

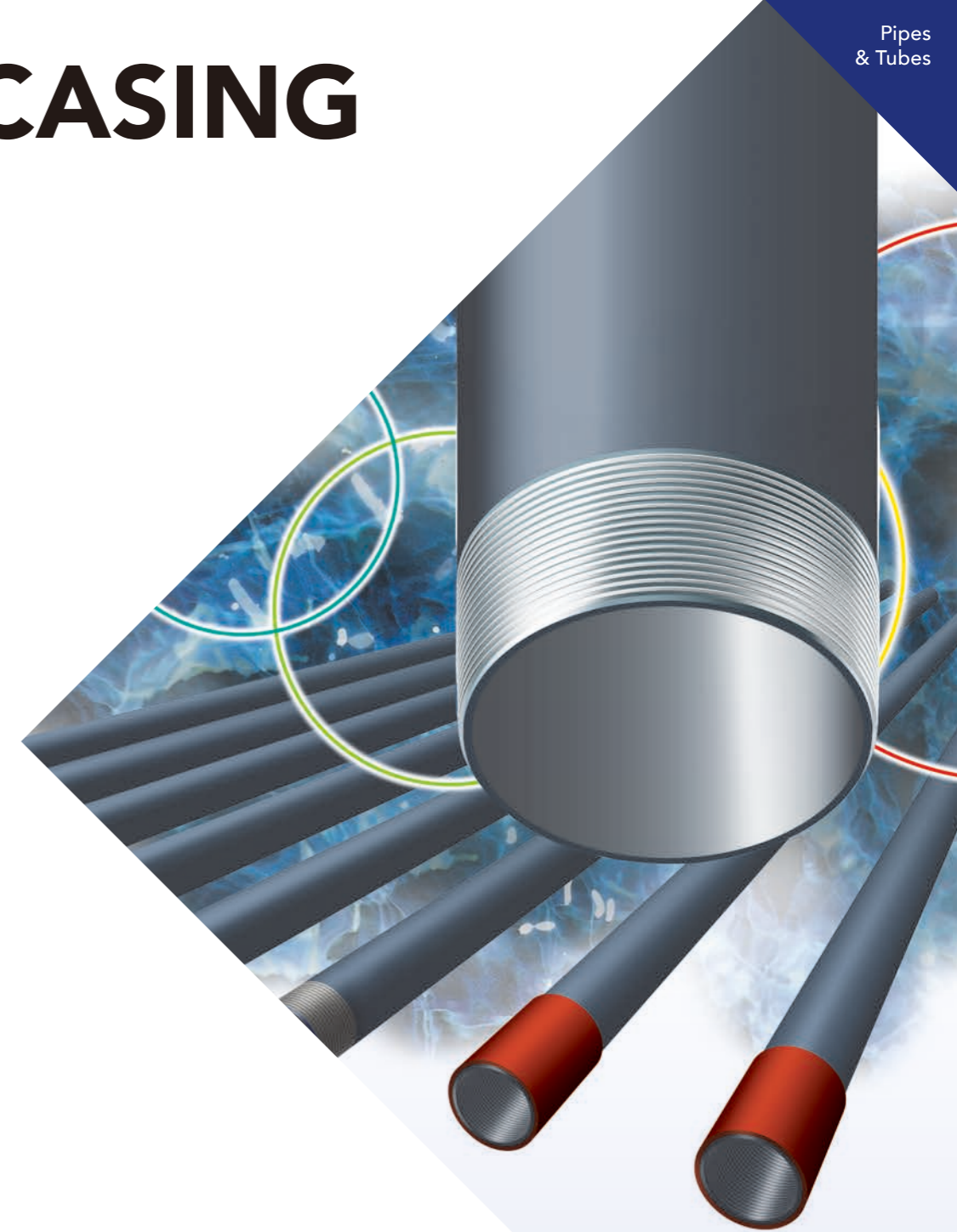


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# ERW CASING

Pipes  
& Tubes

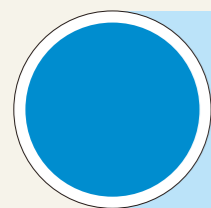


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ERW CASING  
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**NIPPON STEEL CORPORATION**



# T.U.F.-PIPE for OCTG

Tough materials and Uniform properties Facilitate your operation !

