | 102.9 | B54412     |
|          | 8.5              | .3346     |          | .394           | 10.0   | 2.402        | 61.0 | 4.055          | 103.0 | B54415     |
|          | 8.8              | .3465     |          | .394           | 10.0   | 2.402        | 61.0 | 4.055          | 103.0 | B54420     |
|          | 9.0              | .3543     |          | .394           | 10.0   | 2.402        | 61.0 | 4.055          | 103.0 | B54423     |
| 3/8      | .3750            | 9.5       |          | .375           | 9.5    | 2.400        | 61.0 | 4.050          | 102.9 | B54432     |
|          | 10               | .3937     |          | .394           | 10.0   | 2.402        | 61.0 | 4.055          | 103.0 | B54440     |
| 13/32    | .4063            | 10.3      |          | .438           | 11.1   | 2.800        | 71.1 | 4.640          | 117.9 | B54444     |
|          | 10.5             | .4134     |          | .472           | 12.0   | 2.795        | 71.0 | 4.646          | 118.0 | B54446     |
|          | 10.8             | .4252     |          | .472           | 12.0   | 2.795        | 71.0 | 4.646          | 118.0 | B54448     |
|          | 11.0             | .4331     |          | .472           | 12.0   | 2.795        | 71.0 | 4.646          | 118.0 | B54449     |
| 7/16     | .4375            | 11.1      |          | .438           | 11.1   | 2.800        | 71.1 | 4.640          | 117.9 | B54450     |
| 29/64    | .4531            | 11.5      |          | .500           | 12.7   | 3.030        | 77.0 | 4.875          | 123.8 | B54453     |
| 15/32    | .4688            | 11.9      |          | .500           | 12.7   | 3.030        | 77.0 | 4.875          | 123.8 | B54455     |
|          | 12.0             | .4724     |          | .472           | 12.0   | 2.795        | 71.0 | 4.646          | 118.0 | B54456     |
| 31/64    | .4844            | 12.3      |          | .500           | 12.7   | 3.030        | 77.0 | 4.875          | 123.8 | B54458     |
|          | 12.5             | .4921     |          | .551           | 14.0   | 3.031        | 77.0 | 4.882          | 124.0 | B54459     |
| 1/2      | .5000            | 12.7      |          | .500           | 12.7   | 3.030        | 77.0 | 4.875          | 123.8 | B54460     |

**TOLERANCE** - Drill Diameter: h7; Shank Diameter: h6

**Solid Carbide Drills****High-Performance**Series **DHPCF-8** High-Performance Coolant Fed Jobber Length Drill

CARBIDE END MILLS

CARBIDE DRILLS

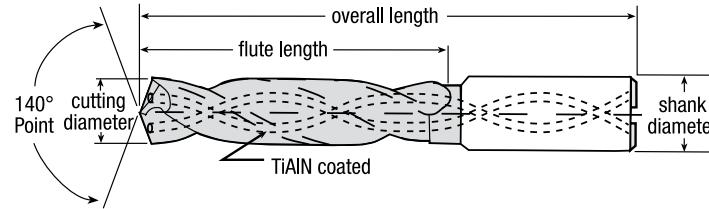
CARBIDE THREAD MILLS

CARBIDE BURS

INDEX

**Applications**

STAINLESS STEEL   ALLOY-HARD STEEL   CARBON STEEL   HARDENED STEEL

**Features**

SUB-MICRON CARBIDE SUBSTRATE   140°   TiAlN

8 X DIA DEPTH   h6 SHANK TOLERANCE   h7 CUTTING TOLERANCE



| fraction | cutting diameter |           |          | shank diameter | flute length | overall length | EDP number |      |       |        |
|----------|------------------|-----------|----------|----------------|--------------|----------------|------------|------|-------|--------|
|          | metric           | dec equiv | mm equiv | inch           | metric       | inch           | mm         |      |       |        |
|          | 3.5              | .1378     |          | .236           | 6.0          | 1.34           | 34.0       | 2.83 | 72.0  | B54509 |
|          | 3.8              | .1496     |          | .236           | 6.0          | 1.69           | 43.0       | 3.19 | 81.0  | B54517 |
|          | 4.2              | .1654     |          | .236           | 6.0          | 1.69           | 43.0       | 3.19 | 81.0  | B54527 |
|          | 4.5              | .1772     |          | .236           | 6.0          | 1.69           | 43.0       | 3.19 | 81.0  | B54535 |
|          | 4.8              | .1890     |          | .236           | 6.0          | 2.24           | 57.0       | 3.74 | 95.0  | B54541 |
|          | 5.0              | .1969     |          | .236           | 6.0          | 2.24           | 57.0       | 3.74 | 95.0  | B54546 |
|          | 5.5              | .2165     |          | .236           | 6.0          | 2.24           | 57.0       | 3.74 | 95.0  | B54558 |
|          | 6.0              | .2362     |          | .236           | 6.0          | 2.24           | 57.0       | 3.74 | 95.0  | B54568 |
| 1/4      |                  | .2500     | 6.4      | .250           | 6.4          | 3.00           | 76.2       | 4.50 | 114.3 | B54575 |
|          | 6.5              | .2559     |          | .315           | 8.0          | 2.99           | 76.0       | 4.49 | 114.0 | B54577 |
|          | 6.8              | .2677     |          | .315           | 8.0          | 2.99           | 76.0       | 4.49 | 114.0 | B54584 |
|          | 7.0              | .2756     |          | .315           | 8.0          | 2.99           | 76.0       | 4.49 | 114.0 | B54587 |
| 9/32     |                  | .2813     | 7.1      | .313           | 7.9          | 3.00           | 76.2       | 4.50 | 114.3 | B54591 |
|          | 7.5              | .2953     |          | .315           | 8.0          | 2.99           | 76.0       | 4.49 | 114.0 | B54597 |
| 19/64    |                  | .2969     | 7.5      | .313           | 7.9          | 3.00           | 76.2       | 4.50 | 114.3 | B54598 |
| 5/16     |                  | .3125     | 7.9      | .313           | 7.9          | 3.00           | 76.2       | 4.50 | 114.3 | B54604 |
|          | 8.0              | .3150     |          | .315           | 8.0          | 2.99           | 76.0       | 4.49 | 114.0 | B54605 |
|          | 8.5              | .3346     |          | .394           | 10.0         | 3.74           | 95.0       | 5.59 | 142.0 | B54615 |
|          | 8.8              | .3465     |          | .394           | 10.0         | 3.74           | 95.0       | 5.59 | 142.0 | B54620 |
|          | 9.0              | .3543     |          | .394           | 10.0         | 3.74           | 95.0       | 5.59 | 142.0 | B54623 |
|          | 9.5              | .3740     |          | .394           | 10.0         | 3.74           | 95.0       | 5.59 | 142.0 | B54631 |
| 3/8      |                  | .3750     | 9.5      | .375           | 9.5          | 3.75           | 95.3       | 5.75 | 146.1 | B54632 |
|          | 10.0             | .3937     |          | .394           | 10.0         | 3.74           | 95.0       | 5.59 | 142.0 | B54640 |
|          | 10.2             | .4016     |          | .472           | 12.0         | 4.49           | 114.0      | 6.38 | 162.0 | B54642 |
|          | 10.5             | .4134     |          | .472           | 12.0         | 4.49           | 114.0      | 6.38 | 162.0 | B54646 |
|          | 10.8             | .4252     |          | .472           | 12.0         | 4.49           | 114.0      | 6.38 | 162.0 | B54648 |
|          | 11.0             | .4331     |          | .472           | 12.0         | 4.49           | 114.0      | 6.38 | 162.0 | B54649 |
| 7/16     |                  | .4375     | 11.1     | .438           | 11.1         | 4.50           | 114.3      | 6.50 | 165.1 | B54650 |
|          | 11.5             | .4528     |          | .472           | 12.0         | 4.49           | 114.0      | 6.38 | 162.0 | B54652 |
|          | 12.0             | .4724     |          | .472           | 12.0         | 4.49           | 114.0      | 6.38 | 162.0 | B54656 |
|          | 12.5             | .4921     |          | .551           | 14.0         | 5.24           | 133.0      | 7.01 | 178.0 | B54659 |
| 1/2      |                  | .5000     | 12.7     | .500           | 12.7         | 5.25           | 133.4      | 7.00 | 177.8 | B54660 |

**TOLERANCE** - Drill Diameter: h7; Shank Diameter: h6



## Jobber Length

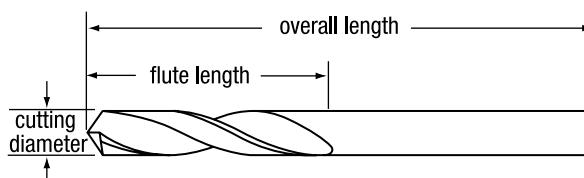
## Series DR Jobber Length Drill

## Applications |

NON-FERROUS MATERIALS

CAST IRON

STEEL



## Features |

SOLID CARBIDE

118° 4-FACET

BRIGHT



|      | cutting diameter<br>frac<br>wire/let | cutting diameter<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|------|--------------------------------------|-----------------------------|-----------------|-------------------|---------------|
| 1/32 |                                      | .0312                       | 5/16            | 1 1/4             | B53509        |
|      | 60                                   | .0400                       | 5/8             | 1 1/2             | B53511        |
|      | 59                                   | .0410                       | 3/4             | 1 1/2             | B53512        |
|      | 58                                   | .0420                       | 3/4             | 1 1/2             | B53514        |
|      | 57                                   | .0430                       | 3/4             | 1 1/2             | B53515        |
|      | 56                                   | .0465                       | 3/4             | 1 1/2             | B53518        |
| 3/64 |                                      | .0469                       | 3/4             | 1 1/2             | B53521        |
|      | 55                                   | .0520                       | 3/4             | 1 1/2             | B53523        |
|      | 54                                   | .0550                       | 3/4             | 1 1/2             | B53525        |
|      | 53                                   | .0595                       | 3/4             | 1 1/2             | B53529        |
| 1/16 |                                      | .0625                       | 3/4             | 1 1/2             | B53531        |
|      | 52                                   | .0635                       | 3/4             | 1 1/2             | B53533        |
|      | 51                                   | .0670                       | 3/4             | 1 1/2             | B53536        |
|      | 50                                   | .0700                       | 7/8             | 1 3/4             | B53538        |
|      | 49                                   | .0730                       | 7/8             | 1 3/4             | B53541        |
|      | 48                                   | .0760                       | 7/8             | 1 3/4             | B53543        |
| 5/64 |                                      | .0781                       | 7/8             | 1 3/4             | B53545        |
|      | 47                                   | .0785                       | 7/8             | 1 3/4             | B53546        |
|      | 46                                   | .0810                       | 7/8             | 1 3/4             | B53549        |
|      | 45                                   | .0820                       | 7/8             | 1 3/4             | B53550        |
|      | 44                                   | .0860                       | 1               | 2                 | B53553        |
|      | 43                                   | .0890                       | 1               | 2                 | B53556        |
|      | 42                                   | .0935                       | 1               | 2                 | B53559        |
| 3/32 |                                      | .0938                       | 1               | 2                 | B53560        |
|      | 41                                   | .0960                       | 1               | 2                 | B53562        |
|      | 40                                   | .0980                       | 1               | 2                 | B53564        |
|      | 39                                   | .0995                       | 1 1/4           | 2 1/4             | B53566        |
|      | 38                                   | .1015                       | 1 1/4           | 2 1/4             | B53567        |
|      | 37                                   | .1040                       | 1 1/4           | 2 1/4             | B53569        |
|      | 36                                   | .1065                       | 1 1/4           | 2 1/4             | B53571        |
| 7/64 |                                      | .1094                       | 1 1/4           | 2 1/4             | B53573        |
|      | 35                                   | .1100                       | 1 1/4           | 2 1/4             | B53574        |
|      | 34                                   | .1110                       | 1 1/4           | 2 1/4             | B53576        |
|      | 33                                   | .1130                       | 1 1/4           | 2 1/4             | B53577        |
|      | 32                                   | .1160                       | 1 1/4           | 2 1/4             | B53579        |
|      | 31                                   | .1200                       | 1 1/4           | 2 1/4             | B53581        |
| 1/8  |                                      | .1250                       | 1 1/4           | 2 1/4             | B53583        |
|      | 30                                   | .1285                       | 1 1/4           | 2 1/4             | B53586        |
|      | 29                                   | .1360                       | 1 3/8           | 2 1/2             | B53589        |
|      | 28                                   | .1405                       | 1 3/8           | 2 1/2             | B53591        |
| 9/64 |                                      | .1406                       | 1 3/8           | 2 1/2             | B53592        |
|      | 27                                   | .1440                       | 1 3/8           | 2 1/2             | B53594        |

