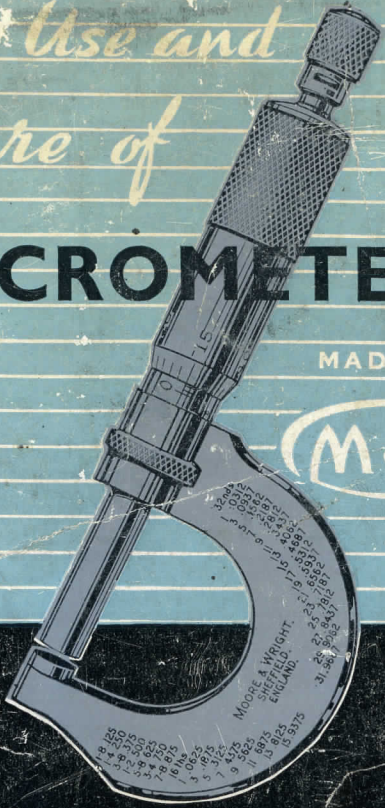
The Use and Care of MICROMETERS

MADE BY

M&W



with 25 pages of

DECIMAL EQUIVALENTS

DATA SHEETS

For Engineering Students and Apprentices

EDUCATIONAL HELP FOR ENGINEERING STUDENTS AND APPRENTICES

These sheets have been developed for the benefit of Apprentices and Students to guide in the understanding of the use of (M&W) Precision Tools.

The sheets, which are punched with holes 8 centimetres apart, can be supplied separately or in a binder specially made to hold them. This binder has provision for inserting loose leaf sheets on which the student can make his own notes.

The present set of blueprints cover the following:

SHEET NO. 1 External Micrometers.
SHEET NO. 2 How to Read Micrometers.
SHEET NO. 3 Internal Micrometers.
SHEET NO. 4 Depth Gauge Micrometers.
SHEET NO. 5 Telescopic Gauges.
SHEET NO. 6 Universal Bevel Protractors.
SHEET NO. 7 How to Read a Universal Bevel Protractor.
SHEET NO. 8 Bevels and Setting Protractors.
SHEET NO. 9 Combination Squares.
SHEET NO. 10 Engineers' Steel Try Squares.
SHEET NO. 11 Adjustable Try Squares.
SHEET NO. 12 Universal Surface Gauges.
SHEET NO. 13 V-Blocks and Clamp.
SHEET NO. 14 Adjustable Micrometers.
SHEET NO. 15 Calipers and Dividers.
SHEET NOS. 18-20 Drill Sizes.
SHEET NO. 21 Tapping and Clearance Drill Chart.
SHEET NO. 22 Equivalent Chart. (Fractional, Decimal, Metric)
SHEET NO. 23 Equivalent Chart. (Inches to Millimetres)
SHEET NO. 24 Equivalent Chart. (Millimetres to Inches)

For the price of the full binder, or separate sheets, see our current price list.

CONTENTS

A MICROMETER is essentially a delicate measuring instrument and as such should be handled and used with great care.

Only the finest quality material is used for (M&W) micrometers and the best grade for each component is carefully chosen to give long life and reliability. In manufacture, care is taken at every stage of production to build precision and lasting accuracy into every instrument.

If you have bought an (M&W) micrometer you are in possession of a fine tool, and the following pages will help you to obtain from it, long and satisfactory service.

The pages of Decimal Equivalents give corresponding Fractional and Metric sizes, and will be of assistance in transferring dimensions of one measuring system to those of another.

STANDARD TYPES OF MICROMETER

EXTERNAL FIXED ANVIL TYPE (Fig. 1.)

These micrometers are made to take outside measurements. Basically they consist of a rigidly designed bow shaped frame, a micrometer head and a fixed anvil, and are made to the closest limits of accuracy.

The smallest is 0—½″ (0—13 mm) capacity, and the largest 23—24″ (575—600 mm).

Tungsten Carbide measuring faces can be provided.

EXTERNAL ADJUSTABLE TYPE (Fig. 2.)

These micrometers are also made to take outside measurements, but differ from Fig. 1, in that they are supplied with interchangeable or sliding anvils to provide alternative and extended ranges of measurement.

The smallest is 0—2″ (0—50 mm) capacity, and the largest 66—72″ (1650—1800 mm).

SETTING GAUGES (Fig. 3.)

These are used for checking or setting external micrometers above 1 inch or 25 mm. For micrometers with a range of 1—2″, or 25—50 mm, a disc type setting gauge is supplied. For larger sizes, radial ended rod type setting gauges are supplied

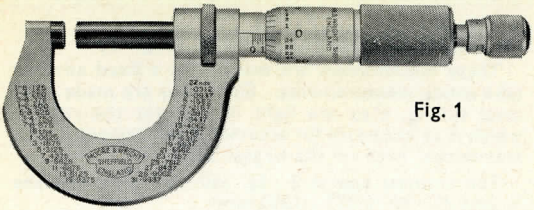


Fig. 1

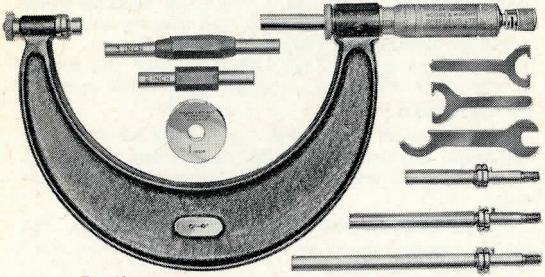


Fig. 2

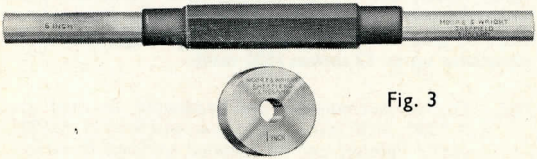


Fig. 3

STANDARD TYPES (continued)

INTERNAL TUBULAR TYPE (Fig. 4.)

These micrometers are made with a fixed anvil to take inside measurements. Since they are made from steel tubing, they are light in use, yet the rigidity which is so necessary for accurate measurement is well maintained, even on the largest size.

The smallest size is 2—2½″ (50—63 mm), and the largest 47—48″ (1175—1200 mm).

INTERNAL ADJUSTABLE TYPE (Fig. 5.)

This type of micrometer, also designed for inside measurements, comprises a measuring head to which may be added extension rods, and spacing collars, to provide alternative ranges of measurement. The smallest size is 1—2″ (25—50 mm), and the largest 8—33″ (200—825 mm). (Larger sizes made specially on application.)

The larger of the above types have insulators to minimise expansion due to heat from the hand, whilst handles are provided for use on the smaller sizes.

These handles not only provide insulation, but enable measurements to be taken in places too small for the hand to reach.

DEPTH GAUGE TYPE (Fig. 6.)

These tools are used for measuring the depth of holes, slots, etc. They consist of a hardened and ground base, a micrometer head and interchangeable rods to give an extended measuring range, made in capacities up to 12 inches (300 mm).

N.B.—English micrometers are graduated to read to 1/1000 inch and metric micrometers to 1/100 mm. Verniers can be supplied on English micrometers, Fig. 1 up to and including the 12 inch size.

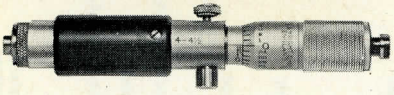


Fig. 4

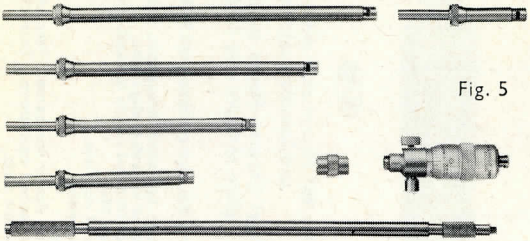


Fig. 5

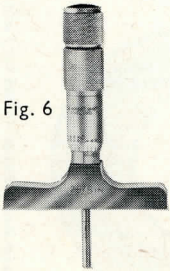
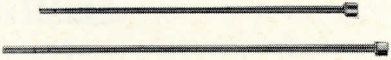
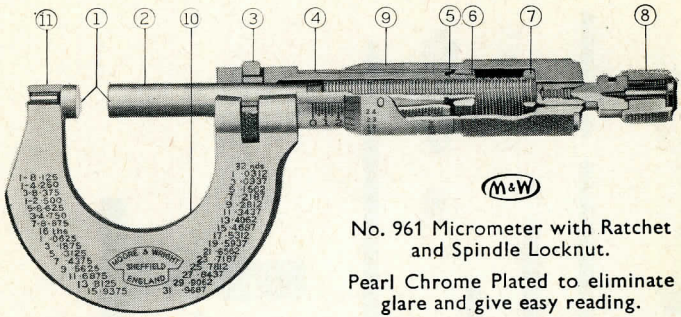


Fig. 6





No. 961 Micrometer with Ratchet and Spindle Locknut.

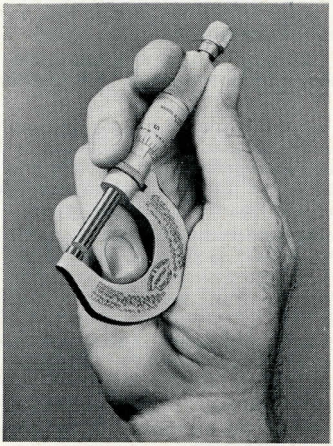
Pearl Chrome Plated to eliminate glare and give easy reading.

1. **Spindle and Anvil Faces**—Glass hard and optically flat, also available with TUNGSTEN CARBIDE faces.
2. **Spindle**—Thread ground, and made from alloy steel, hardened throughout, and stabilised.
3. **Locknut**—Effective at any position. Spindle retained in perfect alignment.
4. **Sleeve**—Adjustable for zero setting. Accurately divided and clearly marked. Pearl chrome plated.
5. **Main Nut**—Length of thread ensures long working life.
6. **Screw Adjusting Nut**—For effective adjustment of main nut.
7. **Thimble Adjusting Nut**—Controls position of thimble.
8. **Ratchet**—Improved design ensures even pressure.
9. **Thimble**—Accurately divided and every graduation clearly numbered. Pearl chrome plated.
10. **Steel Frame**—Drop forged. Marked with useful decimal equivalents. Pearl chrome plated.
11. **Anvil End**—Cutaway frame facilitates usage in narrow slots.

THE USE, CARE AND ADJUSTMENT OF MICROMETERS

A micrometer should not be held in the hand longer than necessary as it is so sensitive that prolonged hand heat will cause expansion and subsequent inaccuracies in measurement.