*NIPPON STEEL, one of the world's largest steelmaker, supplies a full range of pipe and tubes. Oil companies and other energy-related firms around the world have come to regard NIPPON STEEL as the standard of quality for these products.*

*Quality has improved over the years to the extent that sound welded portion, which are as tough as base metal, are consistently achieved, making NIPPON STEEL's ERW pipe ideal for Casing applications. In fact, it is so superior to conventional ERW pipe that a new name is needed. This catalog will show why this new pipe, **T.U.F.-PIPE**, can satisfy all your requirements for quality, quantity and delivery.*

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## Characteristics

### 1 Superior Material

NIPPON STEEL system begins with advanced metallurgy and clean BOF steelmaking practices. Continuous casting followed by hot-rolling, produces hot-rolled strip of optimum quality for pipe making.

### 2 High Dimensional Accuracy

High uniform wall thickness and smooth finish provide casing and tubing with a superior level of quality and excellent driftability as well as high performance properties.

### 3 Tough Weld

Sound welded portion as tough as the base metal results from NIPPON STEEL's newly-developed technology.

### 4 High Performance Properties

NIPPON STEEL's proprietary standard "NT-Series" have higher performance ratings than corresponding API grades.

### 5 Wide Range of Availability

**T.U.F.-Pipe** is available from 4.5 to 20 inch in outside diameter, up to 0.750 inch in wall thickness and up to 65 feet long.

**Available Grades**

	Yield Strength Min. (psi)	API 5CT	NT-Series (NIPPON STEEL's Standards)		
			Deep Well Service DE	High Collapse Resistance Casing	
				General HE	High Toughness LHE
OCTG	40,000	H-40			
	55,000	J-55		NT-55HE	
		K-55			
	80,000		NT-80DE	NT-80HE	NT-80LHE
	95,000		NT-95DE	NT-95HE	
110,000			NT-110HE *		

\* Available Sizes Limited

**Mechanical Proper**

**(1) Tensile Properties and Hardness**

Grade		Yield Strength (psi)		Tensile Strength (psi)	Elongation (%)	Hardness (HRC)
		Min.	Max.	Min.		
API 5CT	H-40	40,000	80,000	60,000	API-formula	—
	J-55	55,000	80,000	75,000		—
	K-55	55,000	80,000	95,000		—
Deep Well Service DE	NT-80DE	80,000	110,000	100,000		—
	NT-95DE	95,000	110,000	105,000		
High Collapse -General HE	NT-55HE	55,000	95,000	95,000		≤ 22
	NT-80HE	80,000	110,000	100,000		≤ 22
	NT-95HE	95,000	125,000	110,000		≤ 31
	NT-110HE	110,000	140,000	125,000		—
High Collapse -High Toughness LHE	NT-80LHE	80,000	95,000	95,000		≤ 22

**Guaranteed Properties**

	High Collapse Strength	Low Hardness	Charpy Value		Dimensions	
			Longitudinal	Transverse	Alternative Drift	Internal Yield Pressure
API	As per API 5CT					
NT-Series	DE	—	—	—	○	○*
	HE	○	○	—	○	○*
	LHE	○	○	○	○	○*

\* Internal Yield Pressure of Pipe  $P=0.925 \frac{(2Y_{pt})}{(D)}$   
(Wall Thickness Tolerance: -7.5%)

**(2) Toughness**

Grade	Direction	Test Temp.	Charpy Absorbed Energy (ft-lb)*				
			Base Metal		Weld		
			Ave.	Min.	Ave.	Min.	
High Collapse -High Toughness LHE	NT-80LHE	L	-50°F	25.0 ft-lb	20.0 ft-lb	25.0 ft-lb	20.0 ft-lb