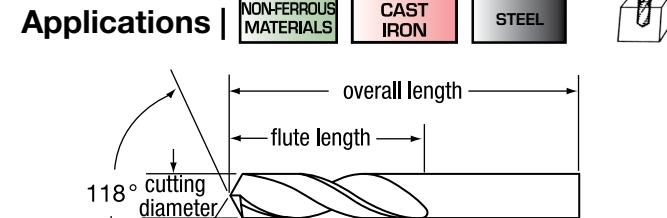
|       | cutting diameter<br>frac<br>wire/let | cutting diameter<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|-------|--------------------------------------|-----------------------------|-----------------|-------------------|---------------|
|       | 26                                   | .1470                       | 1 3/8           | 2 1/2             | B53596        |
|       | 25                                   | .1495                       | 1 3/8           | 2 1/2             | B53598        |
|       | 24                                   | .1520                       | 1 3/8           | 2 1/2             | B53600        |
|       | 23                                   | .1540                       | 1 3/8           | 2 1/2             | B53602        |
| 5/32  |                                      | .1563                       | 1 3/8           | 2 1/2             | B53603        |
|       | 22                                   | .1570                       | 1 3/8           | 2 1/2             | B53604        |
|       | 21                                   | .1590                       | 1 3/8           | 2 1/2             | B53606        |
|       | 20                                   | .1610                       | 1 3/8           | 2 1/2             | B53607        |
|       | 19                                   | .1660                       | 1 5/8           | 2 3/4             | B53610        |
|       | 18                                   | .1695                       | 1 5/8           | 2 3/4             | B53613        |
| 11/64 |                                      | .1719                       | 1 5/8           | 2 3/4             | B53614        |
|       | 17                                   | .1730                       | 1 5/8           | 2 3/4             | B53615        |
|       | 16                                   | .1770                       | 1 5/8           | 2 3/4             | B53617        |
|       | 15                                   | .1800                       | 1 5/8           | 2 3/4             | B53619        |
|       | 14                                   | .1820                       | 1 5/8           | 2 3/4             | B53621        |
|       | 13                                   | .1850                       | 1 5/8           | 2 3/4             | B53622        |
| 3/16  |                                      | .1875                       | 1 5/8           | 2 3/4             | B53625        |
|       | 12                                   | .1890                       | 1 5/8           | 2 3/4             | B53626        |
|       | 11                                   | .1910                       | 1 5/8           | 2 3/4             | B53628        |
|       | 10                                   | .1935                       | 1 5/8           | 2 3/4             | B53630        |
|       | 9                                    | .1960                       | 1 3/4           | 3                 | B53631        |
|       | 8                                    | .1990                       | 1 3/4           | 3                 | B53633        |
|       | 7                                    | .2010                       | 1 3/4           | 3                 | B53635        |
| 13/64 |                                      | .2031                       | 1 3/4           | 3                 | B53637        |
|       | 6                                    | .2040                       | 1 3/4           | 3                 | B53638        |
|       | 5                                    | .2055                       | 1 3/4           | 3                 | B53640        |
|       | 4                                    | .2090                       | 1 3/4           | 3                 | B53643        |
|       | 3                                    | .2130                       | 1 3/4           | 3                 | B53645        |
| 7/32  |                                      | .2188                       | 1 3/4           | 3                 | B53647        |
|       | 2                                    | .2210                       | 1 3/4           | 3                 | B53649        |
|       | 1                                    | .2280                       | 1 3/4           | 3                 | B53652        |
|       | A                                    | .2340                       | 2               | 3 1/4             | B53655        |
| 15/64 |                                      | .2344                       | 2               | 3 1/4             | B53657        |
|       | B                                    | .2380                       | 2               | 3 1/4             | B53660        |
|       | C                                    | .2420                       | 2               | 3 1/4             | B53662        |
|       | D                                    | .2460                       | 2               | 3 1/4             | B53664        |
| 1/4   | E                                    | .2500                       | 2               | 3 1/4             | B53666        |
|       | F                                    | .2570                       | 2               | 3 1/4             | B53670        |
|       | G                                    | .2610                       | 2 1/8           | 3 1/2             | B53672        |
| 17/64 |                                      | .2656                       | 2 1/8           | 3 1/2             | B53675        |
|       | H                                    | .2660                       | 2 1/8           | 3 1/2             | B53677        |
|       | I                                    | .2720                       | 2 1/8           | 3 1/2             | B53678        |

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**Solid Carbide Drills****Jobber Length • Stub Length****Series DR Jobber Length Drill (continued)**

|       |   | cutting diameter<br>frac | wire/let<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|-------|---|--------------------------|---------------------|-----------------|-------------------|---------------|
| 9/32  | J | .2770                    | 2 1/8               | 3 1/2           | B53681            |               |
|       | K | .2810                    | 2 1/8               | 3 1/2           | B53683            |               |
| 19/64 | L | .2812                    | 2 1/8               | 3 1/2           | B53685            |               |
|       | M | .2900                    | 2 1/8               | 3 1/2           | B53688            |               |
| 5/16  | N | .2950                    | 2 3/8               | 3 3/4           | B53689            |               |
|       | O | .2969                    | 2 3/8               | 3 3/4           | B53691            |               |
| 21/64 | P | .3020                    | 2 3/8               | 3 3/4           | B53693            |               |
|       | Q | .3125                    | 2 3/8               | 3 3/4           | B53694            |               |
| 11/32 | R | .3160                    | 2 3/8               | 3 3/4           | B53696            |               |
|       | S | .3230                    | 2 3/8               | 3 3/4           | B53698            |               |
| 23/64 | T | .3281                    | 2 1/2               | 4               | B53701            |               |
|       | U | .3320                    | 2 1/2               | 4               | B53704            |               |
| 15/32 | V | .3438                    | 2 1/2               | 4               | B53708            |               |
|       | W | .3480                    | 2 1/2               | 4               | B53710            |               |
| 1/2   | X | .3580                    | 2 1/2               | 4               | B53713            |               |
|       | Y | .3594                    | 2 1/2               | 4               | B53715            |               |

|       |   | cutting diameter<br>frac | wire/let<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|-------|---|--------------------------|---------------------|-----------------|-------------------|---------------|
| 3/8   | U | .3680                    | 2 3/4               | 4 1/4           | B53718            |               |
|       | V | .3750                    | 2 3/4               | 4 1/4           | B53720            |               |
| 25/64 | W | .3770                    | 2 7/8               | 4 1/4           | B53722            |               |
|       | X | .3860                    | 2 7/8               | 4 1/2           | B53724            |               |
| 13/32 | Y | .3906                    | 2 7/8               | 4 1/2           | B53725            |               |
|       | Z | .3970                    | 2 7/8               | 4 1/2           | B53727            |               |
| 27/64 | A | .4040                    | 2 7/8               | 4 1/2           | B53729            |               |
|       | B | .4062                    | 2 7/8               | 4 1/2           | B53731            |               |
| 7/16  | C | .4130                    | 2 7/8               | 4 1/2           | B53732            |               |
|       | D | .4219                    | 2 7/8               | 4 1/2           | B53735            |               |
| 29/64 | E | .4375                    | 3                   | 4 1/2           | B53737            |               |
|       | F | .4531                    | 3                   | 4 3/4           | B53739            |               |
| 15/32 | G | .4688                    | 3                   | 4 3/4           | B53741            |               |
|       | H | .4844                    | 3                   | 4 3/4           | B53742            |               |
| 1/2   | I | .5000                    | 3                   | 4 3/4           | B53744            |               |

**Series DRS Stub Length Drill**

|      |    | cutting diameter<br>frac | wire<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|------|----|--------------------------|-----------------|-----------------|-------------------|---------------|
| 1/16 | 60 | .0400                    | 3/8             | 1 1/2           | B36060            |               |
|      | 59 | .0410                    | 3/8             | 1 1/2           | B36059            |               |
| 5/64 | 58 | .0420                    | 3/8             | 1 1/2           | B36058            |               |
|      | 57 | .0430                    | 3/8             | 1 1/2           | B36057            |               |
| 1/8  | 56 | .0465                    | 3/8             | 1 1/2           | B36056            |               |
|      | 55 | .0520                    | 3/8             | 1 1/2           | B36055            |               |
| 3/32 | 54 | .0550                    | 3/8             | 1 1/2           | B36054            |               |
|      | 53 | .0595                    | 3/8             | 1 1/2           | B36053            |               |
| 7/64 | 52 | .0625                    | 3/8             | 1 1/2           | B36404            |               |
|      | 51 | .0635                    | 3/8             | 1 1/2           | B36052            |               |
| 1/4  | 50 | .0670                    | 3/8             | 1 1/2           | B36051            |               |
|      | 49 | .0700                    | 3/8             | 1 1/2           | B36050            |               |
| 5/32 | 48 | .0730                    | 3/8             | 1 1/2           | B36049            |               |
|      | 47 | .0760                    | 1/2             | 1 1/2           | B36048            |               |
| 1/2  | 46 | .0781                    | 1/2             | 1 1/2           | B36405            |               |
|      | 45 | .0785                    | 1/2             | 1 1/2           | B36047            |               |
| 1/16 | 44 | .0810                    | 1/2             | 1 1/2           | B36046            |               |
|      | 43 | .0820                    | 1/2             | 1 1/2           | B36045            |               |



|      |    | cutting diameter<br>frac | wire<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|------|----|--------------------------|-----------------|-----------------|-------------------|---------------|
| 1/8  | 44 | .0860                    | 1/2             | 2               | B36044            |               |
|      | 43 | .0890                    | 1/2             | 2               | B36043            |               |
| 1/16 | 42 | .0935                    | 1/2             | 2               | B36042            |               |
|      | 41 | .0938                    | 1/2             | 2               | B36406            |               |
| 3/32 | 40 | .0960                    | 1/2             | 2               | B36041            |               |
|      | 39 | .0980                    | 5/8             | 2               | B36040            |               |
| 7/64 | 38 | .0995                    | 5/8             | 2               | B36039            |               |
|      | 37 | .1015                    | 5/8             | 2               | B36038            |               |
| 1/16 | 36 | .1040                    | 5/8             | 2               | B36037            |               |
|      | 35 | .1065                    | 5/8             | 2               | B36036            |               |
| 1/32 | 34 | .1094                    | 5/8             | 2               | B36407            |               |
|      | 33 | .1100                    | 5/8             | 2               | B36035            |               |
| 1/16 | 32 | .1110                    | 5/8             | 2               | B36034            |               |
|      | 31 | .1130                    | 5/8             | 2               | B36033            |               |
| 1/32 | 30 | .1160                    | 5/8             | 2               | B36032            |               |
|      | 29 | .1200                    | 5/8             | 2               | B36031            |               |
| 1/16 | 28 | .1250                    | 5/8             | 2               | B36408            |               |
|      | 27 | .1285                    | 5/8             | 2               | B36030            |               |

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**Stub Length**Series **DRS** Stub Length Drill (continued)

|       | cutting diameter<br>frac | wire<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|-------|--------------------------|-----------------|-----------------|-------------------|---------------|
| 9/64  | 29                       | .1360           | 5/8             | 2                 | B36029        |
|       |                          | .1406           | 5/8             | 2                 | B36409        |
|       | 28                       | .1405           | 5/8             | 2                 | B36028        |
|       | 27                       | .1440           | 5/8             | 2                 | B36027        |
|       | 26                       | .1470           | 5/8             | 2                 | B36026        |
|       | 25                       | .1495           | 5/8             | 2                 | B36025        |
|       | 24                       | .1520           | 5/8             | 2                 | B36024        |
|       | 23                       | .1540           | 5/8             | 2                 | B36023        |
| 5/32  |                          | .1563           | 3/4             | 2                 | B36410        |
|       | 22                       | .1570           | 3/4             | 2                 | B36022        |
|       | 21                       | .1590           | 3/4             | 2                 | B36021        |
|       | 20                       | .1610           | 3/4             | 2                 | B36020        |
|       | 19                       | .1660           | 3/4             | 2 1/8             | B36019        |
|       | 18                       | .1695           | 3/4             | 2 1/8             | B36018        |
| 11/64 |                          | .1719           | 3/4             | 2 1/8             | B36411        |
|       | 17                       | .1730           | 3/4             | 2 1/8             | B36017        |
|       | 16                       | .1770           | 3/4             | 2 1/8             | B36016        |
|       | 15                       | .1800           | 3/4             | 2 3/16            | B36015        |
|       | 14                       | .1820           | 3/4             | 2 3/16            | B36014        |
|       | 13                       | .1850           | 3/4             | 2 3/16            | B36013        |
| 3/16  |                          | .1875           | 3/4             | 2 3/16            | B36412        |
|       | 12                       | .1890           | 3/4             | 2 3/16            | B36012        |
|       | 11                       | .1910           | 3/4             | 2 3/16            | B36011        |
|       | 10                       | .1935           | 3/4             | 2 3/16            | B36010        |
|       | 9                        | .1960           | 3/4             | 2 1/4             | B36009        |
|       | 8                        | .1990           | 3/4             | 2 1/4             | B36008        |

|       | cutting diameter<br>frac | wire/letter<br>decimal | flute<br>length | overall<br>length | EDP<br>number |
|-------|--------------------------|------------------------|-----------------|-------------------|---------------|
| 13/64 | 7                        | .2010                  | 3/4             | 2 1/4             | B36007        |
|       |                          | .2031                  | 3/4             | 2 1/4             | B36413        |
| 6     |                          | .2040                  | 3/4             | 2 1/4             | B36006        |
|       | 5                        | .2055                  | 3/4             | 2 1/4             | B36005        |
| 4     |                          | .2090                  | 3/4             | 2 1/4             | B36004        |
|       | 3                        | .2130                  | 1               | 2 1/2             | B36003        |
| 7/32  |                          | .2188                  | 1               | 2 1/2             | B36414        |
|       | 2                        | .2210                  | 1               | 2 1/2             | B36002        |
|       | 1                        | .2280                  | 1               | 2 1/2             | B36001        |
| 15/64 |                          | .2344                  | 1               | 2 1/2             | B36415        |
|       | 1/4                      | .2500                  | 1               | 2 1/2             | B36416        |
| 17/64 |                          | .2656                  | 1               | 2 1/2             | B36417        |
| 9/32  |                          | .2813                  | 1               | 2 1/2             | B36418        |
| 19/64 |                          | .2969                  | 1 1/4           | 2 1/2             | B36419        |
| 5/16  |                          | .3125                  | 1 1/4           | 2 1/2             | B36420        |
| 21/64 |                          | .3281                  | 1 1/4           | 2 1/2             | B36421        |
| 11/32 |                          | .3438                  | 1 1/4           | 2 1/2             | B36422        |
| 23/64 |                          | .3594                  | 1 1/4           | 2 1/2             | B36423        |
| 25/64 |                          | .3906                  | 1 1/4           | 2 3/4             | B36425        |
| 13/32 |                          | .4063                  | 1 1/4           | 2 3/4             | B36426        |
| 27/64 |                          | .4219                  | 1 1/4           | 2 3/4             | B36427        |
| 7/16  |                          | .4375                  | 1 1/4           | 2 3/4             | B36428        |
| 29/64 |                          | .4531                  | 1 1/4           | 3                 | B36429        |
| 15/32 |                          | .4688                  | 1 1/4           | 3                 | B36430        |
| 31/64 |                          | .4844                  | 1 1/4           | 3                 | B36431        |
| 1/2   |                          | .5000                  | 1 1/4           | 3                 | B36432        |