External micrometers measuring up to 1 in. (25 mm) can easily be used in one hand as shown below, but as far as possible they should not be gripped tightly.



When using larger micrometers rest the frame in one hand, and turn the thimble with the other. The very large micrometers can be supplied with insulating pads or grips if desired.

When taking a measurement keep the measuring

faces square with the object being measured. Do not use undue force in bringing the contacting surfaces together otherwise serious damage may be done to the measuring faces. Use the ratchet if one is fitted as this gives uniform pressure and ensures consistent reading.

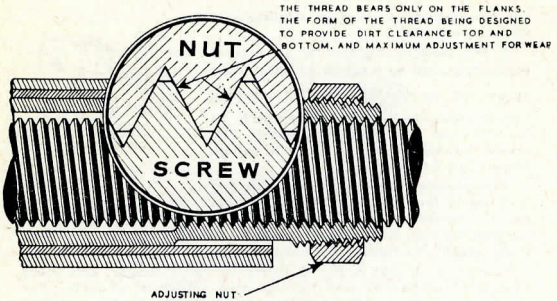
Always see that the anvil faces are clean, a merest suspicion of dirt or oil can give an appreciable error. To clean the faces of micrometers where anvil and spindle meet, e.g. 0—½″ (0—13 mm) and 0—1″ (0—25 mm); open the anvil and spindle faces slightly and insert a piece of paper between them. Close the faces so that the paper is lightly gripped between them, then withdraw the paper by sliding it out and any dirt or grease will be removed.

Use an absorbent paper to clean the faces on micrometers where the anvil and spindle do not meet.

Do not leave a micrometer lying about on a bench or machine bed since it can so easily be knocked onto the floor and damaged. Keep it in the box in which it was supplied as this will help to keep the micrometer clean and free from dust and grease.

After using a micrometer it should be wiped over carefully to remove any foreign matter and then be replaced in its protective box or case. If it is not to be used again for some time, wipe it carefully, and put a thin coat of good quality non-corrosive oil on the measuring faces and bright spots. An oil with a lanolin base is most suitable for this job. It is not usually necessary to lubricate the screw as it will be seen from the illustration opposite, that the form of thread is such that the truncations at the crest and root provide for oil retention.

To adjust an (M&W) micrometer use the special spanner which is supplied with it. Any looseness in the screw can be taken up by a slight turn of the adjusting nut, which can be reached by unscrewing the spindle.



Errors arising in zero reading or from wear on the measuring faces are corrected by means of the adjustable sleeve. Clean the faces and bring them carefully together, then turn the sleeve with the spanner until the zero lines on the sleeve and on the thimble coincide. In the case of micrometers larger than 1 inch (25 mm) it will not be possible to make the faces contact and the appropriate setting gauge must be used.

On micrometers with interchangeable anvils, or extension rods, one particular rod may receive an undue amount of wear. Do not attempt to correct this by moving the sleeve or the setting to the remaining rods will be rendered inaccurate. Provision is made on the rods to make the proper adjustment by means of locknuts or screwed inserts.

With care a micrometer should continue to give accurate reading for a considerable period of use. If, however, any repairs or renovations should become necessary the Moore & Wright Service Department is always at the customer's disposal.

METHOD OF READING A MICROMETER

(1) Graduated to read in thousandths of an inch (0.001″).

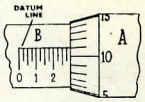


Fig I.

A Micrometer Caliper is an instrument operated by a screw spindle. The screw in an (M&W) English reading micrometer has 40 threads per inch, so that in one complete revolution, the screw travels 1/40th of an inch, which is equal to 0.025″.

The bevelled edge of the Thimble (A) is divided into 25 equal divisions, each of which represents 0.001″ (1/1,000). The Sleeve (B) has a datum line cut on it parallel to the axis, which is graduated with transverse lines 0.025″ apart, to register the revolutions of Thimble (A).

Every fourth line is distinguished by being longer, and these lines are numbered, each representing 1/10th of an inch. For example, the line marked "1" represents 0.100″, the line marked "2" represents 0.200″.

When the micrometer is closed, the zero line on the thimble should coincide with the first transverse line abutting on the datum line. This is also marked zero, and all measurements will be calculated from it.

To take a measurement, calculate the number of transverse lines visible on the datum line, and multiply by 0.025″, to which add the number of the line registered on the thimble, which coincides with the datum line on the sleeve.

For example: (Fig. 1)

Highest figure visible on Sleeve (B) is 2	=	.200
Additional visible sub-divisions on Sleeve (B) is 3	=	.075
Addition of line registered on Thimble (A) coinciding with datum line is 11	=	.011
Reading of measurement		.286

(2) Graduated to read in one ten-thousandth of an inch (0.0001″).

These (M&W) micrometers are exactly as above (i.e. 40 threads per inch screw) but with the addition of a Vernier Scale graduated on the sleeve to read in conjunction with the thimble.

On the sleeve, parallel to the axis or datum line are graduated 10 divisions, which occupy the same space as 9 divisions on the thimble. It will be obvious that the width of each division on

METHOD OF READING A MICROMETER

(continued)

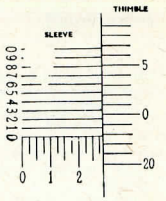


Fig 2.

the sleeve is 1/10th shorter than the division on the thimble. The divisions on the thimble represent 0.001", therefore, this difference represents 0.0001" or 1/10,000 of an inch.

When taking a measurement to 1/10,000 of an inch, it is necessary to note which line on the vernier scale coincides with a graduation on the thimble, and add this figure to the readings.

For example: (Fig. 2)

Highest figure visible on Sleeve is 2	=	.200
Additional visible sub-divisions on Sleeve is 3	=	.075
Line on thimble below datum line	=	.022
Line on Vernier scale coinciding with line on thimble is 7	=	.0007
Reading of measurement		.2977

(3) Graduated to read in hundredths of a millimetre (0.01 mm).

The screw in these (M&W) Micrometers is threadground for metric measurement, and has a pitch of 0.5 mm, so that with one complete revolution the screw moves 0.5 mm.

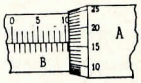


Fig. 3

The bevelled edge of the Thimble (A) is divided into 50 equal divisions, each division representing 1/100 mm or 0.01 mm.

The Sleeve (B) has a datum line running parallel to the axis but to avoid confusion when reading the movement of the thimble, the transverse lines are set on both sides of the datum line at a distance of 1 mm.

The transverse lines above the datum line register the whole millimetres the thimble has travelled, the transverse lines below the datum line register the half millimetres the thimble has travelled.

For example: (Fig. 3)

Highest figure visible above datum line is 10	=	10.00 mm
Additional transverse line visible beyond and below datum line is 1	=	.50 mm
Addition of line on thimble coinciding with datum line	=	.16 mm
Reading of measurement		10.66 mm

METHOD OF READING A MICROMETER

(continued)

(4) Graduated to read in thousandths of a millimetre (0.001 mm).

This (M&W) micrometer is exactly as the ordinary metric micrometer with the addition of a vernier scale on the sleeve reading in conjunction with the thimble.

On the sleeve parallel to the axis (datum line) are graduated 5 divisions which occupy the same space as 9 divisions on the thimble, each division on the vernier scale representing two thousandths of a millimetre.

To take a reading on the vernier micrometer, in addition to the explanation given for reading in hundredths of a millimetre, it is necessary to note which vernier line coincides with a graduated line on the thimble, this gives the number of thousandths of a millimetre to be added.

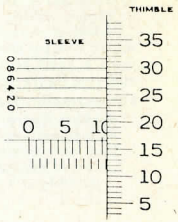


Fig. 4

For example: (Fig. 4)

Highest figure visible on sleeve	10	= 10.00	mm
Additional visible sub-division on sleeve	1	= 0.50	mm
Highest line on thimble below datum line on sleeve	16	= 0.16	mm
Vernier line coincident with line on thimble	6	= 0.006	mm
Reading of measurement		10.666	mm

When there is no coincidence of the lines, then the intermediate thousandths can be estimated, i.e. if the reading lies between 4 and 6, then the additional thousandth reading would be 0.005 mm.

DECIMAL EQUIVALENTS

FRACTIONS OF AN INCH EXPRESSED AS DECIMALS AND MILLIMETRES

Fractional inch	Decimal inch	mm.	Fractional inch	Decimal inch	mm.
1/64	0·015625	0·3969	33/64	0·515625	13·0969
1/32	0·03125	0·7938	17/32	0·53125	13·4938
3/64	0·046875	1·1906	35/64	0·546875	13·8906
1/16	0·0625	1·5875	9/16	0·5625	14·2875
5/64	0·078125	1·9844	37/64	0·578125	14·6844
3/32	0·09375	2·3813	19/32	0·59375	15·0813
7/64	0·109375	2·7781	39/64	0·609375	15·4781
1/8	0·125	3·175	5/8	0·625	15·875
9/64	0·140625	3·5719	41/64	0·640625	16·2719
5/32	0·15625	3·9688	21/32	0·65625	16·6688
11/64	0·171875	4·3656	43/64	0·671875	17·0656
3/16	0·1875	4·7625	11/16	0·6875	17·4625
13/64	0·203125	5·1594	45/64	0·703125	17·8594
7/32	0·21875	5·5563	23/32	0·71875	18·2563
15/64	0·234375	5·9531	47/64	0·734375	18·6531
1/4	0·25	6·35	3/4	0·75	19·05
17/64	0·265625	6·7469	49/64	0·765625	19·4469
9/32	0·28125	7·1438	25/32	0·78125	19·8438
19/64	0·296875	7·5406	51/64	0·796875	20·2406
5/16	0·3125	7·9375	13/16	0·8125	20·6375
21/64	0·328125	8·3344	53/64	0·828125	21·0344
11/32	0·34375	8·7313	27/32	0·84375	21·4313
23/64	0·359375	9·1281	55/64	0·859375	21·8281
3/8	0·375	9·525	7/8	0·875	22·225
25/64	0·390625	9·9219	57/64	0·890625	22·6219
13/32	0·40625	10·3188	29/32	0·90625	23·0188
27/64	0·421875	10·7156	59/64	0·921875	23·4156
7/16	0·4375	11·1125	15/16	0·9375	23·8125
29/64	0·453125	11·5094	61/64	0·953125	24·2094
15/32	0·46875	11·9063	31/32	0·96875	24·6063
31/64	0·484375	12·3031	63/64	0·984375	25·0031
1/2	0·5	12·7	1	1	25·4