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

CARBIDE BURS

INDEX

**Solid Carbide Drills****Straight Flute****Series DM Straight Flute Drill**

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

CARBIDE BURS

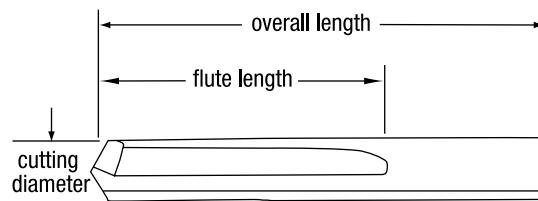
INDEX

**Applications**

NON-FERROUS MATERIALS

CAST IRON

STEEL



|  | cutting diameter<br>frac<br>wire /mm | flute<br>length | overall<br>length | EDP<br>number |
|--|--------------------------------------|-----------------|-------------------|---------------|
|--|--------------------------------------|-----------------|-------------------|---------------|

|      |       |       |         |        |
|------|-------|-------|---------|--------|
| 1/32 | .0313 | 1/2   | 1 1/2   | B54100 |
| 60   | .0400 | 1/2   | 1 1/2   | B54101 |
| 59   | .0410 | 1/2   | 1 1/2   | B54102 |
| 58   | .0420 | 1/2   | 1 1/2   | B54104 |
| 57   | .0430 | 1/2   | 1 1/2   | B54105 |
| 56   | .0465 | 1/2   | 1 1/2   | B54108 |
| 3/64 | .0469 | 1/2   | 1 1/2   | B54112 |
| 55   | .0520 | 1/2   | 1 1/2   | B54113 |
| 54   | .0550 | 1/2   | 1 1/2   | B54115 |
| 53   | .0595 | 1/2   | 1 1/2   | B54119 |
| 1/16 | .0625 | 5/8   | 1 5/8   | B54121 |
| 52   | .0635 | 11/16 | 1 11/16 | B54123 |
| 51   | .0670 | 11/16 | 1 11/16 | B54126 |
| 50   | .0700 | 11/16 | 1 11/16 | B54128 |
| 49   | .0730 | 11/16 | 1 11/16 | B54131 |
| 48   | .0760 | 11/16 | 1 11/16 | B54133 |
| 5/64 | .0781 | 11/16 | 1 11/16 | B54135 |
| 47   | .0785 | 3/4   | 1 3/4   | B54136 |
| 46   | .0810 | 3/4   | 1 3/4   | B54139 |
| 45   | .0820 | 3/4   | 1 3/4   | B54140 |
| 44   | .0860 | 3/4   | 1 3/4   | B54143 |
| 43   | .0890 | 3/4   | 1 3/4   | B54146 |
| 42   | .0935 | 3/4   | 1 3/4   | B54149 |
| 3/32 | .0938 | 3/4   | 1 3/4   | B54150 |
| 41   | .0960 | 13/16 | 1 13/16 | B54152 |
| 40   | .0980 | 13/16 | 1 13/16 | B54154 |
| 39   | .0995 | 13/16 | 1 13/16 | B54156 |
| 38   | .1015 | 13/16 | 1 13/16 | B54157 |
| 37   | .1040 | 13/16 | 1 13/16 | B54159 |
| 36   | .1065 | 13/16 | 1 13/16 | B54161 |
| 7/64 | .1094 | 13/16 | 1 13/16 | B54163 |
| 35   | .1100 | 7/8   | 1 7/8   | B54164 |
| 34   | .1110 | 7/8   | 1 7/8   | B54166 |
| 33   | .1130 | 7/8   | 1 7/8   | B54167 |
| 32   | .1160 | 7/8   | 1 7/8   | B54169 |
| 31   | .1200 | 7/8   | 1 7/8   | B54171 |
| 1/8  | .1250 | 7/8   | 1 7/8   | B54173 |
| 30   | .1285 | 15/16 | 1 15/16 | B54176 |
| 29   | .1360 | 15/16 | 1 15/16 | B54179 |
| 28   | .1405 | 15/16 | 1 15/16 | B54181 |
| 9/64 | .1406 | 15/16 | 1 15/16 | B54182 |
| 27   | .1440 | 1     | 2 1/16  | B54184 |

**Features**

SOLID CARBIDE



BRIGHT

*Tolerances for Series DM Drills*

Cutting Diameter: +.000, -.0005

Shank Diameter: +.0000, -.0005

|       | cutting diameter<br>frac<br>wire/mm | decimal | flute<br>length | overall<br>length | EDP<br>number |
|-------|-------------------------------------|---------|-----------------|-------------------|---------------|
|       | 26                                  | .1470   | 1               | 2 1/16            | B54186        |
|       | 25                                  | .1495   | 1               | 2 1/16            | B54188        |
|       | 24                                  | .1520   | 1               | 2 1/16            | B54190        |
|       | 23                                  | .1540   | 1               | 2 1/16            | B54192        |
| 5/32  |                                     | .1563   | 1               | 2 1/16            | B54193        |
|       | 22                                  | .1570   | 1 1/16          | 2 1/8             | B54194        |
|       | 21                                  | .1590   | 1 1/16          | 2 1/8             | B54196        |
|       | 20                                  | .1610   | 1 1/16          | 2 1/8             | B54197        |
|       | 19                                  | .1660   | 1 1/16          | 2 1/8             | B54200        |
|       | 18                                  | .1695   | 1 1/16          | 2 1/8             | B54203        |
| 11/64 |                                     | .1719   | 1 1/16          | 2 1/8             | B54204        |
|       | 17                                  | .1730   | 1 1/8           | 2 3/16            | B54205        |
|       | 16                                  | .1770   | 1 1/8           | 2 3/16            | B54207        |
|       | 15                                  | .1800   | 1 1/8           | 2 3/16            | B54209        |
|       | 14                                  | .1820   | 1 1/8           | 2 3/16            | B54211        |
|       | 13                                  | .1850   | 1 1/8           | 2 3/16            | B54212        |
| 3/16  |                                     | .1875   | 1 1/8           | 2 3/16            | B54215        |
|       | 12                                  | .1890   | 1 3/16          | 2 1/4             | B54216        |
|       | 11                                  | .1910   | 1 3/16          | 2 1/4             | B54218        |
|       | 10                                  | .1935   | 1 3/16          | 2 1/4             | B54220        |
|       | 9                                   | .1960   | 1 3/16          | 2 1/4             | B54221        |
|       | 8                                   | .1990   | 1 3/16          | 2 1/4             | B54223        |
|       | 7                                   | .2010   | 1 3/16          | 2 1/4             | B54225        |
| 13/64 |                                     | .2031   | 1 3/16          | 2 1/4             | B54227        |
|       | 6                                   | .2040   | 1 1/4           | 2 3/8             | B54228        |
|       | 5                                   | .2055   | 1 1/4           | 2 3/8             | B54230        |
|       | 4                                   | .2090   | 1 1/4           | 2 3/8             | B54233        |
|       | 3                                   | .2130   | 1 1/4           | 2 3/8             | B54235        |
| 7/32  |                                     | .2188   | 1 1/4           | 2 3/8             | B54237        |
|       | 2                                   | .2210   | 1 5/16          | 2 7/16            | B54239        |
|       | 1                                   | .2280   | 1 5/16          | 2 7/16            | B54245        |
| 15/64 |                                     | .2344   | 1 5/16          | 2 7/16            | B54242        |
|       | 1/4                                 | .2500   | 1 3/8           | 2 1/2             | B54247        |
| 17/64 |                                     | .2656   | 1 7/16          | 2 5/8             | B54248        |
|       | 9/32                                | .2813   | 1 1/2           | 2 11/16           | B54250        |
|       | 19/64                               | .2969   | 1 9/16          | 2 3/4             | B54251        |
|       | 5/16                                | .3125   | 1 5/8           | 2 13/16           | B54253        |
| 21/64 |                                     | .3281   | 1 11/16         | 2 15/16           | B54254        |
|       | 11/32                               | .3438   | 1 11/16         | 3                 | B54256        |
|       | 23/64                               | .3594   | 1 3/4           | 3 1/16            | B54257        |
|       | 3/8                                 | .3750   | 1 13/16         | 3 1/8             | B54259        |
|       | 25/64                               | .3906   | 1 7/8           | 3 1/4             | B54260        |

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BASSETT™

Solid Carbide Drills

**Straight Flute • Spade • Drill and Countersink**

## Series DM Straight Flute Drill (continued)

| cutting diameter<br>frac | decimal | flute length | overall length | EDP number |
|--------------------------|---------|--------------|----------------|------------|
| 13/32                    | .4063   | 1 15/16      | 3 5/16         | B54262     |
| 27/64                    | .4219   | 2            | 3 3/8          | B54263     |
| 7/16                     | .4375   | 2 1/16       | 3 7/16         | B54265     |
| 29/64                    | .4531   | 2 1/8        | 3 9/16         | B54266     |

| cutting diameter<br>frac | decimal | flute length | overall length | EDP number |
|--------------------------|---------|--------------|----------------|------------|
| 15/32                    | .4688   | 2 1/8        | 3 5/8          | B54267     |
| 31/64                    | .4844   | 2 3/16       | 3 11/16        | B54268     |
| 1/2                      | .5000   | 2 1/4        | 3 3/4          | B54270     |

## Series DS Spade Stub Length Drill

## Applications |

NON-FERROUS MATERIALS

STAINLESS STEEL

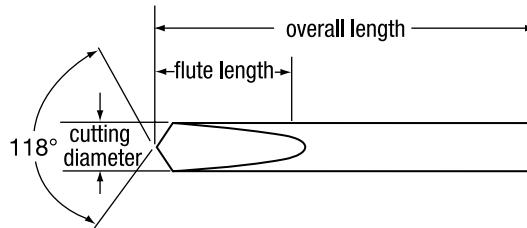
HARDENED STEEL

## Features |

SOLID CARBIDE

118°

BRIGHT



| cutting diameter<br>fractional | decimal | flute length | overall length | EDP number |
|--------------------------------|---------|--------------|----------------|------------|
| 1/32                           | .0313   | 3/16         | 1 1/2          | B53451     |
| 1/16                           | .0625   | 5/16         | 1 1/2          | B53454     |
| 3/32                           | .0938   | 7/16         | 1 1/2          | B53456     |
| 1/8                            | .1250   | 7/16         | 1 1/2          | B53458     |
| 5/32                           | .1563   | 15/32        | 2              | B53460     |
| 3/16                           | .1875   | 9/16         | 2              | B53462     |

| cutting diameter<br>fractional | decimal | flute length | overall length | EDP number |
|--------------------------------|---------|--------------|----------------|------------|
| 7/32                           | .2188   | 19/32        | 2              | B53464     |
| 1/4                            | .2500   | 11/16        | 2              | B53467     |
| 3/8                            | .3750   | 1            | 2 1/2          | B53475     |

## Series DC Combination Stub Length Drill and Countersink

## Applications |

NON-FERROUS MATERIALS

CAST IRON

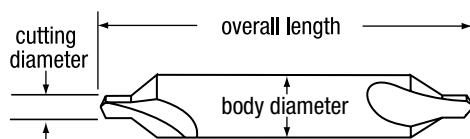
STEEL

## Features |

SOLID CARBIDE

118°

BRIGHT



| tool number | cutting diameter fraction | decimal | body diameter | overall length | EDP number |
|-------------|---------------------------|---------|---------------|----------------|------------|
| 1           | 3/64                      | .125    | 1/8           | 1 1/2          | B53431     |
| 2           | 5/64                      | .188    | 3/16          | 2              | B53432     |
| 3           | 7/64                      | .250    | 1/4           | 2              | B53433     |
| 4           | 1/8                       | .313    | 5/16          | 2 1/8          | B53434     |
| 5           | 3/16                      | .438    | 7/16          | 2 3/4          | B53435     |
| 6           | 7/32                      | .500    | 1/2           | 3              | B53436     |





**BASSETT**™



***Thread Mills***



| Style No.                             | Description                                       | Page No. |
|---------------------------------------|---|----------|
| Operating Parameters                  |   | 47       |
| TM/TMC                                | UN Thread Mills, with and without coolant.        | 48       |
| TMNP/TMNP                             | NPT / NPTF Thread Mills, with and without coolant | 49       |
| TMBPP/TMBPPC                          | BSPP Thread Mills, with and without coolant       | 49       |
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| <b>BMTM2/BMTM3</b>                    | Mini Thread Mills                                 | 51a      |
| <b>BMTMM2/BMTMM3</b>                  | Metric Mini Thread Mills                          | 51b      |
| Thread Mill Programming Request Form. |   | 51c      |

**NEW****Features**

- Helical flute design reduces thread chatter, improving product thread finish and quality
- Advanced TiAlN coating is standard for increasing speeds
- Ideal for internal and external threads
- Full range of sizes available
  - Internal threads #4 to 1" UNC and UNF
  - Pipe threads 1/16" to 1" NPT, NPTF and NPSM
  - Metric internal threads M4.5 x .75 through M20 x 3
- Specials program for nonstandard sizes and other coatings

**Benefits**

- Thread milling is a superior process for threading most materials
- More economical than using taps:
  - One thread mill can produce several diameters of threaded holes of the same pitch
  - Same tool makes right or left-hand threads
  - Avoid chip packing in blind holes, a primary cause of tap breakage
  - One tool for through and blind holes
  - Pitch diameter can be controlled by CNC offset

**Applications**

Bassett thread mills are the ideal choice when:

- Machine tool has helical interpolation capabilities
- Thread specification calls for full threads close to bottom of hole
- Thread specification requires a special tap
- Small lot size is to be threaded
- Need to cut large diameter threads on low horsepower machines
- Workpiece is thin walled which can be milled more easily than tapped
- CNC machine has a slower RPM capability below what is recommended for carbide thread mills

**Calculating Thread Mill Feed Rate**

**For internal threads:**  $(D_1 - d_1) / D_1 \times RPM \times ipr$

**For external threads:**  $(D_1 + d_1) / D_1 \times RPM \times ipr$   
where

D<sub>1</sub> is the major diameter of the thread

d<sub>1</sub> is the cutting diameter

RPM is the calculated speed rate =  $(3.82 \times SFM) / \text{Diameter}$   
ipr is the calculated feed rate = IPT (inches per tooth) x number of flutes per cutter

Example: to cut an internal 7/8-14 thread using a four-flute, 1/2" diameter cutter in bronze, the programmed feed rate would be  $((.875-.500)/.875) \times (3438 \text{ RPM} \times .016)$  or 23.6 ipm

**Operating Parameters for Helical Thread Mills**

| material              | surface feet per minute<br>(SFM) | cutter diameter (inches) |        |        |        |        |        |
|-----------------------|----------------------------------|--------------------------|--------|--------|--------|--------|--------|
|                       |                                  | 0.125                    | 0.250  | 0.375  | 0.500  | 0.750  | 1.000  |
| Al-Si Alloys          | 600                              | 0.0010                   | 0.0020 | 0.0030 | 0.0040 | 0.0050 | 0.0060 |
| cast iron             | 600                              | 0.0008                   | 0.0015 | 0.0020 | 0.0030 | 0.0040 | 0.0050 |
| brass or bronze       | 450                              | 0.0010                   | 0.0020 | 0.0030 | 0.0040 | 0.0050 | 0.0060 |
| steel <200 Bhyn       | 600                              | 0.0007                   | 0.0015 | 0.0020 | 0.0030 | 0.0040 | 0.0050 |
| steel <325 Bhn        | 575                              | 0.0005                   | 0.0010 | 0.0015 | 0.0020 | 0.0030 | 0.0040 |
| stainless steel       | 525                              | 0.0005                   | 0.0008 | 0.0015 | 0.0020 | 0.0030 | 0.0040 |
| tool steels, annealed | 125                              | 0.0005                   | 0.0008 | 0.0012 | 0.0015 | 0.0020 | 0.0030 |

**Solid Carbide Helical Thread Mills****UN/UNC****BASSETT™**Series **TM Solid** and **TMC Coolant-Thru** Thread Mills for Internal and External Threads

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

CARBIDE BURS

INDEX

**Applications |**

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

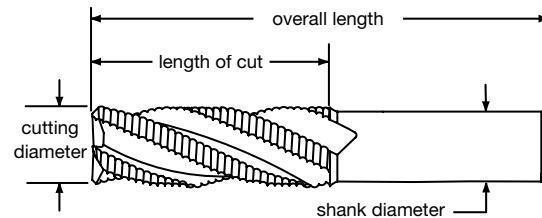
NON-FERROUS MATERIALS

**Features |**

SOLID CARBIDE

UNC

TiAlN



| thread size | shank diameter | cutting diameter | length of cut | overall length | number of flutes | EDP number non-coolant | EDP number coolant-thru |
|-------------|----------------|------------------|---------------|----------------|------------------|------------------------|-------------------------|
| 6-32        | 1/8            | .095             | .218          | 2              | 3                | B71000                 | —                       |
| 8-32        | 1/8            | .115             | .250          | 2              | 3                | B71002                 | —                       |
| 8-36        | 1/8            | .115             | .250          | 2              | 3                | B71003                 | —                       |
| 10-24       | 3/16           | .120             | .312          | 2              | 3                | B71004                 | —                       |
| 10-32       | 3/16           | .120             | .312          | 2              | 3                | B71005                 | —                       |
| 1/4-20      | 3/16           | .180             | .500          | 2 1/2          | 3                | B71008                 | B71508                  |
| 1/4-28      | 3/16           | .180             | .500          | 2 1/2          | 3                | B71009                 | B71509                  |
| 5/16-18     | 1/4            | .240             | .625          | 2 1/2          | 3                | B71010                 | B71510                  |
| 5/16-24     | 1/4            | .240             | .625          | 2 1/2          | 3                | B71011                 | B71511                  |
| 3/8-16      | 5/16           | .290             | .750          | 3              | 4                | B71012                 | B71512                  |
| 3/8-24      | 5/16           | .290             | .750          | 3              | 4                | B71013                 | B71513                  |
| 7/16-14     | 3/8            | .340             | .875          | 3              | 4                | B71014                 | B71514                  |
| 7/16-20     | 3/8            | .340             | .875          | 3              | 4                | B71015                 | B71515                  |
| 1/2-13      | 3/8            | .350             | .875          | 3 1/2          | 4                | B71016                 | B71516                  |
| 1/2-20      | 3/8            | .350             | .875          | 3 1/2          | 4                | B71017                 | —                       |
| 9/16-12     | 1/2            | .370             | .875          | 3 1/2          | 4                | B71018                 | B71518                  |
| 9/16-18     | 1/2            | .370             | .875          | 3 1/2          | 4                | B71019                 | B71519                  |
| 5/8-11      | 1/2            | .470             | 1.250         | 3 1/2          | 5                | B71020                 | B71520                  |
| 5/8-18      | 1/2            | .470             | 1.250         | 3 1/2          | 5                | B71021                 | B71521                  |
| 3/4-10      | 1/2            | .495             | 1.250         | 3 1/2          | 5                | B71022                 | B71522                  |
| 3/4-12      | 1/2            | .495             | 1.250         | 3 1/2          | 5                | B71023                 | B71523                  |
| 3/4-16      | 1/2            | .495             | 1.250         | 3 1/2          | 5                | B71025                 | B71525                  |
| 7/8-9       | 1/2            | .495             | 1.250         | 3 1/2          | 5                | B71026                 | B71526                  |
| 7/8-14      | 1/2            | .495             | 1.250         | 3 1/2          | 5                | B71027                 | B71527                  |
| 1-8         | 3/4            | .620             | 1.375         | 4              | 5                | B71028                 | B71528                  |
| 1-12        | 3/4            | .620             | 1.375         | 4              | 5                | B71029                 | B71529                  |



## NPT / NPTF • BSPP • BSPT

Series TMNP Solid and TMNPC Coolant-Thru Thread Mills for Internal and External Threads

## Applications |

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

## Features |

NPT / NPTF

SOLID CARBIDE

TiAlN

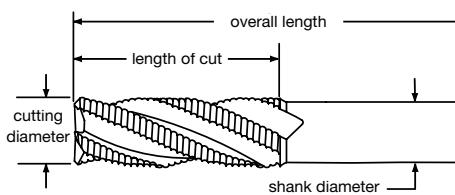


## Features |

NPT / NPTF

SOLID CARBIDE

TiAlN



| thread size | shank diameter | cutting diameter | length of cut | overall length | number of flutes | EDP number non-coolant | EDP number coolant-thru |
|-------------|----------------|------------------|---------------|----------------|------------------|------------------------|-------------------------|
| 1/16-27     | 1/4            | .245             | .437          | 2 1/2          | 3                | B71050                 | B71550                  |
| 1/8-27      | 5/16           | .310             | .437          | 2 1/2          | 4                | B71051                 | B71551                  |
| 1/4, 3/8-18 | 3/8            | .305             | .625          | 3              | 4                | B71052                 | B71552                  |
| 1/2, 3/4-14 | 1/2            | .495             | .875          | 3 1/2          | 4                | B71055                 | B71555                  |
| 1-11.5      | 3/4            | .620             | 1.125         | 4              | 5                | B71056                 | B71556                  |

Series TMBPP Solid and TMBPPC Coolant-Thru Thread Mills for Internal and External Threads

## Applications |

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

## Features |

BSPP

SOLID CARBIDE

TiAlN

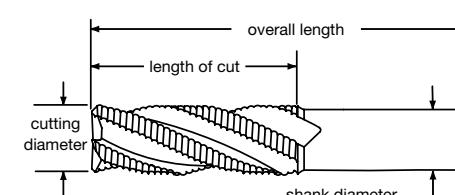


## Features |

BSPP

SOLID CARBIDE

TiAlN



| thread size  | shank diameter | cutting diameter | length of cut | overall length | number of flutes | EDP number non-coolant | EDP number coolant-thru |
|--------------|----------------|------------------|---------------|----------------|------------------|------------------------|-------------------------|
| 1/16, 1/8-28 | 1/4            | .240             | .572          | 2 1/2          | 3                | B71100                 | B71600                  |
| 1/4-19       | 5/16           | .312             | .737          | 3              | 4                | B71101                 | B71601                  |
| 1/2-14       | 1/2            | .470             | 1.143         | 3 1/2          | 4                | B71102                 | B71602                  |
| 1-11         | 5/8            | .620             | 1.546         | 4              | 5                | B71104                 | B71604                  |

Series TMBPT Solid and TMBPTC Coolant-Thru Thread Mills for Internal and External Threads

## Applications |

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

## Features |

BSPT

SOLID CARBIDE

TiAlN

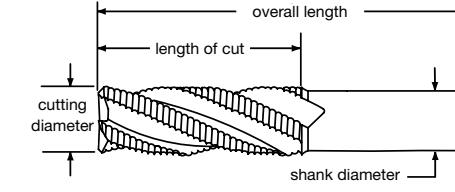


## Features |

BSPT

SOLID CARBIDE

TiAlN



| thread size  | shank diameter | cutting diameter | length of cut | overall length | number of flutes | EDP number non-coolant | EDP number coolant-thru |
|--------------|----------------|------------------|---------------|----------------|------------------|------------------------|-------------------------|
| 1/16, 1/8-28 | 1/4            | .240             | .401          | 2 1/2          | 3                | B71120                 | B71620                  |
| 1/4-19       | 5/16           | .312             | .578          | 3              | 4                | B71121                 | B71621                  |
| 1/2-14       | 1/2            | .470             | .785          | 3 1/2          | 4                | B71122                 | B71622                  |
| 1-11         | 5/8            | .620             | 1.546         | 4              | 5                | B71123                 | B71623                  |

**Solid Carbide Helical Thread Mills****Metric****BASSETT™**

Series TMM Solid and TMMC Coolant-Thru Thread Mills for Internal Threads

CARBIDE END MILLS

CARBIDE DRILLS

CARBIDE THREAD MILLS

CARBIDE BURS

INDEX

**Applications |**

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

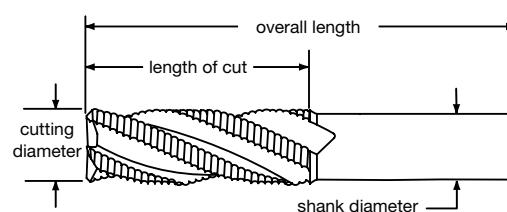
HI-TEMP ALLOYS

**Features |**

SOLID CARBIDE

METRIC

TiAlN



| thread size | shank diameter | cutting diameter | length of cut | overall length | number of flutes | EDP number<br>non-coolant | EDP number<br>coolant-thru |
|-------------|----------------|------------------|---------------|----------------|------------------|---------------------------|----------------------------|
| M4 X 0.70   | 1/8            | .120             | .250          | 2              | 2                | B71070                    | —                          |
| M4.5 X 0.75 | 1/8            | .120             | .250          | 2              | 3                | B71071                    | —                          |
| M5 X 0.80   | 3/16           | .120             | .312          | 2              | 3                | B71072                    | B71572                     |
| M6 X 1.00   | 3/16           | .170             | .500          | 2 1/2          | 3                | B71073                    | B71573                     |
| M8 X 0.75   | 1/4            | .235             | .625          | 2 1/2          | 3                | B71074                    | B71574                     |
| M8 X 1.00   | 1/4            | .235             | .625          | 2 1/2          | 3                | B71075                    | B71575                     |
| M8 X 1.25   | 1/4            | .235             | .625          | 2 1/2          | 3                | B71076                    | B71576                     |
| M10 X 1.25  | 5/16           | .300             | .750          | 3              | 4                | B71077                    | B71577                     |
| M10 X 1.50  | 5/16           | .300             | .750          | 3              | 4                | B71078                    | B71578                     |
| M12 X 1.00  | 3/8            | .360             | .875          | 3 1/2          | 4                | B71079                    | B71579                     |
| M12 X 1.25  | 3/8            | .360             | .875          | 3 1/2          | 4                | B71080                    | B71580                     |
| M12 X 1.75  | 3/8            | .360             | .875          | 3 1/2          | 4                | B71081                    | B71581                     |
| M14 X 1.50  | 3/8            | .360             | .875          | 3 1/2          | 4                | B71082                    | B71582                     |
| M16 X 2.00  | 1/2            | .470             | 1.250         | 3 1/2          | 5                | B71083                    | B71583                     |
| M18 X 2.50  | 1/2            | .470             | 1.250         | 3 1/2          | 5                | B71084                    | B71584                     |
| M20 X 3.00  | 1/2            | .470             | 1.250         | 3 1/2          | 5                | B71085                    | B71585                     |

Series BMTM2  $2 \times d_1$  ( $I \leq 2 \times$  Thread Diameter)

## Applications |

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

## Features |

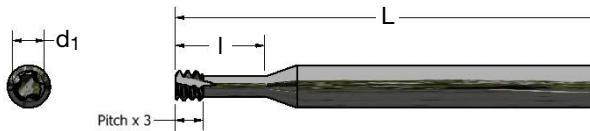
SOLID CARBIDE

INCH

AlCrN

## Note

\* Bore diameter applies to the smallest thread diameter.