Fractional inch	mm.	Fractional inch	mm.
1 1/64	25·797	1 33/64	38·497
1 1/32	26·194	1 17/32	38·894
1 3/64	26·591	1 35/64	39·291
1 1/16	26·988	1 9/16	39·688
1 5/64	27·384	1 37/64	40·084
1 3/32	27·781	1 19/32	40·481
1 7/64	28·178	1 39/64	40·878
1 1/8	28·575	1 5/8	41·275
1 9/64	28·972	1 41/64	41·672
1 5/32	29·369	1 21/32	42·069
1 11/64	29·766	1 43/64	42·466
1 3/16	30·163	1 11/16	42·863
1 13/64	30·559	1 45/64	43·259
1 7/32	30·956	1 23/32	43·656
1 15/64	31·353	1 47/64	44·053
1 1/4	31·750	1 3/4	44·450
1 17/64	32·147	1 49/64	44·847
1 9/32	32·544	1 25/32	45·244
1 19/64	32·941	1 51/64	45·641
1 5/16	33·338	1 13/16	46·038
1 21/64	33·734	1 53/64	46·434
1 11/32	34·131	1 27/32	46·831
1 23/64	34·528	1 55/64	47·228
1 3/8	34·925	1 7/8	47·625
1 25/64	35·322	1 57/64	48·022
1 13/32	35·719	1 29/32	48·419
1 27/64	36·116	1 59/64	48·816
1 7/16	36·513	1 15/16	49·213
1 29/64	36·909	1 61/64	49·609
1 15/32	37·306	1 31/32	50·006
1 31/64	37·703	1 63/64	50·403
1 1/2	38·100	2	50·800

Fractional inch	mm.	Fractional inch	mm.
2 1/64	51·197	2 33/64	63·897
2 1/32	51·594	2 17/32	64·294
2 3/64	51·991	2 35/64	64·691
2 1/16	52·388	2 9/16	65·088
2 5/64	52·784	2 37/64	65·484
2 3/32	53·181	2 19/32	65·881
2 7/64	53·578	2 39/64	66·278
2 1/8	53·975	2 5/8	66·675
2 9/64	54·372	2 41/64	67·072
2 5/32	54·769	2 21/32	67·469
2 11/64	55·166	2 43/64	67·866
2 3/16	55·563	2 11/16	68·263
2 13/64	55·959	2 45/64	68·659
2 7/32	56·356	2 23/32	69·056
2 15/64	56·753	2 47/64	69·453
2 1/4	57·150	2 3/4	69·850
2 17/64	57·547	2 49/64	70·247
2 9/32	57·944	2 25/32	70·644
2 19/64	58·341	2 51/64	71·041
2 5/16	58·738	2 13/16	71·438
2 21/64	59·134	2 53/64	71·834
2 11/32	59·531	2 27/32	72·231
2 23/64	59·928	2 55/64	72·628
2 3/8	60·325	2 7/8	73·025
2 25/64	60·722	2 57/64	73·422
2 13/32	61·119	2 29/32	73·819
2 27/64	61·516	2 59/64	74·216
2 7/16	61·913	2 15/16	74·613
2 29/64	62·309	2 61/64	75·009
2 15/32	62·706	2 31/32	75·406
2 31/64	63·103	2 63/64	75·803
2 1/2	63·500	3	76·200

Fractional inch	mm.	Fractional inch	mm.
3 1/64	76·597	33 33/64	89·297
3 1/32	76·994	33 17/32	89·694
3 3/64	77·391	33 35/64	90·091
3 1/16	77·788	3 9/16	90·488
3 5/64	78·184	33 37/64	90·884
3 3/32	78·581	33 19/32	91·281
3 7/64	78·978	33 39/64	91·678
3 1/8	79·375	3 5/8	92·075
3 9/64	79·772	34 1/64	92·472
3 5/32	80·169	32 1/32	92·869
3 11/64	80·566	34 3/64	93·266
3 3/16	80·963	3 11/16	93·663
3 13/64	81·359	34 5/64	94·059
3 7/32	81·756	32 3/32	94·456
3 15/64	82·153	34 7/64	94·853
3 1/4	82·550	3 3/4	95·250
3 17/64	82·947	34 9/64	95·647
3 9/32	83·344	32 5/32	96·044
3 19/64	83·741	35 1/64	96·441
3 5/16	84·138	3 13/16	96·838
3 21/64	84·534	35 3/64	97·234
3 11/32	84·931	32 7/32	97·631
3 23/64	85·328	35 5/64	98·028
3 3/8	85·725	3 7/8	98·425
3 25/64	86·122	35 7/64	98·822
3 13/32	86·519	32 9/32	99·219
3 27/64	86·916	35 9/64	99·616
3 7/16	87·313	3 15/16	100·013
3 29/64	87·709	36 1/64	100·409
3 15/32	88·106	33 1/32	100·806
3 31/64	88·503	36 3/64	101·203
3 1/2	88·900	4	101·600

DECIMAL EQUIVALENTS

INCHES TO MILLIMETRES

Inch	mm.	Inch	mm.	Inch	mm.
·001	·0254	·027	·6858	·062	1·5748
·0015	·0381	·028	·7112	·063	1·6002
·002	·0508	·029	·7366	·064	1·6256
·0025	·0635	·030	·7620	·065	1·6510
·003	·0762	·031	·7874	·066	1·6764
·0035	·0889	·032	·8128	·067	1·7018
·004	·1016	·033	·8382	·068	1·7272
·0045	·1143	·034	·8636	·069	1·7526
·005	·1270	·035	·8890	·070	1·7780
·0055	·1397	·036	·9144	·071	1·8034
·006	·1524	·037	·9398	·072	1·8288
·0065	·1651	·038	·9652	·073	1·8542
·007	·1778	·039	·9906	·074	1·8796
·0075	·1905	·040	1·0160	·075	1·9050
·008	·2032	·041	1·0414	·076	1·9304
·0085	·2159	·042	1·0668	·077	1·9558
·009	·2286	·043	1·0922	·078	1·9812
·0095	·2413	·044	1·1176	·079	2·0066
·010	·2540	·045	1·1430	·080	2·0320
·011	·2794	·046	1·1684	·081	2·0574
·012	·3048	·047	1·1938	·082	2·0828
·013	·3302	·048	1·2192	·083	2·1082
·014	·3556	·049	1·2446	·084	2·1336
·015	·3810	·050	1·2700	·085	2·1590
·016	·4064	·051	1·2954	·086	2·1844
·017	·4318	·052	1·3208	·087	2·2098
·018	·4572	·053	1·3462	·088	2·2352
·019	·4826	·054	1·3716	·089	2·2606
·020	·5080	·055	1·3970	·090	2·2860
·021	·5334	·056	1·4224	·091	2·3114
·022	·5588	·057	1·4478	·092	2·3368
·023	·5842	·058	1·4732	·093	2·3622
·024	·6096	·059	1·4986	·094	2·3876
·025	·6350	·060	1·5240	·095	2·4130
·026	·6604	·061	1·5494	·096	2·4384

Inch	mm.	Inch	mm.	Inch	mm.
·097	2·4638	·132	3·3528	·167	4·2418
·098	2·4892	·133	3·3782	·168	4·2672
·099	2·5146	·134	3·4036	·169	4·2926
·100	2·5400	·135	3·4290	·170	4·3180
·101	2·5654	·136	3·4544	·171	4·3434
·102	2·5908	·137	3·4798	·172	4·3688
·103	2·6162	·138	3·5052	·173	4·3942
·104	2·6416	·139	3·5306	·174	4·4196
·105	2·6670	·140	3·5560	·175	4·4450
·106	2·6924	·141	3·5814	·176	4·4704
·107	2·7178	·142	3·6068	·177	4·4958
·108	2·7432	·143	3·6322	·178	4·5212
·109	2·7686	·144	3·6576	·179	4·5466
·110	2·7940	·145	3·6830	·180	4·5720
·111	2·8194	·146	3·7084	·181	4·5974
·112	2·8448	·147	3·7338	·182	4·6228
·113	2·8702	·148	3·7592	·183	4·6482
·114	2·8956	·149	3·7846	·184	4·6736
·115	2·9210	·150	3·8100	·185	4·6990
·116	2·9464	·151	3·8354	·186	4·7244
·117	2·9718	·152	3·8608	·187	4·7498
·118	2·9972	·153	3·8862	·188	4·7752
·119	3·0226	·154	3·9116	·189	4·8006
·120	3·0480	·155	3·9370	·190	4·8260
·121	3·0734	·156	3·9624	·191	4·8514
·122	3·0988	·157	3·9878	·192	4·8768
·123	3·1242	·158	4·0132	·193	4·9022
·124	3·1496	·159	4·0386	·194	4·9276
·125	3·1750	·160	4·0640	·195	4·9530
·126	3·2004	·161	4·0894	·196	4·9784
·127	3·2258	·162	4·1148	·197	5·0038
·128	3·2512	·163	4·1402	·198	5·0292
·129	3·2766	·164	4·1656	·199	5·0546
·130	3·3020	·165	4·1910	·200	5·0800
·131	3·3274	·166	4·2164	·201	5·1054

Inch	mm.	Inch	mm.	Inch	mm.
·202	5·1308	·237	6·0198	·272	6·9088
·203	5·1562	·238	6·0452	·273	6·9342
·204	5·1816	·239	6·0706	·274	6·9596
·205	5·2070	·240	6·0960	·275	6·9850
·206	5·2324	·241	6·1214	·276	7·0104
·207	5·2578	·242	6·1468	·277	7·0358
·208	5·2832	·243	6·1722	·278	7·0612
·209	5·3086	·244	6·1976	·279	7·0866
·210	5·3340	·245	6·2230	·280	7·1120
·211	5·3594	·246	6·2484	·281	7·1374
·212	5·3848	·247	6·2738	·282	7·1628
·213	5·4102	·248	6·2992	·283	7·1882
·214	5·4356	·249	6·3246	·284	7·2136
·215	5·4610	·250	6·3500	·285	7·2390
·216	5·4864	·251	6·3754	·286	7·2644
·217	5·5118	·252	6·4008	·287	7·2898
·218	5·5372	·253	6·4262	·288	7·3152
·219	5·5626	·254	6·4516	·289	7·3406
·220	5·5880	·255	6·4770	·290	7·3660
·221	5·6134	·256	6·5024	·291	7·3914
·222	5·6388	·257	6·5278	·292	7·4168
·223	5·6642	·258	6·5532	·293	7·4422
·224	5·6896	·259	6·5786	·294	7·4676
·225	5·7150	·260	6·6040	·295	7·4930
·226	5·7404	·261	6·6294	·296	7·5184
·227	5·7658	·262	6·6548	·297	7·5438
·228	5·7912	·263	6·6802	·298	7·5692
·229	5·8166	·264	6·7056	·299	7·5946
·230	5·8420	·265	6·7310	·300	7·6200
·231	5·8674	·266	6·7564	·301	7·6454
·232	5·8928	·267	6·7818	·302	7·6708
·233	5·9182	·268	6·8072	·303	7·6962
·234	5·9436	·269	6·8326	·304	7·7216
·235	5·9690	·270	6·8580	·305	7·7470
·236	5·9944	·271	6·8834	·306	7·7724

Inch	mm.	Inch	mm.	Inch	mm.
·307	7·7978	·342	8·6868	·377	9·5758
·308	7·8232	·343	8·7122	·378	9·6012
·309	7·8486	·344	8·7376	·379	9·6266
·310	7·8740	·345	8·7630	·380	9·6520
·311	7·8994	·346	8·7884	·381	9·6774
·312	7·9248	·347	8·8138	·382	9·7028
·313	7·9502	·348	8·8392	·383	9·7282
·314	7·9756	·349	8·8646	·384	9·7536
·315	8·0010	·350	8·8900	·385	9·7790
·316	8·0264	·351	8·9154	·386	9·8044
·317	8·0518	·352	8·9408	·387	9·8298
·318	8·0772	·353	8·9662	·388	9·8552
·319	8·1026	·354	8·9916	·389	9·8806
·320	8·1280	·355	9·0170	·390	9·9060
·321	8·1534	·356	9·0424	·391	9·9314
·322	8·1788	·357	9·0678	·392	9·9568
·323	8·2042	·358	9·0932	·393	9·9822
·324	8·2296	·359	9·1186	·394	10·0076
·325	8·2550	·360	9·1440	·395	10·0330
·326	8·2804	·361	9·1694	·396	10·0584
·327	8·3058	·362	9·1948	·397	10·0838
·328	8·3312	·363	9·2202	·398	10·1092
·329	8·3566	·364	9·2456	·399	10·1346
·330	8·3820	·365	9·2710	·400	10·1600
·331	8·4074	·366	9·2964	·401	10·1854
·332	8·4328	·367	9·3218	·402	10·2108
·333	8·4582	·368	9·3472	·403	10·2362
·334	8·4836	·369	9·3726	·404	10·2616
·335	8·5090	·370	9·3980	·405	10·2870
·336	8·5344	·371	9·4234	·406	10·3124
·337	8·5598	·372	9·4488	·407	10·3378
·338	8·5852	·373	9·4742	·408	10·3632
·339	8·6106	·374	9·4996	·409	10·3886
·340	8·6360	·375	9·5250	·410	10·4140
·341	8·6614	·376	9·5504	·411	10·4394

Inch	mm.	Inch	mm.	Inch	mm.
·412	10·4648	·447	11·3538	·482	12·2428
·413	10·4902	·448	11·3792	·483	12·2682
·414	10·5156	·449	11·4046	·484	12·2936
·415	10·5410	·450	11·4300	·485	12·3190
·416	10·5664	·451	11·4554	·486	12·3444
·417	10·5918	·452	11·4808	·487	12·3698
·418	10·6172	·453	11·5062	·488	12·3952
·419	10·6426	·454	11·5316	·489	12·4206
·420	10·6680	·455	11·5570	·490	12·4460
·421	10·6934	·456	11·5824	·491	12·4714
·422	10·7188	·457	11·6078	·492	12·4968
·423	10·7442	·458	11·6332	·493	12·5222
·424	10·7696	·459	11·6586	·494	12·5476
·425	10·7950	·460	11·6840	·495	12·5730
·426	10·8204	·461	11·7094	·496	12·5984
·427	10·8458	·462	11·7348	·497	12·6238
·428	10·8712	·463	11·7602	·498	12·6492
·429	10·8966	·464	11·7856	·499	12·6746
·430	10·9220	·465	11·8110	·500	12·7000
·431	10·9474	·466	11·8364	·501	12·7254
·432	10·9728	·467	11·8618	·502	12·7508
·433	10·9982	·468	11·8872	·503	12·7762
·434	11·0236	·469	11·9126	·504	12·8016
·435	11·0490	·470	11·9380	·505	12·8270
·436	11·0744	·471	11·9634	·506	12·8524
·437	11·0998	·472	11·9888	·507	12·8778
·438	11·1252	·473	12·0142	·508	12·9032
·439	11·1506	·474	12·0396	·509	12·9286
·440	11·1760	·475	12·0650	·510	12·9540
·441	11·2014	·476	12·0904	·511	12·9794
·442	11·2268	·477	12·1158	·512	13·0048
·443	11·2522	·478	12·1412	·513	13·0302
·444	11·2776	·479	12·1666	·514	13·0556
·445	11·3030	·480	12·1920	·515	13·0810
·446	11·3284	·481	12·2174	·516	13·1064

Inch	mm.	Inch	mm.	Inch	mm.
·517	13·1318	·552	14·0208	·587	14·9098
·518	13·1572	·553	14·0462	·588	14·9352
·519	13·1826	·554	14·0716	·589	14·9606
·520	13·2080	·555	14·0970	·590	14·9860
·521	13·2334	·556	14·1224	·591	15·0114
·522	13·2588	·557	14·1478	·592	15·0368
·523	13·2842	·558	14·1732	·593	15·0622
·524	13·3096	·559	14·1986	·594	15·0876
·525	13·3350	·560	14·2240	·595	15·1130
·526	13·3604	·561	14·2494	·596	15·1384
·527	13·3858	·562	14·2748	·597	15·1638
·528	13·4112	·563	14·3002	·598	15·1892
·529	13·4366	·564	14·3256	·599	15·2146
·530	13·4620	·565	14·3510	·600	15·2400
·531	13·4874	·566	14·3764	·601	15·2654
·532	13·5128	·567	14·4018	·602	15·2908
·533	13·5382	·568	14·4272	·603	15·3162
·534	13·5636	·569	14·4526	·604	15·3416
·535	13·5890	·570	14·4780	·605	15·3670
·536	13·6144	·571	14·5034	·606	15·3924
·537	13·6398	·572	14·5288	·607	15·4178
·538	13·6652	·573	14·5542	·608	15·4432
·539	13·6906	·574	14·5796	·609	15·4686
·540	13·7160	·575	14·6050	·610	15·4940
·541	13·7414	·576	14·6304	·611	15·5194
·542	13·7668	·577	14·6558	·612	15·5448
·543	13·7922	·578	14·6812	·613	15·5702
·544	13·8176	·579	14·7066	·614	15·5956
·545	13·8430	·580	14·7320	·615	15·6210
·546	13·8684	·581	14·7574	·616	15·6464
·547	13·8938	·582	14·7828	·617	15·6718
·548	13·9192	·583	14·8082	·618	15·6972
·549	13·9446	·584	14·8336	·619	15·7226
·550	13·9700	·585	14·8590	·620	15·7480
·551	13·9954	·586	14·8844	·621	15·7734

Inch	mm.	Inch	mm.	Inch	mm.
·622	15·7988	·657	16·6878	·692	17·5768
·623	15·8242	·658	16·7132	·693	17·6022
·624	15·8496	·659	16·7386	·694	17·6276
·625	15·8750	·660	16·7640	·695	17·6530
·626	15·9004	·661	16·7894	·696	17·6784
·627	15·9258	·662	16·8148	·697	17·7038
·628	15·9512	·663	16·8402	·698	17·7292
·629	15·9766	·664	16·8656	·699	17·7546
·630	16·0020	·665	16·8910	·700	17·7800
·631	16·0274	·666	16·9164	·701	17·8054
·632	16·0528	·667	16·9418	·702	17·8308
·633	16·0782	·668	16·9672	·703	17·8562
·634	16·1036	·669	16·9926	·704	17·8816
·635	16·1290	·670	17·0180	·705	17·9070
·636	16·1544	·671	17·0434	·706	17·9324
·637	16·1798	·672	17·0688	·707	17·9578
·638	16·2052	·673	17·0942	·708	17·9832
·639	16·2306	·674	17·1196	·709	18·0086
·640	16·2560	·675	17·1450	·710	18·0340
·641	16·2814	·676	17·1704	·711	18·0594
·642	16·3068	·677	17·1958	·712	18·0848
·643	16·3322	·678	17·2212	·713	18·1102
·644	16·3576	·679	17·2466	·714	18·1356
·645	16·3830	·680	17·2720	·715	18·1610
·646	16·4084	·681	17·2974	·716	18·1864
·647	16·4338	·682	17·3228	·717	18·2118
·648	16·4592	·683	17·3482	·718	18·2372
·649	16·4846	·684	17·3736	·719	18·2626
·650	16·5100	·685	17·3990	·720	18·2880
·651	16·5354	·686	17·4244	·721	18·3134
·652	16·5608	·687	17·4498	·722	18·3388
·653	16·5862	·688	17·4752	·723	18·3642
·654	16·6116	·689	17·5006	·724	18·3896
·655	16·6370	·690	17·5260	·725	18·4150
·656	16·6624	·691	17·5514	·726	18·4404