| American UN<br>UNC | UNF     | TPI | thread<br>pitch | description         | class<br>of fit | shank<br>dia | $d_1$ | L<br>overall<br>length | I<br>cut<br>depth | pitch x 3<br>thread<br>length | no. of<br>flutes | no. of<br>teeth | *bore<br>dia. | order<br>number<br><b>BMTM2</b> |
|--------------------|---------|-----|-----------------|---------------------|-----------------|--------------|-------|------------------------|-------------------|-------------------------------|------------------|-----------------|---------------|---------------------------------|
| 1-72               | 72      | 72  | 0.014           | BMTM2-0571154-72UN  | 2B              | 1/4          | .057  | 2.5                    | .154              | 0.042                         | 3                | 3               | .060          | B76124                          |
| 1-64               | 2-64    | 64  | 0.016           | BMTM2-0571165-64UN  | 2B              | 1/4          | .057  | 2.5                    | .165              | 0.047                         | 3                | 3               | .060          | B76125                          |
| 2-56               | 3-56    | 56  | 0.018           | BMTM2-0651197-56UN  | 2B              | 1/4          | .065  | 2.5                    | .197              | 0.054                         | 3                | 3               | .069          | B76126                          |
| 3-48               | 4-48    | 48  | 0.021           | BMTM2-0751236-48UN  | 2B              | 1/4          | .075  | 2.5                    | .236              | 0.063                         | 3                | 3               | .080          | B76127                          |
| 4, 5-40            | 6-40    | 40  | 0.025           | BMTM2-0851236-40UN  | 2B              | 1/4          | .085  | 2.5                    | .236              | 0.075                         | 3                | 3               | .090          | B76128                          |
|                    | 8-36    | 36  | 0.028           | BMTM2-1151343-36UN  | 2B              | 1/4          | .115  | 2.5                    | .343              | 0.083                         | 3                | 3               | .125          | B76129                          |
| 6, 8-32            | 10-32   | 32  | 0.031           | BMTM2-1001292-32UN  | 2B              | 1/4          | .100  | 2.5                    | .292              | 0.094                         | 3                | 3               | .110          | B76130                          |
| 8-32               | 10-32   | 32  | 0.031           | BMTM2-1201394-32UN  | 2B              | 1/4          | .120  | 2.5                    | .394              | 0.094                         | 3                | 3               | .130          | B76131                          |
|                    | 1/4x28  | 28  | 0.036           | BMTM2-1801520-28UN  | 2B              | 1/4          | .180  | 2.5                    | .520              | 0.107                         | 3                | 3               | .190          | B76132                          |
| 10-24              | 5/16x24 | 24  | 0.042           | BMTM2-1301400-24UN  | 2B              | 1/4          | .130  | 2.5                    | .400              | 0.125                         | 3                | 3               | .140          | B76133                          |
|                    | 5/16x24 | 24  | 0.042           | BMTM2-2401650-24UN  | 2B              | 1/4          | .240  | 2.5                    | .650              | 0.125                         | 3                | 3               | .255          | B76134                          |
| 1/4x20             | 7/16x20 | 20  | 0.05            | BMTM2-1851530-20UN  | 2B              | 1/4          | .185  | 2.5                    | .530              | 0.150                         | 3                | 3               | .200          | B76135                          |
|                    | 7/16x20 | 20  | 0.05            | BMTM2-3401900-20UN  | 2B              | 3/8          | .340  | 3                      | .900              | 0.150                         | 4                | 3               | .355          | B76136                          |
| 3/8x16             |         | 16  | 0.063           | BMTM2-2901750-16UN  | 2B              | 3/8          | .290  | 3                      | .750              | 0.188                         | 4                | 3               | .307          | B76137                          |
| 7/16x14            |         | 14  | 0.071           | BMTM2-3401900-14UN  | 2B              | 3/8          | .340  | 3                      | .900              | 0.214                         | 4                | 3               | .355          | B76138                          |
| 1/2-13             |         | 13  | 0.077           | BMTM2-35011.10-13UN | 2B              | 3/8          | .350  | 3                      | 1.10              | 0.231                         | 4                | 3               | .415          | B76139                          |

Series BMTM3  $3 \times d_1$  ( $I \leq 3 \times$  Thread Diameter)

## Applications |

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

## Features |

SOLID CARBIDE

INCH

AlCrN

## Note

\* Bore diameter applies to the smallest thread diameter.

| American UN<br>UNC | UNF     | TPI | thread<br>pitch | description        | class<br>of fit | shank<br>dia | $d_1$ | L<br>overall<br>length | I<br>cut<br>depth | pitch x 3<br>thread<br>length | no. of<br>flutes | no. of<br>teeth | *bore<br>dia. | order<br>number<br><b>BMTM3</b> |
|--------------------|---------|-----|-----------------|--------------------|-----------------|--------------|-------|------------------------|-------------------|-------------------------------|------------------|-----------------|---------------|---------------------------------|
| 1-72               | 72      | 72  | 0.014           | BMTM3-0571240-72UN | 2B              | 1/4          | .057  | 2.5                    | .240              | 0.042                         | 3                | 3               | .060          | B76140                          |
| 2-56               | 3-56    | 56  | 0.018           | BMTM3-0651260-56UN | 2B              | 1/4          | .065  | 2.5                    | .260              | 0.054                         | 3                | 3               | .069          | B76141                          |
| 4, 5-40            | 6-40    | 40  | 0.025           | BMTM3-0851310-40UN | 2B              | 1/4          | .085  | 2.5                    | .310              | 0.075                         | 3                | 3               | .090          | B76142                          |
| 5-40               | 6-40    | 40  | 0.025           | BMTM3-1001400-32UN | 2B              | 1/4          | .100  | 2.5                    | .400              | 0.075                         | 3                | 3               | .110          | B76143                          |
| 8-32               | 10-32   | 32  | 0.031           | BMTM3-1201500-32UN | 2B              | 1/4          | .120  | 2.5                    | .500              | 0.094                         | 3                | 3               | .130          | B76144                          |
|                    | 1/4x28  | 28  | 0.036           | BMTM3-1801750-28UN | 2B              | 1/4          | .180  | 2.5                    | .750              | 0.107                         | 3                | 3               | .190          | B76145                          |
| 1/4x20             | 7/16x20 | 20  | 0.05            | BMTM3-1851750-20UN | 2B              | 1/4          | .185  | 2.5                    | .750              | 0.150                         | 3                | 3               | .200          | B76146                          |
|                    | 5/16x24 | 24  | 0.042           | BMTM3-2401940-24UN | 2B              | 1/4          | .240  | 2.5                    | .940              | 0.125                         | 3                | 3               | .255          | B76147                          |
| 5/16x18            |         | 18  | 0.056           | BMTM3-2401900-18UN | 2B              | 1/4          | .240  | 2.5                    | .900              | 0.167                         | 3                | 3               | .255          | B76148                          |

NL  
Mini Solid Carbide Helical Thread Mills

## Metric

Series BMTMM2  $2 \times d_1 (I \leq 2 \times \text{Thread Diameter})$ 

Applications |

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

Features |

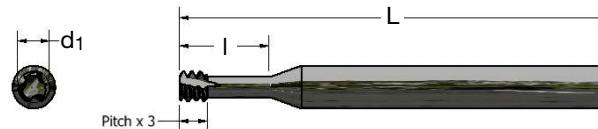
SOLID CARBIDE

METRIC

AlCrN

## Note

\* Bore diameter applies to the smallest thread diameter.



| M course  | M fine       | ISO metric | pitch |  | description            |  | class of fit | $d_1$ | L    | I   | cut depth | pitch x 3 thread length | no. of flutes | no. of teeth | *bore dia. | order number |
|-----------|--------------|------------|-------|--|------------------------|--|--------------|-------|------|-----|-----------|-------------------------|---------------|--------------|------------|--------------|
| M1.6x0.35 |              | 0.35       | 0.014 |  | BMTMM2-047I140-0.35ISO |  | 6H           | 1/8   | .047 | 2.5 | .140      | 0.042                   | 3             | 3            | .050       | B76149       |
| M2x0.4    |              | 0.4        | 0.016 |  | BMTMM2-060I165-0.4ISO  |  | 6H           | 1/4   | .060 | 2.5 | .165      | 0.048                   | 3             | 3            | .065       | B76150       |
| M2.2x0.45 |              | 0.45       | 0.018 |  | BMTMM2-065I180-0.45ISO |  | 6H           | 1/4   | .065 | 2.5 | .180      | 0.054                   | 3             | 3            | .070       | B76151       |
| M2.5x0.45 |              | 0.45       | 0.018 |  | BMTMM2-075I200-0.45ISO |  | 6H           | 1/4   | .075 | 2.5 | .200      | 0.054                   | 3             | 3            | .080       | B76152       |
| M3x0.5    | M3.5-M16x0.5 | 0.5        | 0.020 |  | BMTMM2-090I245-05ISO   |  | 6H           | 1/4   | .090 | 2.5 | .245      | 0.060                   | 3             | 3            | .095       | B76153       |
| M3.5x0.6  |              | 0.6        | 0.024 |  | BMTMM2-105I285-06ISO   |  | 6H           | 1/4   | .105 | 2.5 | .285      | 0.072                   | 3             | 3            | .111       | B76154       |
| M4x0.7    |              | 0.7        | 0.028 |  | BMTMM2-120I325-0.7ISO  |  | 6H           | 1/4   | .120 | 2.5 | .325      | 0.084                   | 3             | 3            | .126       | B76155       |
| M5x0.8    |              | 0.8        | 0.031 |  | BMTMM2-155I400-0.8ISO  |  | 6H           | 1/4   | .155 | 2.5 | .400      | 0.093                   | 3             | 3            | .161       | B76156       |
| M6x1.0    | M8-M40x1.0   | 1          | 0.039 |  | BMTMM2-185I500-1.0ISO  |  | 6H           | 1/4   | .185 | 2.5 | .500      | 0.117                   | 3             | 3            | .193       | B76157       |
| M8x1.25   |              | 1.25       | 0.049 |  | BMTMM2-245I650-1.25ISO |  | 6H           | 1/4   | .245 | 2.5 | .650      | 0.147                   | 3             | 3            | .257       | B76158       |
| M10x1.5   | M12-M48x1.50 | 1.5        | 0.059 |  | BMTMM2-330I800-1.5ISO  |  | 6H           | 3/8   | .330 | 3   | .800      | 0.177                   | 3             | 3            | .343       | B76159       |
| M12x1.75  |              | 1.75       | 0.069 |  | BMTMM2-360I1.0-1.75ISO |  | 6H           | 3/8   | .360 | 3   | 1.000     | 0.207                   | 4             | 3            | .395       | B76160       |

Series BMTMM3  $3 \times d_1 (I \leq 3 \times \text{Thread Diameter})$ 

Applications |

NON-FERROUS MATERIALS

STEEL

STAINLESS STEEL

HI-TEMP ALLOYS

Features |

SOLID CARBIDE

METRIC

AlCrN

## Note

\* Bore diameter applies to the smallest thread diameter.

| M course  | M fine       | ISO metric | pitch |  | description            |  | class of fit | $d_1$ | L    | I   | cut depth | pitch x 3 thread length | no. of flutes | no. of teeth | *bore dia. | order number |
|-----------|--------------|------------|-------|--|------------------------|--|--------------|-------|------|-----|-----------|-------------------------|---------------|--------------|------------|--------------|
| M1.6x0.35 |              | 0.35       | 0.014 |  | BMTMM3-047I197-0.35ISO |  | 6H           | 1/8   | .047 | 2.5 | .197      | 0.042                   | 3             | 3            | .050       | B76161       |
| M2x0.4    |              | 0.4        | 0.016 |  | BMTMM3-060I245-04ISO   |  | 6H           | 1/4   | .060 | 2.5 | .245      | 0.048                   | 3             | 3            | .065       | B76162       |
| M2.5x0.45 |              | 0.45       | 0.018 |  | BMTMM3-075I275-0.45ISO |  | 6H           | 1/4   | .075 | 2.5 | .275      | 0.054                   | 3             | 3            | .080       | B76163       |
| M3x0.5    | M3.5-M16x0.5 | 0.5        | 0.020 |  | BMTMM3-090I360-0.5ISO  |  | 6H           | 1/4   | .090 | 2.5 | .360      | 0.060                   | 3             | 3            | .095       | B76164       |
| M4x0.7    |              | 0.7        | 0.028 |  | BMTMM3-120I490-07ISO   |  | 6H           | 1/4   | .120 | 2.5 | .490      | 0.084                   | 3             | 3            | .126       | B76165       |
| M5x0.8    |              | 0.8        | 0.031 |  | BMTMM3-155I610-08ISO   |  | 6H           | 1/4   | .155 | 2.5 | .610      | 0.093                   | 3             | 3            | .161       | B76166       |
| M6x1.0    | M8-M40x1.0   | 1          | 0.039 |  | BMTMM3-185I725-1.0ISO  |  | 6H           | 1/4   | .185 | 2.5 | .725      | 0.117                   | 3             | 3            | .193       | B76167       |
| M8x1.25   |              | 1.25       | 0.049 |  | BMTMM3-245I725-1.25ISO |  | 6H           | 1/4   | .245 | 2.5 | .970      | 0.147                   | 3             | 3            | .257       | B76168       |



## Thread Mill Programming Request Form

Greenfield Industries offers free programming assistance to users of our thread milling products. If you are not familiar with thread milling, we highly recommend that you complete this program request form and fax it to 1-800-892-4290. The Technical Support department will return a suggested CNC program.

Endures Company Name \_\_\_\_\_

Contact \_\_\_\_\_

Telephone Number \_\_\_\_\_

Email Address \_\_\_\_\_

Distributor Name \_\_\_\_\_

Distributor Telephone Number \_\_\_\_\_

Distributor or Endures  
Purchase Order Number \_\_\_\_\_

### Thread Specifications:

Thread Type \_\_\_\_\_

RH/LH \_\_\_\_\_

Thread Diameter \_\_\_\_\_

TPI or Pitch (mm) \_\_\_\_\_

Class of Thread (1B, 2B, 3B) \_\_\_\_\_

Minimum Drilling Depth \_\_\_\_\_

Full Thread Length Min \_\_\_\_\_

Material \_\_\_\_\_

Material Hardness \_\_\_\_\_

### CNC Machine Info

Brand \_\_\_\_\_

### Tool Specs

Description \_\_\_\_\_

Model \_\_\_\_\_

Order Number \_\_\_\_\_

Lathe \_\_\_\_\_

Tool Diameter \_\_\_\_\_

Milling Machine \_\_\_\_\_

Number of Flutes \_\_\_\_\_

Is machine capable of helical interpolation?

\_\_\_\_\_ yes      \_\_\_\_\_ no

(if "no", machine cannot thread mill)

**FAX TO**  
**1-800-892-4290**



**BASSETT**™



***Solid Carbide Burs***



## Contents &amp; Technical Information

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## Standard Shank Styles



Shank A — 1/8" solid carbide



Shank B — 1/8" hardened steel



Shank C — 1/4" hardened steel



Shank D — 1/4" solid carbide

## Recommended Bur Speeds (RPM)

| Bur Dia. | Standard Cut                     |  | Monarch Cut                      |  |
|----------|----------------------------------|--|----------------------------------|--|
|          | stainless<br>inconel<br>titanium | all other<br>materials in<br>chart (right) | stainless<br>inconel<br>titanium | all other<br>materials in<br>chart (right) |
| 1/16     | 75,000                           | 50,000                                     | 37,500                           | 25,000                                     |
| 1/8      | 53,000                           | 35,000                                     | 26,500                           | 17,500                                     |
| 3/16     | 38,000                           | 26,000                                     | 19,000                           | 13,000                                     |
| 1/4      | 33,000                           | 22,000                                     | 16,500                           | 11,000                                     |
| 5/16     | 30,000                           | 20,000                                     | 15,000                           | 10,000                                     |
| 3/8      | 27,000                           | 18,000                                     | 13,500                           | 9,000                                      |
| 1/2      | 24,000                           | 16,000                                     | 12,000                           | 8,000                                      |
| 5/8      | 23,000                           | 15,300                                     | 11,500                           | 7,650                                      |
| 3/4      | 21,000                           | 14,000                                     | 10,500                           | 7,000                                      |
| 7/8      | 20,000                           | 13,000                                     | 10,000                           | 6,500                                      |
| 1        | 18,000                           | 12,000                                     | 9,000                            | 6,000                                      |

Run aluminum cut burs at approximately the same speed as end mills designed for aluminum when machine milling.