Inch	mm.	Inch	mm.	Inch	mm.
·727	18·4658	·762	19·3548	·797	20·2438
·728	18·4912	·763	19·3802	·798	20·2692
·729	18·5166	·764	19·4056	·799	20·2946
·730	18·5420	·765	19·4310	·800	20·3200
·731	18·5674	·766	19·4564	·801	20·3454
·732	18·5928	·767	19·4818	·802	20·3708
·733	18·6182	·768	19·5072	·803	20·3962
·734	18·6436	·769	19·5326	·804	20·4216
·735	18·6690	·770	19·5580	·805	20·4470
·736	18·6944	·771	19·5834	·806	20·4724
·737	18·7198	·772	19·6088	·807	20·4978
·738	18·7452	·773	19·6342	·808	20·5232
·739	18·7706	·774	19·6596	·809	20·5486
·740	18·7960	·775	19·6850	·810	20·5740
·741	18·8214	·776	19·7104	·811	20·5994
·742	18·8468	·777	19·7358	·812	20·6248
·743	18·8722	·778	19·7612	·813	20·6502
·744	18·8976	·779	19·7866	·814	20·6756
·745	18·9230	·780	19·8120	·815	20·7010
·746	18·9484	·781	19·8374	·816	20·7264
·747	18·9738	·782	19·8628	·817	20·7518
·748	18·9992	·783	19·8882	·818	20·7772
·749	19·0246	·784	19·9136	·819	20·8026
·750	19·0500	·785	19·9390	·820	20·8280
·751	19·0754	·786	19·9644	·821	20·8534
·752	19·1008	·787	19·9898	·822	20·8788
·753	19·1262	·788	20·0152	·823	20·9042
·754	19·1516	·789	20·0406	·824	20·9296
·755	19·1770	·790	20·0660	·825	20·9550
·756	19·2024	·791	20·0914	·826	20·9804
·757	19·2278	·792	20·1168	·827	21·0058
·758	19·2532	·793	20·1422	·828	21·0312
·759	19·2786	·794	20·1676	·829	21·0566
·760	19·3040	·795	20·1930	·830	21·0820
·761	19·3294	·796	20·2184	·831	21·1074

Inch	mm.	Inch	mm.	Inch	mm.
·832	21·1328	·867	22·0218	·902	22·9108
·833	21·1582	·868	22·0472	·903	22·9362
·834	21·1836	·869	22·0726	·904	22·9616
·835	21·2090	·870	22·0980	·905	22·9870
·836	21·2344	·871	22·1234	·906	23·0124
·837	21·2598	·872	22·1488	·907	23·0378
·838	21·2852	·873	22·1742	·908	23·0632
·839	21·3106	·874	22·1996	·909	23·0886
·840	21·3360	·875	22·2250	·910	23·1140
·841	21·3614	·876	22·2504	·911	23·1394
·842	21·3868	·877	22·2758	·912	23·1648
·843	21·4122	·878	22·3012	·913	23·1902
·844	21·4376	·879	22·3266	·914	23·2156
·845	21·4630	·880	22·3520	·915	23·2410
·846	21·4884	·881	22·3774	·916	23·2664
·847	21·5138	·882	22·4028	·917	23·2918
·848	21·5392	·883	22·4282	·918	23·3172
·849	21·5646	·884	22·4536	·919	23·3426
·850	21·5900	·885	22·4790	·920	23·3680
·851	21·6154	·886	22·5044	·921	23·3934
·852	21·6408	·887	22·5298	·922	23·4188
·853	21·6662	·888	22·5552	·923	23·4442
·854	21·6916	·889	22·5806	·924	23·4696
·855	21·7170	·890	22·6060	·925	23·4950
·856	21·7424	·891	22·6314	·926	23·5204
·857	21·7678	·892	22·6568	·927	23·5458
·858	21·7932	·893	22·6822	·928	23·5712
·859	21·8186	·894	22·7076	·929	23·5966
·860	21·8440	·895	22·7330	·930	23·6220
·861	21·8694	·896	22·7584	·931	23·6474
·862	21·8948	·897	22·7838	·932	23·6728
·863	21·9202	·898	22·8092	·933	23·6982
·864	21·9456	·899	22·8346	·934	23·7236
·865	21·9710	·900	22·8600	·935	23·7490
·866	21·9964	·901	22·8854	·936	23·7744

Inch	mm.	Inch	mm.	Inch	mm.
·937	23·7998	·972	24·6888	8·0	203·2000
·938	23·8252	·973	24·7142	9·0	228·6000
·939	23·8506	·974	24·7396	10·0	254·0000
·940	23·8760	·975	24·7650	11·0	279·4000
·941	23·9014	·976	24·7904	12·0 (1 ft.)	304·8000
·942	23·9268	·977	24·8158	13·0	330·2000
·943	23·9522	·978	24·8412	14·0	355·6000
·944	23·9776	·979	24·8666	15·0	381·0000
·945	24·0030	·980	24·8920	16·0	406·4000
·946	24·0284	·981	24·9174	17·0	431·8000
·947	24·0538	·982	24·9428	18·0	457·2000
·948	24·0792	·983	24·9682	19·0	482·6000
·949	24·1046	·984	24·9936	20·0	508·0000
·950	24·1300	·985	25·0190	21·0	533·4000
·951	24·1554	·986	25·0444	22·0	558·8000
·952	24·1808	·987	25·0698	23·0	584·2000
·953	24·2062	·988	25·0952	24·0 (2 ft.)	609·6000
·954	24·2316	·989	25·1206	25·0	635·0000
·955	24·2570	·990	25·1460	26·0	660·4000
·956	24·2824	·991	25·1714	27·0	685·8000
·957	24·3078	·992	25·1968	28·0	711·2000
·958	24·3332	·993	25·2222	29·0	736·6000
·959	24·3586	·994	25·2476	30·0	762·0000
·960	24·3840	·995	25·2730	31·0	787·4000
·961	24·4094	·996	25·2984	32·0	812·8000
·962	24·4348	·997	25·3238	33·0	838·2000
·963	24·4602	·998	25·3492	34·0	863·6000
·964	24·4856	·999	25·3746	35·0	889·0000
·965	24·5110	1·0	25·4000	36·0 (3 ft.)	914·400
·966	24·5364	2·0	50·8000	48·0 (4 ft.)	1219·200
·967	24·5618	3·0	76·2000	60·0 (5 ft.)	1524·000
·968	24·5872	4·0	101·6000	72·0 (6 ft.)	1828·800
·969	24·6126	5·0	127·0000	84·0 (7 ft.)	2133·600
·970	24·6380	6·0	152·4000	96·0 (8 ft.)	2438·400
·971	24·6634	7·0	177·8000	108·0 (9 ft.)	2743·200
				120·0 (10ft.)	3048·000

DECIMAL EQUIVALENTS

MILLIMETRES TO INCHES

mm.	Inch	mm.	Inch	mm.	Inch
·01	·00039	·34	·01339	·67	·02638
·02	·00079	·35	·01378	·68	·02677
·03	·00118	·36	·01417	·69	·02717
·04	·00157	·37	·01457	·70	·02756
·05	·00197	·38	·01496	·71	·02795
·06	·00236	·39	·01535	·72	·02835
·07	·00276	·40	·01575	·73	·02874
·08	·00315	·41	·01614	·74	·02913
·09	·00354	·42	·01654	·75	·02953
·10	·00394	·43	·01693	·76	·02992
·11	·00433	·44	·01732	·77	·03032
·12	·00472	·45	·01772	·78	·03071
·13	·00512	·46	·01811	·79	·03110
·14	·00551	·47	·01850	·80	·03150
·15	·00591	·48	·01890	·81	·03189
·16	-00630	·49	·01929	·82	·03228
·17	·00669	·50	·01969	·83	·03268
·18	·00709	·51	·02008	·84	·03307
·19	·00748	·52	·02047	·85	·03346
·20	·00787	·53	·02087	·86	·03386
·21	·00827	·54	·02126	·87	·03425
·22	·00866	·55	·02165	·88	·03465
·23	·00906	·56	·02205	·89	·03504
·24	·00945	·57	·02244	·90	·03543
·25	·00984	·58	·02283	·91	·03583
·26	·01024	·59	·02323	·92	·03622
·27	·01063	·60	·02362	·93	·03661
·28	·01102	·61	·02402	·94	·03701
·29	·01142	·62	·02441	·95	·03740
·30	·01181	·63	·02480	·96	·03780
·31	·01220	·64	·02520	·97	·03819
·32	·01260	·65	·02559	·98	·03858
·33	·01299	·66	·02598	·99	·03898
				1·00	·03937

mm.	Inch	mm.	Inch	mm.	Inch
1·01	·03976	1·34	·05276	1·67	·06575
1·02	·04016	1·35	·05315	1·68	·06614
1·03	·04055	1·36	·05354	1·69	·06654
1·04	·04094	1·37	·05394	1·70	·06693
1·05	·04134	1·38	·05433	1·71	·06732
1·06	·04173	1·39	·05472	1·72	·06772
1·07	·04213	1·40	·05512	1·73	·06811
1·08	·04252	1·41	·05551	1·74	·06850
1·09	·04291	1·42	·05591	1·75	·06890
1·10	·04331	1·43	·05630	1·76	·06929
1·11	·04370	1·44	·05669	1·77	·06969
1·12	·04409	1·45	·05709	1·78	·07008
1·13	·04449	1·46	·05748	1·79	·07047
1·14	·04488	1·47	·05787	1·80	·07087
1·15	·04528	1·48	·05827	1·81	·07126
1·16	·04567	1·49	·05866	1·82	·07165
1·17	·04606	1·50	·05906	1·83	·07205
1·18	·04646	1·51	·05945	1·84	·07244
1·19	·04685	1·52	·05984	1·85	·07283
1·20	·04724	1·53	·06024	1·86	·07323
1·21	·04764	1·54	·06063	1·87	·07362
1·22	·04803	1·55	·06102	1·88	·07402
1·23	·04843	1·56	·06142	1·89	·07441
1·24	·04882	1·57	·06181	1·90	·07480
1·25	·04921	1·58	·06220	1·91	·07520
1·26	·04961	1·59	·06260	1·92	·07559
1·27	·05000	1·60	·06299	1·93	·07598
1·28	·05039	1·61	·06339	1·94	·07638
1·29	·05079	1·62	·06378	1·95	·07677
1·30	·05118	1·63	·06417	1·96	·07717
1·31	·05157	1·64	·06457	1·97	·07756
1·32	·05197	1·65	·06496	1·98	·07795
1·33	·05236	1·66	·06535	1·99	·07835
				2·00	·07874

mm.	Inch	mm.	Inch	mm.	Inch
2·01	·07913	2·34	·09213	2·67	·10512
2·02	·07953	2·35	·09252	2·68	·10551
2·03	·07992	2·36	·09291	2·69	·10591
2·04	·08032	2·37	·09331	2·70	·10630
2·05	·08071	2·38	·09370	2·71	·10669
2·06	·08110	2·39	·09409	2·72	·10709
2·07	·08150	2·40	·09449	2·73	·10748
2·08	·08189	2·41	·09488	2·74	·10787
2·09	·08228	2·42	·09528	2·75	·10827
2·10	·08268	2·43	·09567	2·76	·10866
2·11	·08307	2·44	·09606	2·77	·10906
2·12	·08346	2·45	·09646	2·78	·10945
2·13	·08386	2·46	·09685	2·79	·10984
2·14	·08425	2·47	·09724	2·80	·11024
2·15	·08465	2·48	·09764	2·81	·11063
2·16	·08504	2·49	·09803	2·82	·11102
2·17	·08543	2·50	·09843	2·83	·11142
2·18	·08583	2·51	·09882	2·84	·11181
2·19	·08622	2·52	·09921	2·85	·11221
2·20	·08661	2·53	·09961	2·86	·11260
2·21	·08701	2·54	·10000	2·87	·11299
2·22	·08740	2·55	·10039	2·88	·11339
2·23	·08780	2·56	·10079	2·89	·11378
2·24	·08819	2·57	·10118	2·90	·11417
2·25	·08858	2·58	·10158	2·91	·11457
2·26	·08898	2·59	·10197	2·92	·11496
2·27	·08937	2·60	·10236	2·93	·11535
2·28	·08976	2·61	·10276	2·94	·11575
2·29	·09016	2·62	·10315	2·95	·11614
2·30	·09055	2·63	·10354	2·96	·11654
2·31	·09094	2·64	·10394	2·97	·11693
2·32	·09134	2·65	·10433	2·98	·11732
2·33	·09173	2·66	·10472	2·99	·11772
				3·00	·11811

mm.	Inch	mm.	Inch	mm.	Inch
3·01	·11850	3·34	·13150	3·67	·14449
3·02	·11890	3·35	·13189	3·68	·14488
3·03	·11929	3·36	·13228	3·69	·14528
3·04	·11969	3·37	·13268	3·70	·14567
3·05	·12008	3·38	·13307	3·71	·14606
3·06	·12047	3·39	·13347	3·72	·14646
3·07	·12087	3·40	·13386	3·73	·14685
3·08	·12126	3·41	·13425	3·74	·14724
3·09	·12165	3·42	·13465	3·75	·14764
3·10	·12205	3·43	·13504	3·76	·14803
3·11	·12244	3·44	·13543	3·77	·14843
3·12	·12284	3·45	·13583	3·78	·14882
3·13	·12323	3·46	·13622	3·79	·14921
3·14	·12362	3·47	·13661	3·80	·14961
3·15	·12402	3·48	·13701	3·81	·15000
3·16	·12441	3·49	·13740	3·82	·15039
3·17	·12480	3·50	·13780	3·83	·15079
3·18	·12520	3·51	·13819	3·84	·15118
3·19	·12559	3·52	·13858	3·85	·15158
3·20	·12598	3·53	·13898	3·86	·15197
3·21	·12638	3·54	·13937	3·87	·15236
3·22	·12677	3·55	·13976	3·88	·15276
3·23	·12717	3·56	·14016	3·89	·15315
3·24	·12756	3·57	·14055	3·90	·15354
3·25	·12795	3·58	·14095	3·91	·15394
3·26	·12835	3·59	·14134	3·92	·15433
3·27	·12874	3·60	·14173	3·93	·15472
3·28	·12913	3·61	·14213	3·94	·15512
3·29	·12953	3·62	·14252	3·95	·15551
3·30	·12992	3·63	·14291	3·96	·15591
3·31	·13032	3·64	·14331	3·97	·15630
3·32	·13071	3·65	·14370	3·98	·15669
3·33	·13110	3·66	·14409	3·99	·15709
				4·00	·15748

mm.	Inch	mm.	Inch	mm.	Inch
4·01	·15787	4·34	·17087	4·67	·18386
4·02	·15827	4·35	·17126	4·68	·18425
4·03	·15866	4·36	·17165	4·69	·18465
4·04	·15906	4·37	·17205	4·70	·18504
4·05	·15945	4·38	·17244	4·71	·18543
4·06	·15984	4·39	·17284	4·72	·18583
4·07	·16024	4·40	·17323	4·73	·18622
4·08	·16063	4·41	·17362	4·74	·18661
4·09	·16102	4·42	·17402	4·75	·18701
4·10	·16142	4·43	·17441	4·76	·18740
4·11	·16181	4·44	·17480	4·77	·18780
4·12	·16221	4·45	·17520	4·78	·18819
4·13	·16260	4·46	·17559	4·79	·18858
4·14	·16299	4·47	·17598	4·80	·18898
4·15	·16339	4·48	·17638	4·81	·18937
4·16	·16378	4·49	·17677	4·82	·18976
4·17	·16417	4·50	·17717	4·83	·19016
4·18	·16457	4·51	·17756	4·84	·19055
4·19	·16496	4·52	·17795	4·85	·19095
4·20	·16535	4·53	·17835	4·86	·19134
4·21	·16575	4·54	·17874	4·87	·19173
4·22	·16614	4·55	·17913	4·88	·19213
4·23	·16654	4·56	·17953	4·89	·19252
4·24	·16693	4·57	·17992	4·90	·19291
4·25	·16732	4·58	·18032	4·91	·19331
4·26	·16772	4·59	·18071	4·92	·19370
4·27	·16811	4·60	·18110	4·93	·19409
4·28	·16850	4·61	·18150	4·94	·19449
4·29	·16890	4·62	·18189	4·95	·19488
4·30	·16929	4·63	·18228	4·96	·19528
4·31	·16969	4·64	·18268	4·97	·19567
4·32	·17008	4·65	·18307	4·98	·19606
4·33	·17047	4·66	·18347	4·99	·19646
				5·00	·19685

mm.	Inch	mm.	Inch	mm.	Inch
5·01	·19724	5·34	·21024	5·67	·22323
5·02	·19764	5·35	·21063	5·68	·22362
5·03	·19803	5·36	·21102	5·69	·22402
5·04	·19843	5·37	·21142	5·70	·22441
5·05	·19882	5·38	·21181	5·71	·22480
5·06	·19921	5·39	·21221	5·72	·22520
5·07	·19961	5·40	·21260	5·73	·22559
5·08	·20000	5·41	·21299	5·74	·22598
5·09	·20039	5·42	·21339	5·75	·22638
5·10	·20079	5·43	·21378	5·76	·22677
5·11	·20118	5·44	·21417	5·77	·22717
5·12	·20158	5·45	·21457	5·78	·22756
5·13	·20197	5·46	·21496	5·79	·22795
5·14	·20236	5·47	·21535	5·80	·22835
5·15	·20276	5·48	·21575	5·81	·22874
5·16	·20315	5·49	·21614	5·82	·22913
5·17	·20354	5·50	·21654	5·83	·22953
5·18	·20394	5·51	·21693	5·84	·22992
5·19	·20433	5·52	·21732	5·85	·23032
5·20	·20472	5·53	·21772	5·86	·23071
5·21	·20512	5·54	·21811	5·87	·23110
5·22	·20551	5·55	·21850	5·88	·23150
5·23	·20591	5·56	·21890	5·89	·23189
5·24	·20630	5·57	·21929	5·90	·23228
5·25	·20669	5·58	·21969	5·91	·23268
5·26	·20709	5·59	·22008	5·92	·23307
5·27	·20748	5·60	·22047	5·93	·23347
5·28	·20787	5·61	·22087	5·94	·23386
5·29	·20827	5·62	·22126	5·95	·23425
5·30	·20866	5·63	·22165	5·96	·23465
5·31	·20906	5·64	·22205	5·97	·23504
5·32	·20945	5·65	·22244	5·98	·23543
5·33	·20984	5·66	·22284	5·99	·23583
				6·00	·23622

mm.	Inch	mm.	Inch	mm.	Inch
6·01	·23661	6·34	·24961	6·67	·26260
6·02	·23701	6·35	·25000	6·68	·26299
6·03	·23740	6·36	·25039	6·69	·26339
6·04	·23780	6·37	·25079	6·70	·26378
6·05	·23819	6·38	·25118	6·71	·26417
6·06	·23858	6·39	·25158	6·72	·26457
6·07	·23898	6·40	·25197	6·73	·26496
6·08	·23937	6·41	·25236	6·74	·26535
6·09	·23976	6·42	·25276	6·75	·26575
6·10	·24016	6·43	·25315	6·76	·26614
6·11	·24055	6·44	·25354	6·77	·26654
6·12	·24095	6·45	·25394	6·78	·26693
6·13	·24134	6·46	·25433	6·79	·26732
6·14	·24173	6·47	·25472	6·80	·26772
6·15	·24213	6·48	·25512	6·81	·26811
6·16	·24252	6·49	·25551	6·82	·26850
6·17	·24291	6·50	·25591	6·83	·26890
6·18	·24331	6·51	·25630	6·84	·26929
6·19	·24370	6·52	·25669	6·85	·26969
6·20	·24409	6·53	·25709	6·86	·27008
6·21	·24449	6·54	·25748	6·87	·27047
6·22	·24488	6·55	·25787	6·88	·27087
6·23	·24528	6·56	·25827	6·89	·27126
6·24	·24567	6·57	·25866	6·90	·27165
6·25	·24606	6·58	·25906	6·91	·27205
6·26	·24646	6·59	·25945	6·92	·27244
6·27	·24685	6·60	·25984	6·93	·27284
6·28	·24724	6·61	·26024	6·94	·27323
6·29	·24764	6·62	·26063	6·95	·27362
6·30	·24803	6·63	·26102	6·96	·27402
6·31	·24843	6·64	·26142	6·97	·27441
6·32	·24882	6·65	·26181	6·98	·27480
6·33	·24921	6·66	·26221	6·99	·27520
				7·00	·27559