**ALL NEW! Carbide Extension Burs**  
now available on many style types. In this section indicated by **NEW** next to the USCTI number.

**NEW**

Features: Wide selection of shapes and sizes, constructed from solid carbide, bright surface treatment, right-hand spiral cut and double cut available, solid carbide shanks (Styles A and D) and brazed steel shanks (Styles B and C) available.

## Bur Selection

when selecting a bur for a particular application, several factors must be taken into consideration.

The first is the selection of an appropriate shape and diameter that will be most suitable to the part being deburred. If working inside a slot, be certain that the maximum diameter of the bur is smaller than the slot.

Secondly, shank size must be selected. The correct shank will be determined by the size of the equipment being used and considering the diameter and length of the fluted portion of the bur.

The last decision is which cut, or flute pattern, to select. This is determined by the hardness of the material being removed and the finish required.

- Standard (right-hand spiral) cut is a general-purpose flute pattern which is designed for use in cast iron, steel, and other ferrous metals.
- Double cut, a general-purpose tooth pattern, gives better control than the standard cut in offband grinding. It minimizes slivers while producing a better finish. It can be used with slower speed grinders than standard cut.
- Aluminum (end mill) cut can be used for deburring softer, non-ferrous metals and non-metallic materials. The wide clearance and end mill type geometry of the flutes promotes fast stock removal with minimum loading.



standard cut



double cut



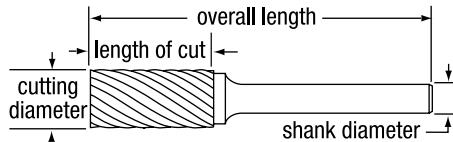
aluminum cut

## Bur Selection by Material

| Workpiece Material | First Choice | Alternative  |
|--------------------|--------------|--------------|
| aluminum           | aluminum cut | -            |
| brass              | double cut   | standard cut |
| bronze             | double cut   | standard cut |
| cast iron          | double cut   | standard cut |
| copper             | aluminum cut | -            |
| fiberglass         | double cut   | standard cut |
| inconel            | double cut   | standard cut |
| malleable iron     | double cut   | standard cut |
| magnesium          | aluminum cut | -            |
| masonite           | double cut   | standard cut |
| plastic            | standard cut | -            |
| steel alloy        | double cut   | -            |
| carbon steel       | double cut   | -            |
| stainless steel    | double cut   | -            |
| titanium           | double cut   | -            |
| zinc               | aluminum cut | standard cut |

**Solid Carbide Burs****Cylindrical**

Series BA, Cylindrical Burs without End Cut


**Applications |** STEEL CAST IRON NON-FERROUS MATERIALS STAINLESS STEEL

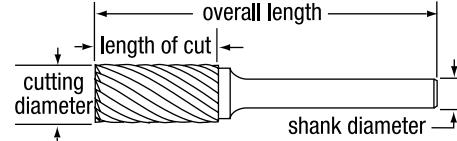
**Features |** SOLID CARBIDE STANDARD CUT BRIGHT

**Applications |** STEEL CAST IRON HI-TEMP ALLOYS STAINLESS STEEL

**Features |** SOLID CARBIDE DOUBLE CUT BRIGHT


| SCTI reference    | cutting diameter inch | decimal | length of cut | overall length | shank diameter | shank type | EDP number standard | double |
|-------------------|-----------------------|---------|---------------|----------------|----------------|------------|---------------------|--------|
| SA-41             | 1/16                  | .0625   | 1/4           | 1-1/2          | 1/8            | A          | B55600              | B55601 |
| SA-42             | 3/32                  | .0938   | 7/16          | 1-1/2          | 1/8            | A          | B55608              | B55609 |
| SA-43             | 1/8                   | .1250   | 9/16          | 1-1/2          | 1/8            | A          | B54801              | B54810 |
| SA-51             | 1/4                   | .2500   | 1/2           | 1-3/4          | 1/8            | B          | B55700              | B55712 |
| SA-1              | 1/4                   | .2500   | 5/8           | 2              | 1/4            | D          | B54802              | B54811 |
| <b>NEW</b> SA-1L6 | 1/4                   | .2500   | 1/2           | 6-1/2          | 1/4            | C          | B55900              | B55923 |
| SA-3              | 3/8                   | .3750   | 3/4           | 2-1/2          | 1/4            | C          | B54803              | B54812 |
| <b>NEW</b> SA-3L6 | 3/8                   | .3750   | 3/4           | 6-3/4          | 1/4            | C          | B55901              | B55924 |
| SA-5              | 1/2                   | .5000   | 1             | 2-3/4          | 1/4            | C          | B54804              | B54813 |
| <b>NEW</b> SA-5L6 | 1/2                   | .5000   | 1             | 7              | 1/4            | C          | B55902              | B55925 |
| SA-6              | 5/8                   | .6250   | 1             | 2-3/4          | 1/4            | C          | B54805              | B54814 |
| SA-7              | 3/4                   | .7500   | 1             | 2-3/4          | 1/4            | C          | B54806              | B54815 |
| SA-9              | 1                     | 1.0000  | 1             | 2-3/4          | 1/4            | C          | B54807              | B54816 |

Series BAE, Cylindrical Burs with End Cut


**Applications |** STEEL CAST IRON NON-FERROUS MATERIALS STEEL

**Features |** SOLID CARBIDE STANDARD CUT BRIGHT

**Applications |** NON-FERROUS MATERIALS

**Features |** SOLID CARBIDE ALUMINUM CUT BRIGHT

**Applications |** STEEL CAST IRON HI-TEMP ALLOYS STAINLESS STEEL

**Features |** SOLID CARBIDE DOUBLE CUT BRIGHT

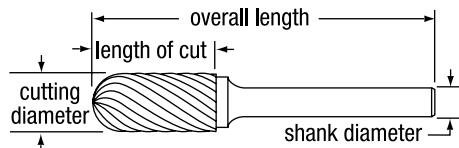

| SCTI reference | cutting diameter inch | decimal | length of cut | overall length | shank diameter | shank type | EDP number standard | double | aluminum |
|----------------|-----------------------|---------|---------------|----------------|----------------|------------|---------------------|--------|----------|
| SB-41          | 1/16                  | .0625   | 1/4           | 1 1/2          | 1/8            | A          | B55604              | -      | -        |
| SB-42          | 3/32                  | .0938   | 7/16          | 1 1/2          | 1/8            | A          | B55612              | -      | -        |
| SB-43          | 1/8                   | .1250   | 9/16          | 1 1/2          | 1/8            | A          | B54837              | -      | -        |
| SB-51          | 1/4                   | .2500   | 1/2           | 1 3/4          | 1/8            | B          | B55701              | B55713 | -        |
| SB-1           | 1/4                   | .2500   | 5/8           | 2              | 1/4            | D          | B54838              | B54847 | B55856   |
| SB-3           | 3/8                   | .3750   | 3/4           | 2 1/2          | 1/4            | C          | B54839              | B54848 | B55857   |
| SB-5           | 1/2                   | .5000   | 1             | 2 3/4          | 1/4            | C          | B54840              | B54849 | B55858   |
| SB-6           | 5/8                   | .6250   | 1             | 2 3/4          | 1/4            | C          | -                   | B54850 | B55859   |
| SB-7           | 3/4                   | .7500   | 1             | 2 3/4          | 1/4            | C          | -                   | B54851 | B55860   |
| SB-9           | 1                     | 1.0000  | 1             | 2 3/4          | 1/4            | C          | B54843              | -      | -        |

Shank Type: A — 1/8" solid carbide. B — 1/8" hardened steel. C — 1/4" hardened steel. D — 1/4" solid carbide.



## Cylindrical • Ball

## Series BC, Cylindrical Burs with Ball Nose

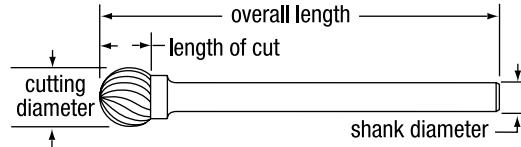


Applications | NON-FERROUS MATERIALS

Features | SOLID CARBIDE ALUMINUM CUT BRIGHT

| SCTI reference    | cutting diameter inch | decimal | length of cut | overall length | shank diameter | shank type | standard | EDP number double | aluminum |
|-------------------|-----------------------|---------|---------------|----------------|----------------|------------|----------|-------------------|----------|
| SC-41             | 3/32                  | .0938   | 7/16          | 1-1/2          | 1/8            | A          | B55620   | B55621            | -        |
| SC-42             | 1/8                   | .1250   | 9/16          | 1-1/2          | 1/8            | A          | B54873   | B54882            | -        |
| SC-51             | 1/4                   | .2500   | 1/2           | 1-3/4          | 1/8            | B          | B55704   | B55716            | -        |
| SC-1              | 1/4                   | .2500   | 5/8           | 2              | 1/4            | D          | B54874   | B54883            | B55862   |
| <b>NEW</b> SC-1L6 | 1/4                   | .2500   | 1/2           | 6-1/2          | 1/4            | C          | B55903   | B55926            | -        |
| SC-3              | 3/8                   | .3750   | 3/4           | 2-1/2          | 1/4            | C          | B54875   | B54884            | B55863   |
| <b>NEW</b> SC-3L6 | 3/8                   | .3750   | 3/4           | 6-3/4          | 1/4            | C          | B55904   | B55927            | -        |
| SC-5              | 1/2                   | .5000   | 1             | 2-3/4          | 1/4            | C          | B54876   | B54885            | B55864   |
| <b>NEW</b> SC-5L6 | 1/2                   | .5000   | 1             | 7              | 1/4            | C          | B55905   | B55928            | -        |
| SC-6              | 5/8                   | .6250   | 1             | 2-3/4          | 1/4            | C          | B54877   | B54886            | -        |
| SC-7              | 3/4                   | .7500   | 1             | 2-3/4          | 1/4            | C          | B54878   | B54887            | B55865   |

## Series BD, Ball Shape



Applications | NON-FERROUS MATERIALS

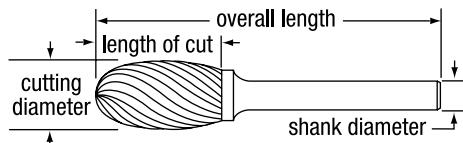
Features | SOLID CARBIDE ALUMINUM CUT BRIGHT

| SCTI reference    | cutting diameter inch | decimal | length of cut | overall length | shank diameter | shank type | standard | EDP number double | aluminum |
|-------------------|-----------------------|---------|---------------|----------------|----------------|------------|----------|-------------------|----------|
| SD-41             | 3/32                  | .0938   | 3/32          | 1-1/2          | 1/8            | A          | B55624   | B55625            | -        |
| SD-42             | 1/8                   | .1250   | 1/8           | 1-1/2          | 1/8            | A          | B54909   | B54918            | -        |
| SD-51             | 1/4                   | .2500   | 1/4           | 1-3/4          | 1/8            | B          | B55705   | B55717            | -        |
| SD-1              | 1/4                   | .2500   | 1/4           | 2              | 1/4            | D          | B54910   | B54919            | B55867   |
| <b>NEW</b> SD-1L6 | 1/4                   | .2500   | 7/32          | 6-7/32         | 1/4            | C          | B55906   | B55929            | -        |
| SD-3              | 3/8                   | .3750   | 3/8           | 2-5/64         | 1/4            | C          | B54911   | B54920            | B55868   |
| <b>NEW</b> SD-3L6 | 3/8                   | .3750   | 5/16          | 6-5/16         | 1/4            | C          | B55907   | B55930            | -        |
| SD-5              | 1/2                   | .5000   | 1/2           | 2-13/64        | 1/4            | C          | B54912   | B54921            | B55869   |
| <b>NEW</b> SD-5L6 | 1/2                   | .5000   | 7/16          | 6-7/16         | 1/4            | C          | B55908   | B55931            | -        |
| SD-6              | 5/8                   | .6250   | 5/8           | 2-5/16         | 1/4            | C          | B54913   | B54922            | -        |
| SD-7              | 3/4                   | .7500   | 3/4           | 2-7/16         | 1/4            | C          | B54914   | B54923            | -        |
| SD-9              | 1                     | 1.0000  | 1             | 2-11/16        | 1/4            | C          | B54915   | B54924            | -        |

Shank Type: A — 1/8" solid carbide. B — 1/8" hardened steel. C — 1/4" hardened steel. D — 1/4" solid carbide.