mm.	Inch	mm.	Inch	mm.	Inch
7·01	·27598	7·34	·28898	7·67	·30197
7·02	·27638	7·35	·28937	7·68	·30236
7·03	·27677	7·36	·28976	7·69	·30276
7·04	·27717	7·37	·29016	7·70	·30315
7·05	·27756	7·38	·29055	7·71	·30354
7·06	·27795	7·39	·29095	7·72	·30394
7·07	·27835	7·40	·29134	7·73	·30433
7·08	·27874	7·41	·29173	7·74	·30472
7·09	·27913	7·42	·29213	7·75	·30512
7·10	·27953	7·43	·29252	7·76	·30551
7·11	·27992	7·44	·29291	7·77	·30591
7·12	·28032	7·45	·29331	7·78	·30630
7·13	·28071	7·46	·29370	7·79	·30669
7·14	·28110	7·47	·29409	7·80	·30709
7·15	·28150	7·48	·29449	7·81	·30748
7·16	·28189	7·49	·29488	7·82	·30787
7·17	·28228	7·50	·29528	7·83	·30827
7·18	·28268	7·51	·29567	7·84	·30866
7·19	·28307	7·52	·29606	7·85	·30906
7·20	·28347	7·53	·29646	7·86	·30945
7·21	·28386	7·54	·29685	7·87	·30984
7·22	·28425	7·55	·29724	7·88	·31024
7·23	·28465	7·56	·29764	7·89	·31063
7·24	·28504	7·57	·29803	7·90	·31102
7·25	·28543	7·58	·29843	7·91	·31142
7·26	·28583	7·59	·29882	7·92	·31181
7·27	·28622	7·60	·29921	7·93	·31221
7·28	·28661	7·61	·29961	7·94	·31260
7·29	·28701	7·62	·30000	7·95	·31299
7·30	·28740	7·63	·30039	7·96	·31339
7·31	·28780	7·64	·30079	7·97	·31378
7·32	·28819	7·65	·30118	7·98	·31417
7·33	·28858	7·66	·30158	7·99	·31457
				8·00	·31496

mm.	Inch	mm.	Inch	mm.	Inch
8·01	·31535	8·34	·32835	8·67	·34134
8·02	·31575	8·35	·32874	8·68	·34173
8·03	·31614	8·36	·32913	8·69	·34213
8·04	·31654	8·37	·32953	8·70	·34252
8·05	·31693	8·38	·32992	8·71	·34291
8·06	·31732	8·39	·33032	8·72	·34331
8·07	·31772	8·40	·33071	8·73	·34370
8·08	·31811	8·41	·33110	8·74	·34409
8·09	·31850	8·42	·33150	8·75	·34449
8·10	·31890	8·43	·33189	8·76	·34488
8·11	·31929	8·44	·33228	8·77	·34528
8·12	·31969	8·45	·33268	8·78	·34567
8·13	·32008	8·46	·33307	8·79	·34606
8·14	·32047	8·47	·33347	8·80	·34646
8·15	·32087	8·48	·33386	8·81	·34685
8·16	·32126	8·49	·33425	8·82	·34724
8·17	·32165	8·50	·33465	8·83	·34764
8·18	·32205	8·51	·33504	8·84	·34803
8·19	·32244	8·52	·33543	8·85	·34843
8·20	·32284	8·53	·33583	8·86	·34882
8·21	·32323	8·54	·33622	8·87	·34921
8·22	·32362	8·55	·33661	8·88	·34961
8·23	·32402	8·56	·33701	8·89	·35000
8·24	·32441	8·57	·33740	8·90	·35039
8·25	·32480	8·58	·33780	8·91	·35079
8·26	·32520	8·59	·33819	8·92	·35118
8·27	·32559	8·60	·33858	8·93	·35158
8·28	·32598	8·61	·33898	8·94	·35197
8·29	·32638	8·62	·33937	8·95	·35236
8·30	·32677	8·63	·33976	8·96	·35276
8·31	·32717	8·64	·34016	8·97	·35315
8·32	·32756	8·65	·34055	8·98	·35354
8·33	·32795	8·66	·34095	8·99	·35394
				9·00	·35433

mm.	Inch	mm.	Inch	mm.	Inch
9·01	·35472	9·34	·36772	9·67	·38071
9·02	·35512	9·35	·36811	9·68	·38110
9·03	·35551	9·36	·36850	9·69	·38150
9·04	·35591	9·37	·36890	9·70	·38189
9·05	·35630	9·38	·36929	9·71	·38228
9·06	·35669	9·39	·36969	9·72	·38268
9·07	·35709	9·40	·37008	9·73	·38307
9·08	·35748	9·41	·37047	9·74	·38347
9·09	·35787	9·42	·37087	9·75	·38386
9·10	·35827	9·43	·37126	9·76	·38425
9·11	·35866	9·44	·37165	9·77	·38465
9·12	·35906	9·45	·37205	9·78	·38504
9·13	·35945	9·46	·37244	9·79	·38543
9·14	·35984	9·47	·37284	9·80	·38583
9·15	·36024	9·48	·37323	9·81	·38622
9·16	·36063	9·49	·37362	9·82	·38661
9·17	·36102	9·50	·37402	9·83	·38701
9·18	·36142	9·51	·37441	9·84	·38740
9·19	·36181	9·52	·37480	9·85	·38780
9·20	·36221	9·53	·37520	9·86	·38819
9·21	·36260	9·54	·37559	9·87	·38858
9·22	·36299	9·55	·37598	9·88	·38898
9·23	·36339	9·56	·37638	9·89	·38937
9·24	·36378	9·57	·37677	9·90	·38976
9·25	·36417	9·58	·37717	9·91	·39016
9·26	·36457	9·59	·37756	9·92	·39055
9·27	·36496	9·60	·37795	9·93	·39095
9·28	·36535	9·61	·37835	9·94	·39134
9·29	·36575	9·62	·37874	9·95	·39173
9·30	·36614	9·63	·37913	9·96	·39213
9·31	·36654	9·64	·37953	9·97	·39252
9·32	·36693	9·65	·37992	9·98	·39291
9·33	·36732	9·66	·38032	9·99	·39331
				10·00	·39370

mm.	Inch	mm.	Inch	mm.	Inch
11	·43307	44	1·73228	77	3·03150
12	·47244	45	1·77165	78	3·07087
13	·51181	46	1·81102	79	3·11024
14	·55118	47	1·85039	80	3·14961
15	·59055	48	1·88976	81	3·18898
16	·62992	49	1·92913	82	3·22835
17	·66929	50	1·96850	83	3·26772
18	·70866	51	2·00787	84	3·30709
19	·74803	52	2·04724	85	3·34646
20	·78740	53	2·08661	86	3·38583
21	·82677	54	2·12598	87	3·42520
22	·86614	55	2·16535	88	3·46457
23	·90551	56	2·20472	89	3·50394
24	·94488	57	2·24409	90	3·54331
25	·98425	58	2·28346	91	3·58268
26	1·02362	59	2·32283	92	3·62205
27	1·06299	60	2·36220	93	3·66142
28	1·10236	61	2·40157	94	3·70079
29	1·14173	62	2·44094	95	3·74016
30	1·18110	63	2·48031	96	3·77953
31	1·22047	64	2·51969	97	3·81890
32	1·25984	65	2·55906	98	3·85827
33	1·29921	66	2·59843	99	3·89764
34	1·33858	67	2·63780	100	3·93701
35	1·37795	68	2·67717	200	7·8740
36	1·41732	69	2·71654	300	11·8110
37	1·45669	70	2·75591	400	15·7481
38	1·49606	71	2·79528	500	19·6851
39	1·53543	72	2·83465	600	23·6221
40	1·57480	73	2·87402	700	27·5591
41	1·61417	74	2·91339	800	31·4961
42	1·65354	75	2·95276	900	35·4331
43	1·69291	76	2·99213	1000	39·3701
					=1 metre

IMPERIAL STANDARD WIRE GAUGE

No. of Wire Gauge	Inches	No. of Wire Gauge	Inches
000000	·464	18	·048
00000	·432	19	·040
0000	·400	20	·036
000	·372	21	·032
00	·348	22	·028
0	·324	23	·024
1	·300	24	·022
2	·276	25	·020
3	·252	26	·018
4	·232	27	·0164
5	·212	28	·0149
6	·192	29	·0136
7	·176	30	·0124
8	·160	31	·0116
9	·144	32	·0108
10	·128	33	·0100
11	·116	34	·0092
12	·104	35	·0084
13	·092	36	·0076
14	·080	37	·0068
15	·072	38	·0060
16	·064	39	·0052
17	·056	40	·0048

PARALLEL SHANK JOBBER SERIES TWIST DRILLS

To B.S. 328 and I.S.O. (*Reproduced by permission of B.S.I.*)
(Showing old drill gauge and letter sizes for comparison)

Diameter		Decimal Equivalent Inches	Old Drill Gauge and Letter Size	Decimal Equivalent Inches
Inches	mm.			
	·32	·0126		
	·35	·0138	80	·0135
	·38	·0150	79	·0145
1/64		·0156		
	·40	·0157	78	·0160
	·42	·0165		
	·45	·0177	77	·0180
	·48	·0189		
	·50	·0197	76	·0200
	·52	·0205	75	·0210
	·55	·0217		
	·58	·0228	74	·0225
	·60	·0236	73	·0240
	·62	·0244		
	·65	·0256	72	·0250
	·65	·0256	71	·0260
	·68	·0268		
	·70	·0276	70	·0280
	·72	·0283		
	·75	·0295	69	·0292
	·78	·0307		
1/32		·0312	68	·0310
	·80	·0315		
	·82	·0323	67	·0320
	·85	·0335	66	·0330
	·88	·0346		
	·90	·0354	65	·0350
	·92	·0362	64	·0360
	·95	·0374	63	·0370
	·98	·0386	62	·0380
	1·00	·0394	61	·0390
	1·00	·0394	60	·0400
	1·05	·0413	59	·0410

Diameter		Decimal Equivalent Inches	Old Drill Gauge and Letter Size	Decimal Equivalent Inches
Inches	mm.			
	1·05	·0413	58	·0420
	1·10	·0433	57	·0430
	1·15	·0453		
3/64		·0469	56	·0465
	1·20	·0472		
	1·25	·0492		
	1·30	·0512	55	·0520
	1·35	·0532		
	1·40	·0551	54	·0550
	1·45	·0571		
	1·50	·0591	53	·0595
	1·55	·0610		
1/16		·0625		
	1·60	·0630	52	·0635
	1·65	·0650		
	1·70	·0669	51	·0670
	1·75	·0689		
	1·80	·0709	50	·0700
	1·85	·0728	49	·0730
	1·90	·0748		
	1·95	·0768	48	·0760
5/64		·0781		
	2·00	·0787	47	·0785
	2·05	·0807	46	·0810
	2·10	·0827	45	·0820
	2·15	·0846		
	2·20	·0866	44	·0860
	2·25	·0886	43	·0890
	2·30	·0906		
	2·35	·0925		
3/32		·0938	42	·0935
	2·40	·0945		
	2·45	·0965	41	·0960

Diameter		Decimal Equivalent Inches	Old Drill Gauge and Letter Size	Decimal Equivalent Inches
Inches	mm.			
	2·50	·0984	40	·0980
	2·55	·1004	39	·0995
	2·60	·1024	38	·1015
	2·65	·1043	37	·1040
	2·70	·1063	36	·1065
	2·75	·1083		
7/64		·1094		
	2·80	·1102	35	·1100
	2·80	·1102	34	·1110
	2·85	·1122	33	·1130
	2·90	·1142		
	2·95	·1161	32	·1160
	3·00	·1181	31	·1200
	3·10	·1220		
1/8		·1250		
	3·20	·1260		
	3·30	·1299	30	·1285
	3·40	·1339		
	3·50	·1378	29	·1360
9/64		·1406	28	·1405
	3·60	·1417		
	3·70	·1457	27	·1440
	3·70	·1457	26	·1470
	3·80	·1496	25	·1495
	3·90	·1535	24	·1520
	3·90	·1535	23	·1540
5/32		·1562		
	4·00	·1575	22	·1570
	4·00	·1575	21	·1590
	4·10	·1614	20	·1610
	4·20	·1654	19	·1660
	4·30	·1693	18	·1695
11/64		·1719		

Diameter		Decimal Equivalent Inches	Old Drill Gauge and Letter Size	Decimal Equivalent Inches
Inches	mm.			
	4·40	·1732	17	·1730
	4·50	·1772	16	·1770
	4·60	·1811	15	·1800
	4·60	·1811	14	·1820
	4·70	·1850	13	·1850
3/16		·1875		
	4·80	·1890	12	·1890
	4·90	·1929	11	·1910
	4·90	·1929	10	·1935
	5·00	·1968	9	·1960
	5·10	·2008	8	·1990
	5·10	·2008	7	·2010
13/64		·2031		
	5·20	·2047	6	·2040
	5·20	·2047	5	·2055
	5·30	·2087	4	·2090
	5·40	·2126	3	·2130
	5·50	·2165		
7/32		·2188		
	5·60	·2205	2	·2210
	5·70	·2244		
	5·80	·2283	1	·2280
	5·90	·2323		
15/64		·2344	A	·2340
	6·00	·2362	B	·2380
	6·10	·2402	C	·2420
	6·20	·2441	D	·2460
	6·30	·2480		
1/4		·2500	E	·2500
	6·40	·2520		
	6·50	·2559	F	·2570
	6·60	·2598	G	·2610
	6·70	·2638		

Diameter		Decimal Equivalent Inches	Old Drill Gauge and Letter Size	Decimal Equivalent Inches
Inches	mm.			
17/64		·2656	H	·2660
	6·80	·2677		
	6·90	·2717	I	·2720
	7·00	·2756	J	·2770
	7·10	·2795		
9/32		·2812	K	·2810
	7·20	·2835		
	7·30	·2874		
	7·40	·2913	L	·2900
	7·50	·2953	M	·2950
19/64		·2969		
	7·60	·2992		
	7·70	·3032	N	·3020
	7·80	·3071		
	7·90	·3110		
5/16		·3125		
	8·00	·3150	O	·3160
	8·10	·3189		
	8·20	·3228	P	·3230
	8·30	·3268		
21/64		·3281		
	8·40	·3307	Q	·3320
	8·50	·3346		
	8·60	·3386	R	·3390
	8·70	·3425		
11/32		·3438		
	8·80	·3465	S	·3480
	8·90	·3504		
	9·00	·3543		
	9·10	·3583	T	·3580
23/64		·3594		
	9·20	·3622		

Diameter		Decimal Equivalent Inches	Old Drill Gauge and Letter Size	Decimal Equivalent Inches
Inches	mm.			
	9·30	·3661	U	·3680
	9·40	·3701		
	9·50	·3740		
3/8		·3750		
	9·60	·3780	V	·3770
	9·70	·3819		
	9·80	·3858	W	·3860
	9·90	·3898		
25/64		·3906		
	10·00	·3937		
	10·10	·3976	X	·3970
	10·20	·4016		
	10·30	·4055	Y	·4040
13/32		·4062		
	10·40	·4094		
	10·50	·4134	Z	·4130
	10·60	·4173		
	10·70	·4213		
27/64		·4219		
	10·80	·4252		
	10·90	·4291		
	11·00	·4331		
	11·10	·4370		
7/16		·4375		
	11·20	·4409		
	11·30	·4449		
	11·40	·4488		
	11·50	·4528		
29/64		·4531		
	11·60	·4567		
	11·70	·4606		
	11·80	·4646		

Diameter		Decimal Equivalent Inches	Old Drill Gauge and Letter Size	Decimal Equivalent Inches
Inches	mm.			
	11·90	·4685		
15/32		·4688		
	12·00	·4724		
	12·10	·4764		
	12·20	·4803		
	12·30	·4843		
31/64		·4844		
	12·40	·4882		
	12·50	·4921		
	12·60	·4961		
1/2	12·70	·5000		
	12·80	·5039		
	12·90	·5079		
	13·00	·5118		
	13·10	·5158		
	13·20	·5197		
	13·30	·5236		
	13·40	·5276		
	13·50	·5315		
	13·60	·5354		
	13·70	·5394		
	13·80	·5433		
	13·90	·5472		
	14·00	·5512		
	14·25	·5610		
	14·50	·5709		
	14·75	·5807		
	15·00	·5906		
	15·25	·6004		
	15·50	·6102		
	15·75	·6201		
	16·00	·6299		

TAPPING AND CLEARANCE DRILL CHART

THESE TAPPING DRILLS ARE RECOMMENDED FOR USE ON STEEL ONLY AND WILL GIVE APPROX. 75% DEPTH OF THREAD.

DEVIATIONS FROM STATED TAPPING DRILL SIZES WILL BE NECESSARY, DEPENDING ON THE NATURE OF MATERIAL AND REQUIREMENTS OF FINISHED WORK.

B.A.

Dia.	Tapping	Clearance
0	5·10 mm	6·20 mm
1	4·50 mm.	5·50 mm.
2	5/32"	4·90 mm.
3	3·50 mm.	4·20 mm.
4	3·00 mm.	3·70 mm.
5	2·70 mm.	3·30 mm.
6	3/32"	2·90 mm.
7	2·10 mm.	2·60 mm.
8	1·80 mm.	2·30 mm.
9	1·50 mm.	2·00 mm.
10	1·40 mm.	1·80 mm.
11	3/64"	1·60 mm.
12	1·05 mm.	1·40 mm.

B.S. FINE

Dia.	Tapping	Clearance
3/16"	4·00 mm.	4·90 mm.
7/32"	4·70 mm.	5·70 mm.
1/4"	5·40 mm.	6·50 mm.
9/32"	6·20 mm.	7·40 mm.
5/16"	6·90 mm.	8·20 mm.
3/8"	21/64"	9·80 mm.
7/16"	9·80 mm.	29/64"
1/2"	7/16"	33/64"
9/16"	1/2"	37/64"
5/8"	9/16"	41/64"
11/16"	5/8"	45/64"
3/4"	43/64"	49/64"
13/16"	47/64"	53/64"
7/8"	51/64"	57/64"
1"	29/32"	11/64"

B.S. WHITWORTH

Dia.	Tapping	Clearance
1/16"	3/64"	1·70 mm.
3/32"	1·90 mm.	2·50 mm.
1/8"	2·60 mm.	3·30 mm.
5/32"	3·20 mm.	4·10 mm.
3/16"	3·80 mm.	4·90 mm.
7/32"	4·60 mm.	5·70 mm.
1/4"	13/64"	6·50 mm.
5/16"	6·60 mm.	8·20 mm.
3/8"	8·00 mm.	9·80 mm.
7/16"	9·30 mm.	29/64"
1/2"	27/64"	33/64"
9/16"	31/64"	37/64"
5/8"	17/32"	41/64"
3/4"	21/32"	49/64"
7/8"	49/64"	57/64"
1"	7/8"	11/64"

Continued Over

UNIFIED

Dia.	Tapping		Clearance
	U.N.C. Coarse	U.N.F. Fine	
0	—	3/64″	1/16″
1	1·45 mm.	1·50 mm.	1·95 mm.
2	1·70 mm.	1·80 mm.	2·25 mm.
3	5/64″	2·05 mm.	2·60 mm.
4	2·20 mm.	2·30 mm.	2·95 mm.
5	2·55 mm.	2·60 mm.	3·30 mm.
6	2·70 mm.	2·90 mm.	9/64″
8	3·40 mm.	3·50 mm.	4·30 mm.
10	3·80 mm.	4·00 mm.	4·90 mm.
12	4·40 mm.	4·60 mm.	5·60 mm.
1/4″	13/64″	5·40 mm.	6·50 mm.
5/16″	6·50 mm.	6·90 mm.	8·20 mm.
3/8″	5/16″	8·50 mm.	9·80 mm.
7/16″	9·30 mm.	25/64″	29/64″
1/2″	27/64″	29/64″	33/64″
9/16″	31/64″	13·00 mm.	37/64″
5/8″	17/32″	14·50 mm.	41/64″
3/4″	16·50 mm.	11/16″	49/64″
7/8″	49/64″	20·50 mm.	57/64″
1″	7/8″	23·50 mm.	1 1/64″

WEIGHTS OF ROUND STEEL BARS

1 FOOT LONG IN POUNDS

Dia. Inch	Lb.	Dia. Inch	Lb.	Dia. Inch	Lb.	Dia. Inch	Lb.
1/64	·0007	1/4	·1669	31/64	·626	29/32	2·193
1/32	·0026	17/64	·1884	1/2	·668	15/16	2·347
3/64	·0059	9/32	·2112	33/64	·710	31/32	2·506
1/16	·0104	19/64	·2353	17/32	·754	1	2·670
5/64	·0163	5/16	·2608	9/16	·845	1 1/16	3·014
3/32	·0235	21/64	·2875	19/32	·941	1 1/8	3·379
7/64	·0319	11/32	·3155	5/8	1·043	1 3/16	3·765
1/8	·0417	23/64	·3448	21/32	1·150	1 1/4	4·172
9/64	·0528	3/8	·3755	11/16	1·262	1 5/16	4·599
5/32	·0652	25/64	·4074	23/32	1·379	1 3/8	5·048
11/64	·0789	13/32	·4407	3/4	1·502	1 1/2	6·008
3/16	·0939	27/64	·4752	25/32	1·630	1 5/8	7·051
13/64	·1102	7/16	·5111	13/16	1·763	1 3/4	8·177
7/32	·1278	29/64	·5482	27/32	1·901	1 7/8	9·387
15/64	·1467	15/32	·5867	7/8	2·044	2	10·680

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MANUFACTURE

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