**Solid Carbide Burs****Egg • Round Nose Tree**

Series BE, Egg Shape

**Applications** | NON-FERROUS MATERIALS**Features** | SOLID CARBIDE ALUMINUM CUT BRIGHT**Applications**

STEEL CAST IRON NON-FERROUS MATERIALS STAINLESS STEEL

**Features**

SOLID CARBIDE STANDARD CUT BRIGHT

**Applications** | STEEL CAST IRON HI-TEMP ALLOYS STAINLESS STEEL

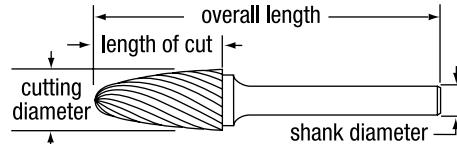
SOLID CARBIDE DOUBLE CUT BRIGHT

**Features**

SOLID CARBIDE DOUBLE CUT BRIGHT

| SCTI reference    | cutting diameter<br>inch | decimal | length of cut | overall length | shank diameter | shank type | standard | EDP number<br>double | aluminum |
|-------------------|--------------------------|---------|---------------|----------------|----------------|------------|----------|----------------------|----------|
| SE-41             | 1/8                      | .1250   | 7/32          | 1-1/2          | 1/8            | A          | B54945   | B54954               | -        |
| SE-51             | 1/4                      | .2500   | 3/8           | 1-5/8          | 1/8            | B          | -        | B55718               | -        |
| SE-1              | 1/4                      | .2500   | 3/8           | 2              | 1/4            | D          | B54946   | B54955               | -        |
| <b>NEW</b> SE-1L6 | 1/4                      | .2500   | 3/8           | 6-3/8          | 1/4            | C          | B55909   | B55932               | -        |
| SE-3              | 3/8                      | .3750   | 5/8           | 2-3/8          | 1/4            | C          | B54947   | B54956               | B55873   |
| <b>NEW</b> SE-3L6 | 3/8                      | .3750   | 5/8           | 6-5/8          | 1/4            | C          | B55910   | B55933               | -        |
| SE-5              | 1/2                      | .5000   | 7/8           | 2-5/8          | 1/4            | C          | B54948   | B54957               | B55874   |
| <b>NEW</b> SE-5L6 | 1/2                      | .5000   | 7/8           | 6-7/8          | 1/4            | C          | B55911   | B55934               | -        |
| SE-6              | 5/8                      | .6250   | 1             | 2-3/4          | 1/4            | C          | -        | -                    | B55875   |
| SE-7              | 3/4                      | .7500   | 1             | 2-3/4          | 1/4            | C          | B54950   | B54959               | -        |

Series BF, Round Nose Tree Shape

**Applications**

STEEL CAST IRON NON-FERROUS MATERIALS STAINLESS STEEL

**Features**

SOLID CARBIDE STANDARD CUT BRIGHT

**Applications** | NON-FERROUS MATERIALS

STEEL CAST IRON HI-TEMP ALLOYS STAINLESS STEEL

**Features** | SOLID CARBIDE ALUMINUM CUT BRIGHT**Features**

SOLID CARBIDE DOUBLE CUT BRIGHT

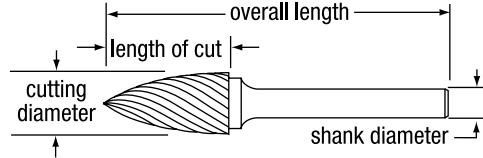
| SCTI reference    | cutting diameter<br>inch | decimal | length of cut | overall length | shank diameter | shank type | standard | EDP number<br>double | aluminum |
|-------------------|--------------------------|---------|---------------|----------------|----------------|------------|----------|----------------------|----------|
| SF-41             | 1/8                      | .1250   | 1/4           | 1-1/2          | 1/8            | A          | B55628   | B55629               | -        |
| SF-42             | 1/8                      | .1250   | 1/2           | 1-1/2          | 1/8            | A          | B54981   | B54990               | -        |
| SF-51             | 1/4                      | .2500   | 1/2           | 1-3/4          | 1/8            | B          | B55707   | B55719               | -        |
| <b>NEW</b> SF-1L6 | 1/4                      | .2500   | 5/8           | 2              | 1/4            | D          | B54982   | B54991               | B55878   |
| SF-1              | 1/4                      | .2500   | 1/2           | 6-1/2          | 1/4            | C          | B55912   | B55935               | -        |
| <b>NEW</b> SF-3L6 | 3/8                      | .3750   | 3/4           | 2-1/2          | 1/4            | C          | B54983   | B54992               | B55879   |
| SF-3              | 3/8                      | .3750   | 3/4           | 6-3/4          | 1/4            | C          | B55913   | B55936               | -        |
| <b>NEW</b> SF-5L6 | 1/2                      | .5000   | 1             | 2-3/4          | 1/4            | C          | B54984   | B54993               | B55880   |
| SF-5              | 1/2                      | .5000   | 1             | 7              | 1/4            | C          | B55914   | B55937               | -        |
| <b>NEW</b> SF-6L6 | 5/8                      | .6250   | 1             | 2-3/4          | 1/4            | C          | B54985   | B54994               | B55881   |
| SF-6              | 5/8                      | .6250   | 1             | 2-3/4          | 1/4            | C          | B54986   | B54995               | -        |
| SF-7              | 3/4                      | .7500   | 1             | 2-3/4          | 1/4            | C          | -        | -                    | -        |

Shank Type: A — 1/8" solid carbide. B — 1/8" hardened steel. C — 1/4" hardened steel. D — 1/4" solid carbide.



## Pointed Tree • Flame Shape

Series BG, Pointed Tree Shape



Applications | STEEL CAST IRON NON-FERROUS MATERIALS STAINLESS STEEL

Features | SOLID CARBIDE STANDARD CUT BRIGHT



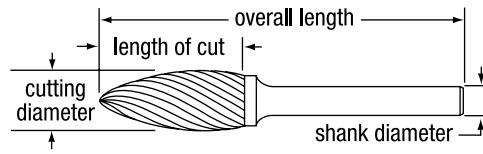
Applications | STEEL CAST IRON HI-TEMP ALLOYS STAINLESS STEEL

Features | SOLID CARBIDE DOUBLE CUT BRIGHT



| SCTI reference    | cutting diameter inch | decimal | length of cut | overall length | shank diameter | shank type | EDP number standard | double |
|-------------------|-----------------------|---------|---------------|----------------|----------------|------------|---------------------|--------|
| SG-42             | 1/8                   | .1250   | 5/16          | 1-1/2          | 1/8            | A          | B55636              | B55637 |
| SG-43             | 1/8                   | .1250   | 3/8           | 1-1/2          | 1/8            | A          | B55017              | B55026 |
| SG-41             | 1/8                   | .1250   | 1/4           | 1-1/2          | 1/8            | A          | B55632              | B55633 |
| SG-51             | 1/4                   | .2500   | 1/2           | 1-3/4          | 1/8            | B          | –                   | B55720 |
| SG-1              | 1/4                   | .2500   | 5/8           | 2              | 1/4            | D          | B55018              | B55027 |
| <b>NEW</b> SG-1L6 | 1/4                   | .2500   | 1/2           | 6-1/2          | 1/4            | C          | B55915              | B55938 |
| SG-3              | 3/8                   | .3750   | 3/4           | 2-1/2          | 1/4            | C          | B55019              | B55028 |
| <b>NEW</b> SG-3L6 | 3/8                   | .3750   | 3/4           | 6-3/4          | 1/4            | C          | B55916              | B55939 |
| SG-5              | 1/2                   | .5000   | 1             | 2-3/4          | 1/4            | C          | B55020              | B55029 |
| <b>NEW</b> SG-5L6 | 1/2                   | .5000   | 1             | 7              | 1/4            | C          | B55917              | B55940 |
| SG-6              | 5/8                   | .6250   | 1             | 2-3/4          | 1/4            | C          | B55021              | B55030 |

Series BH, Flame Shape



Applications | STEEL CAST IRON NON-FERROUS MATERIALS STAINLESS STEEL

Features | SOLID CARBIDE STANDARD CUT BRIGHT



Applications | STEEL CAST IRON HI-TEMP ALLOYS STAINLESS STEEL

Features | SOLID CARBIDE DOUBLE CUT BRIGHT

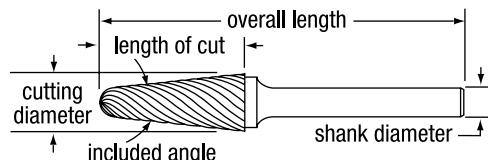


| SCTI reference    | cutting diameter inch | decimal | length of cut | overall length | shank diameter | shank type | EDP number standard | double |
|-------------------|-----------------------|---------|---------------|----------------|----------------|------------|---------------------|--------|
| SH-41             | 1/8                   | .1250   | 1/4           | 1 1/2          | 1/8            | A          | B55053              | B55060 |
| SH-2              | 5/16                  | .3125   | 3/4           | 2 1/2          | 1/4            | C          | B55054              | B55061 |
| <b>NEW</b> SH-2L6 | 5/16                  | .3125   | 3/4           | 6-3/4          | 1/4            | C          | B55918              | B55941 |
| SH-5              | 1/2                   | .5000   | 1-1/4         | 3              | 1/4            | C          | B55055              | B55062 |
| <b>NEW</b> SH-5L6 | 1/2                   | .5000   | 1-1/4         | 7-1/4          | 1/4            | C          | B55919              | B55942 |

Shank Type: A — 1/8" solid carbide. B — 1/8" hardened steel. C — 1/4" hardened steel. D — 1/4" solid carbide.

**Solid Carbide Burs****14° Included Cone, Radius • Pointed Cone**

Series BL, 14° Included Cone Radius Shape

**Applications**

STEEL

CAST IRON

NON-FERROUS MATERIALS

STAINLESS STEEL

**Features**

SOLID CARBIDE

STANDARD CUT

BRIGHT

**Applications**

NON-FERROUS MATERIALS

**Features**

SOLID CARBIDE

ALUMINUM CUT

BRIGHT

**Applications**

STEEL

CAST IRON

HI-TEMP ALLOYS

STAINLESS STEEL

**Features**

SOLID CARBIDE

DOUBLE CUT

BRIGHT

| SCTI reference    | cutting diameter<br>inch | decimal | length of cut | overall length | shank diameter | shank type | standard | EDP number<br>double | aluminum |
|-------------------|--------------------------|---------|---------------|----------------|----------------|------------|----------|----------------------|----------|
| SL-41             | 1/8                      | .1250   | 3/8           | 1-1/2          | 1/8            | A          | B55640   | B55641               | -        |
| SL-42             | 1/8                      | .1250   | 1/2           | 1-1/2          | 1/8            | A          | B55145   | B55154               | B55170   |
| SL-1              | 1/4                      | .2500   | 5/8           | 2              | 1/4            | D          | B55146   | B55155               | B55171   |
| <b>NEW</b> SL-1L6 | 1/4                      | .2500   | 5/8           | 6-5/8          | 1/4            | C          | B55920   | B55943               | -        |
| SL-3              | 3/8                      | .3750   | 1-1/16        | 2-15/16        | 1/4            | C          | B55147   | B55156               | -        |
| <b>NEW</b> SL-3L6 | 3/8                      | .3750   | 1-1/16        | 7-1/16         | 1/4            | C          | B55921   | B55944               | -        |
| SL-4              | 1/2                      | .5000   | 1-1/8         | 3              | 1/4            | C          | B55148   | B55157               | B55884   |
| <b>NEW</b> SL-5L6 | 1/2                      | .5000   | 1-1/8         | 7-1/8          | 1/4            | C          | B55922   | B55945               | -        |
| SL-6              | 5/8                      | .6250   | 1 5/16        | 3 3/16         | 1/4            | C          | B55149   | B55158               | B55885   |

Series BM, Pointed Cone Shape

**Applications**

STEEL

CAST IRON

NON-FERROUS MATERIALS

STAINLESS STEEL

**Features**

SOLID CARBIDE

STANDARD CUT

BRIGHT

**Applications**

STEEL

CAST IRON

HI-TEMP ALLOYS

STAINLESS STEEL

**Features**

SOLID CARBIDE

DOUBLE CUT

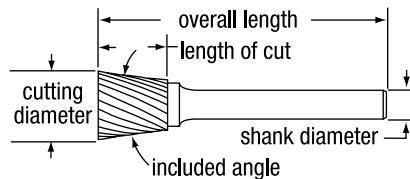
BRIGHT

| SCTI reference | included angle | cutting diameter<br>inch | decimal | length of cut | overall length | shank diameter | shank type | standard | EDP number<br>double |
|----------------|----------------|--------------------------|---------|---------------|----------------|----------------|------------|----------|----------------------|
| SM-41          | 12 °           | 1/8                      | .1250   | 3/8           | 1-1/2          | 1/8            | A          | B55644   | B55645               |
| SM-42          | 14 °           | 1/8                      | .1250   | 7/16          | 1-1/2          | 1/8            | A          | B55181   | B55190               |
| SM-43          | 7 °            | 1/8                      | .1250   | 5/8           | 1-1/2          | 1/8            | A          | B55648   | B55649               |
| SM-51          | 22 °           | 1/4                      | .2500   | 1/2           | 1-7/8          | 1/8            | B          | B55709   | B55721               |
| SM-1           | 22 °           | 1/4                      | .2500   | 1/2           | 2              | 1/4            | D          | B55182   | B55191               |
| SM-3           | 10 °           | 1/4                      | .2500   | 1             | 2              | 1/4            | D          | B55183   | B55192               |
| SM-4           | 28 °           | 3/8                      | .3750   | 5/8           | 2-1/2          | 1/4            | C          | B55184   | B55193               |
| SM-5           | 28 °           | 1/2                      | .5000   | 7/8           | 2-3/4          | 1/4            | C          | B55185   | B55194               |

Shank Type: A — 1/8" solid carbide. B — 1/8" hardened steel. C — 1/4" hardened steel. D — 1/4" solid carbide.

**Inverted Taper**

Series BN, Inverted Taper Shape

**Applications****Features****Applications****Features**

| SCTI reference | included angle | cutting diameter<br>inch | cutting diameter<br>decimal | length of cut | overall length | shank diameter | shank type | EDP number<br>standard | EDP number<br>double |
|----------------|----------------|--------------------------|-----------------------------|---------------|----------------|----------------|------------|------------------------|----------------------|
| SN-41          | –              | 3/32                     | .0938                       | 3/16          | 1-1/2          | 1/8            | A          | B55652                 | –                    |
| SN-51          | 10 °           | 1/4                      | .2500                       | 1/4           | 1-1/2          | 1/8            | A          | B55710                 | B55722               |

Shank Type: A – 1/8" solid carbide. B – 1/8" hardened steel. C – 1/4" hardened steel. D – 1/4" solid carbide.



**BASSETT**™



***Index by EDP Number***



BASSETT™

## Index by EDP Number

| EDP Number | Style Number | Page Number | EDP Number | Style Number | Page Number | EDP Number | Style Number | Page Number | EDP Number | Style Number | Page Number |
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| B00018     | MSE-4B       | 32          | B01362     | MSE-2B       | 27          | B01451     | MSE-2        | 24          | B01580     | MDE-2        | 20          |
| B00025     | MSE-4B       | 33          | B01363     | MSE-2B       | 26          | B01452     | MSE-2        | 24          | B01581     | MDE-2        | 20          |
| B00028     | MSE-4B       | 33          | B01364     | MSE-2B       | 26          | B01453     | MSE-2        | 24          | B01582     | MDE-2        | 20          |
| B00030     | MSE-4B       | 33          | B01365     | MSE-2B       | 27          | B01454     | MSE-2        | 24          | B01583     | MDE-2        | 20          |
| B00032     | MSE-4B       | 33          | B01366     | MSE-2B       | 27          | B01455     | MSE-2        | 24          | B01584     | MSE-2B       | 27          |
| B00046     | MSE-4        | 31          | B01367     | MSE-2B       | 27          | B01457     | MSE-2        | 25          | B01585     | MDE-2        | 20          |
| B00059     | MSE-2        | 24          | B01368     | MSE-2B       | 27          | B01461     | MSE-2        | 25          | B01586     | MDE-2        | 20          |
| B00062     | MSE-2        | 25          | B01369     | MSE-2B       | 27          | B01465     | MSE-2        | 25          | B01587     | MDE-2        | 20          |
| B00064     | MSE-2        | 25          | B01370     | MSE-2B       | 27          | B01469     | MSE-2        | 25          | B01588     | MDE-4        | 22          |
| B00065     | MSE-2        | 25          | B01371     | MSE-2B       | 27          | B01470     | MSE-2        | 25          | B01589     | MDE-4        | 22          |
| B00067     | MSE-2        | 25          | B01373     | MSE-4B       | 32          | B01471     | MSE-2        | 25          | B01590     | MDE-4        | 22          |
| B00207     | MDE-2        | 20          | B01374     | MSE-4B       | 32          | B01472     | MSE-2        | 25          | B01591     | MDE-4        | 22          |
| B00208     | MDE-2        | 20          | B01375     | MSE-4B       | 33          | B01473     | MSE-2        | 25          | B01592     | MDE-4        | 22          |
| B00209     | MDE-2        | 20          | B01376     | MSE-4B       | 33          | B01474     | MSE-2        | 25          | B01593     | MDE-4        | 22          |
| B00210     | MDE-2        | 20          | B01377     | MSE-4B       | 32          | B01475     | MSE-4        | 29          | B01594     | MDE-4        | 22          |
| B00211     | MDE-2        | 20          | B01378     | MSE-4B       | 33          | B01476     | MSE-4        | 29          | B01595     | MSE-2B       | 27          |
| B00212     | MDE-2        | 20          | B01379     | MSE-4B       | 33          | B01477     | MSE-4        | 29          | B01596     | MDE-4        | 22          |
| B00213     | MDE-2        | 20          | B01380     | MSE-4B       | 33          | B01478     | MSE-4        | 29          | B01597     | MDE-4        | 22          |
| B00215     | MDE-2        | 20          | B01381     | MSE-4B       | 33          | B01479     | MSE-4        | 29          | B01598     | MDE-4        | 22          |
| B00217     | MDE-2        | 20          | B01382     | MSE-4B       | 33          | B01480     | MSE-4        | 29          | B01599     | MDE-2B       | 21          |
| B00220     | MDE-2        | 20          | B01383     | MSE-4B       | 33          | B01481     | MSE-4        | 29          | B01600     | MDE-2B       | 21          |
| B00221     | MDE-2        | 20          | B01386     | MSE-2        | 24          | B01482     | MSE-4        | 29          | B01601     | MDE-2B       | 21          |
| B00222     | MDE-2        | 20          | B01388     | MSE-2        | 24          | B01483     | MSE-4        | 29          | B01602     | MDE-2B       | 21          |
| B00224     | MDE-2        | 20          | B01389     | MSE-2        | 25          | B01484     | MSE-4        | 30          | B01603     | MDE-2B       | 21          |
| B00225     | MDE-2        | 20          | B01391     | MSE-2        | 25          | B01485     | MSE-4        | 30          | B01604     | MDE-2B       | 21          |
| B00226     | MDE-2        | 20          | B01394     | MSE-2        | 25          | B01486     | MSE-4        | 30          | B01605     | MDE-2B       | 21          |
| B00227     | MDE-2        | 20          | B01395     | MSE-2        | 25          | B01487     | MSE-4        | 30          | B01607     | MDE-2B       | 21          |
| B00236     | MSE-2B       | 26          | B01396     | MSE-2        | 25          | B01489     | MSE-4        | 30          | B01608     | MDE-2B       | 21          |
| B00241     | MSE-2B       | 26          | B01398     | MSE-2        | 25          | B01491     | MSE-4        | 30          | B01609     | MDE-2B       | 21          |
| B00244     | MSE-2B       | 27          | B01399     | MSE-4        | 29          | B01495     | MSE-4        | 30          | B01610     | MDE-4B       | 23          |
| B00246     | MSE-2B       | 27          | B01400     | MSE-4        | 29          | B01499     | MSE-4        | 30          | B01611     | MDE-4B       | 23          |
| B00250     | MSE-2B       | 27          | B01402     | MSE-4        | 30          | B01503     | MSE-4        | 31          | B01612     | MDE-4B       | 23          |
| B00342     | MDE-4        | 22          | B01403     | MSE-4        | 30          | B01505     | MSE-4        | 31          | B01613     | MDE-4B       | 23          |
| B00345     | MDE-4        | 22          | B01405     | MSE-4        | 30          | B01506     | MSE-4        | 31          | B01614     | MDE-4B       | 23          |
| B00346     | MDE-4        | 22          | B01407     | MSE-4        | 31          | B01507     | MSE-4        | 31          | B01615     | MDE-4B       | 23          |
| B00348     | MDE-4        | 22          | B01408     | MSE-4        | 31          | B01508     | MSE-4        | 31          | B01616     | MDE-4B       | 23          |
| B00349     | MDE-4        | 22          | B01409     | MSE-4        | 31          | B01509     | MSE-2B       | 26          | B01617     | MSE-2B       | 27          |
| B00352     | MDE-4        | 22          | B01410     | MSE-4        | 31          | B01511     | MSE-2B       | 26          | B01618     | MDE-4B       | 23          |
| B00357     | MDE-4        | 22          | B01412     | MSE-4        | 31          | B01512     | MSE-2B       | 26          | B01619     | MDE-4B       | 23          |
| B00359     | MDE-4        | 22          | B01414     | MSE-2B       | 26          | B01513     | MSE-2B       | 26          | B01620     | MDE-4B       | 23          |
| B00360     | MDE-4        | 22          | B01415     | MSE-2B       | 26          | B01515     | MSE-2B       | 26          | B01621     | MSE-2        | 24          |
| B00362     | MDE-4        | 22          | B01416     | MSE-2B       | 26          | B01516     | MSE-2B       | 26          | B01622     | MSE-2        | 24          |
| B01318     | MSE-2        | 24          | B01417     | MSE-2B       | 26          | B01517     | MSE-2B       | 26          | B01623     | MSE-2        | 24          |
| B01319     | MSE-2        | 24          | B01418     | MSE-2B       | 27          | B01521     | MSE-2B       | 26          | B01624     | MSE-2        | 24          |
| B01320     | MSE-2        | 25          | B01419     | MSE-2B       | 27          | B01525     | MSE-2B       | 26          | B01625     | MSE-2        | 24          |
| B01321     | MSE-2        | 25          | B01420     | MSE-2B       | 27          | B01529     | MSE-2B       | 27          | B01627     | MSE-2        | 24          |
| B01322     | MSE-2        | 25          | B01422     | MSE-2B       | 27          | B01537     | MSE-2B       | 27          | B01629     | MSE-2        | 24          |
| B01323     | MSE-2        | 25          | B01423     | MSE-2B       | 27          | B01539     | MSE-2B       | 27          | B01630     | MSE-2        | 25          |
| B01324     | MSE-2        | 25          | B01424     | MSE-2B       | 27          | B01540     | MSE-2B       | 27          | B01631     | MSE-2        | 25          |
| B01325     | MSE-2        | 25          | B01425     | MSE-2B       | 27          | B01542     | MSE-2B       | 27          | B01632     | MSE-2        | 25          |
| B01326     | MSE-2        | 25          | B01426     | MSE-2B       | 27          | B01547     | MSE-4B       | 32          | B01633     | MSE-2        | 25          |
| B01327     | MSE-2        | 25          | B01427     | MSE-2B       | 26          | B01549     | MSE-4B       | 32          | B01634     | MSE-2        | 25          |
| B01329     | MSE-2        | 24          | B01430     | MSE-4B       | 32          | B01551     | MSE-4B       | 32          | B01635     | MSE-2        | 25          |
| B01330     | MSE-2        | 24          | B01431     | MSE-4B       | 33          | B01553     | MSE-4B       | 32          | B01636     | MSE-4        | 29          |
| B01331     | MSE-2        | 24          | B01433     | MSE-4B       | 33          | B01555     | MSE-4B       | 32          | B01637     | MSE-4        | 29          |
| B01333     | MSE-2        | 25          | B01434     | MSE-4B       | 32          | B01557     | MSE-4B       | 32          | B01638     | MSE-4        | 29          |
| B01334     | MSE-2        | 25          | B01435     | MSE-4B       | 32          | B01559     | MSE-4B       | 33          | B01639     | MSE-4        | 29          |
| B01338     | MSE-2        | 25          | B01436     | MSE-4B       | 33          | B01563     | MSE-4B       | 33          | B01640     | MSE-4        | 29          |
| B01340     | MSE-4        | 30          | B01437     | MSE-4B       | 33          | B01564     | MSE-2B       | 26          | B01641     | MSE-4        | 29          |
| B01341     | MSE-4        | 30          | B01438     | MSE-4B       | 33          | B01566     | MSE-2B       | 26          | B01642     | MSE-4        | 29          |
| B01342     | MSE-4        | 31          | B01439     | MSE-4B       | 33          | B01567     | MSE-4B       | 33          | B01644     | MSE-4        | 30          |
| B01343     | MSE-4        | 29          | B01440     | MSE-4B       | 33          | B01568     | MSE-2B       | 26          | B01645     | MSE-4        | 30          |
| B01344     | MSE-4        | 29          | B01441     | MSE-2        | 24          | B01570     | MSE-2B       | 26          | B01646     | MSE-4        | 30          |
| B01347     | MSE-4        | 30          | B01442     | MSE-2        | 24          | B01571     | MSE-4B       | 33          | B01647     | MSE-4        | 30          |
| B01348     | MSE-4        | 30          | B01443     | MSE-2        | 24          | B01572     | MSE-2B       | 26          | B01648     | MSE-4        | 31          |
| B01351     | MSE-4        | 31          | B01444     | MSE-2        | 24          | B01573     | MSE-4B       | 33          | B01649     | MSE-4        | 31          |
| B01352     | MSE-4        | 31          | B01445     | MSE-2        | 24          | B01574     | MSE-4B       | 33          | B01650     | MSE-4        | 31          |
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| B71527 . . . . . | TMC . . . . .    | 48          | B76166 . . . . . | BMTMM3 . . . . . | .51b        |            |              |             |            |              |             |
| B71528 . . . . . | TMC . . . . .    | 48          | B76167 . . . . . | BMTMM3 . . . . . | .51b        |            |              |             |            |              |             |
| B71529 . . . . . | TMC . . . . .    | 48          | B76168 . . . . . | BMTMM3 . . . . . | .51b        |            |              |             |            |              |             |
| B71550 . . . . . | TMNPC . . . . .  | 49          | B81577 . . . . . | MSE-2 . . . . .  | 24          |            |              |             |            |              |             |
| B71551 . . . . . | TMNPC . . . . .  | 49          | B81578 . . . . . | MSE-2 . . . . .  | 25          |            |              |             |            |              |             |
| B71552 . . . . . | TMNPC . . . . .  | 49          | B81579 . . . . . | MSE-2 . . . . .  | 25          |            |              |             |            |              |             |
| B71555 . . . . . | TMNPC . . . . .  | 49          | B81581 . . . . . | MSE-2 . . . . .  | 25          |            |              |             |            |              |             |
| B71556 . . . . . | TMNPC . . . . .  | 49          | B81583 . . . . . | MSE-2 . . . . .  | 25          |            |              |             |            |              |             |
| B71572 . . . . . | TMMC . . . . .   | 50          | B81587 . . . . . | MSE-4 . . . . .  | 30          |            |              |             |            |              |             |
| B71573 . . . . . | TMMC . . . . .   | 50          | B81588 . . . . . | MSE-4 . . . . .  | 30          |            |              |             |            |              |             |
| B71574 . . . . . | TMMC . . . . .   | 50          | B81590 . . . . . | MSE-4 . . . . .  | 31          |            |              |             |            |              |             |
| B71575 . . . . . | TMMC . . . . .   | 50          | B81591 . . . . . | MSE-4 . . . . .  | 31          |            |              |             |            |              |             |
| B71576 . . . . . | TMMC . . . . .   | 50          | B81592 . . . . . | MSE-4 . . . . .  | 31          |            |              |             |            |              |             |
| B71577 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71578 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71579 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71580 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71581 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71582 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71583 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71584 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71585 . . . . . | TMMC . . . . .   | 50          |                  |                  |             |            |              |             |            |              |             |
| B71600 . . . . . | TMBPPC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B71601 . . . . . | TMBPPC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B71602 . . . . . | TMBPPC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B71604 . . . . . | TMBPPC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B71620 . . . . . | TMBPTC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B71621 . . . . . | TMBPTC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B71622 . . . . . | TMBPTC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B71623 . . . . . | TMBPTC . . . . . | 49          |                  |                  |             |            |              |             |            |              |             |
| B76124 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76125 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76126 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76127 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76128 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76129 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76130 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76131 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76132 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76133 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76134 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76135 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76136 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76137 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76138 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76139 . . . . . | BMTM2 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76140 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76141 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76142 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76143 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76144 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76145 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76146 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76147 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76148 . . . . . | BMTM3 . . . . .  | .51a        |                  |                  |             |            |              |             |            |              |             |
| B76149 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76150 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76151 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76152 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76153 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76154 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76155 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76156 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76157 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76158 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76159 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76160 . . . . . | BMTMM2 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76161 . . . . . | BMTMM3 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76162 . . . . . | BMTMM3 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |
| B76163 . . . . . | BMTMM3 . . . . . | .51b        |                  |                  |             |            |              |             |            |              |             |

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