\* In case of full size specimen

Available Sizes

(1) Casing

○: Available    -: Not Available    (○): Non-API Size

Outside Diameter in (mm)	Nominal Weight Thread & Coupling lbs/ft	Wall Thickness in      mm		Grade			Grade						Thread Type			
				API 5CT			NT-Series						Round		BTC	
				H-40	J-55	K-55	DE		HE		LHE	Short	Long	for API Grade	for NT-Series	
							NT-80DE	NT-95DE	NT-55HE	NT-80HE	NT-95HE					NT-80LHE
4 1/2 (114.3)	9.50	0.205	5.21	○	○	○	○	-	○	○	-	○	○	-	-	○
	10.50	0.224	5.69	(○)	○	○	○	-	○	○	-	○	○	-	-	○
	11.60	0.250	6.35	(○)	○	○	○	-	○	○	-	○	○	-	-	○
	13.50	0.290	7.37	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
	15.10	0.337	8.56	(○)	(○)	(-)	○	-	○	○	-	○	○	-	-	○
5 (127.0)	11.50	0.220	5.59	(○)	○	○	○	-	○	○	-	○	○	-	-	(○)
	13.00	0.253	6.43	(○)	○	○	○	-	○	○	-	○	○	-	-	○
	15.00	0.296	7.52	(○)	○	○	○	-	○	○	-	○	○	-	-	○
	18.00	0.362	9.19	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
	21.40	0.437	11.10	(○)	(○)	(-)	○	-	○	○	-	○	○	-	-	○
23.20	0.478	12.14	(○)	(○)	(-)	○	-	○	○	-	○	○	-	-	○	
5 1/2 (139.7)	14.00	0.244	6.20	○	○	○	○	-	○	○	○	○	○	-	-	(○)
	15.50	0.275	6.98	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	17.00	0.304	7.72	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	20.00	0.361	9.17	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
	23.00	0.415	10.54	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
6 5/8 (168.3)	20.00	0.288	7.32	○	○	○	○	-	○	○	○	○	○	-	-	○
	24.00	0.352	8.94	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	28.00	0.417	10.59	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
	32.00	0.475	12.06	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
7 (177.8)	17.00	0.231	5.87	○	(○)	(○)	○	-	○	○	○	○	○	-	-	(○)
	20.00	0.272	6.91	○	○	○	○	-	○	○	○	○	○	-	-	○
	23.00	0.317	8.05	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	26.00	0.362	9.19	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	29.00	0.408	10.36	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
32.00	0.453	11.51	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○	
35.00	0.498	12.65	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○	
7 5/8 (193.7)	24.00	0.300	7.62	○	(○)	(○)	○	-	○	○	○	○	○	-	-	(○)
	26.40	0.328	8.33	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	29.70	0.375	9.52	(○)	(○)	(○)	○	-	○	○	○	○	○	-	-	○
	33.70	0.430	10.92	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
	39.00	0.500	12.70	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○
8 5/8 (219.1)	24.00	0.264	6.71	(○)	○	○	○	-	○	○	○	○	○	-	-	(○)
	28.00	0.304	7.72	○	(○)	(○)	○	-	○	○	○	○	○	-	-	(○)
	32.00	0.352	8.94	○	○	○	○	-	○	○	○	○	○	-	-	○
	36.00	0.400	10.16	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	40.00	0.450	11.43	(○)	(○)	(○)	○	-	○	○	○	○	○	-	-	○
44.00	0.500	12.70	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○	
49.00	0.557	14.15	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○	
9 5/8 (244.5)	32.30	0.312	7.92	○	(○)	(○)	○	-	○	○	○	○	○	-	-	(○)
	36.00	0.352	8.94	○	○	○	○	-	○	○	○	○	○	-	-	○
	40.00	0.395	10.03	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	43.50	0.435	11.05	(○)	(○)	(○)	○	-	○	○	○	○	○	-	-	○
	47.00	0.472	11.99	(○)	(○)	(○)	○	-	○	○	○	○	○	-	-	○
53.50	0.545	13.84	(○)	(○)	(○)	○	-	○	○	○	○	○	-	-	○	
10 3/4 (273.1)	32.75	0.279	7.09	○	(○)	(○)	○	-	○	○	○	○	○	-	-	(○)
	40.50	0.350	8.89	○	○	○	○	-	○	○	○	○	○	-	-	○
	45.50	0.400	10.16	(○)	○	○	○	-	○	○	○	○	○	-	-	○
	51.00	0.450	11.43	(○)	(○)	(○)	○	-	○	○	○	○	○	-	-	○
	55.50	0.495	12.57	(○)	(○)	(○)	○	-	○	○	○	○	○	-	-	○
60.70	0.545	13.84	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○	
65.70	0.595	15.11	(○)	(○)	(○)	○	-	○	○	-	○	○	-	-	○	

**Available Sizes**

**(1) Casing**

○ : Available    - : Not Available    (○) : Non-API Size

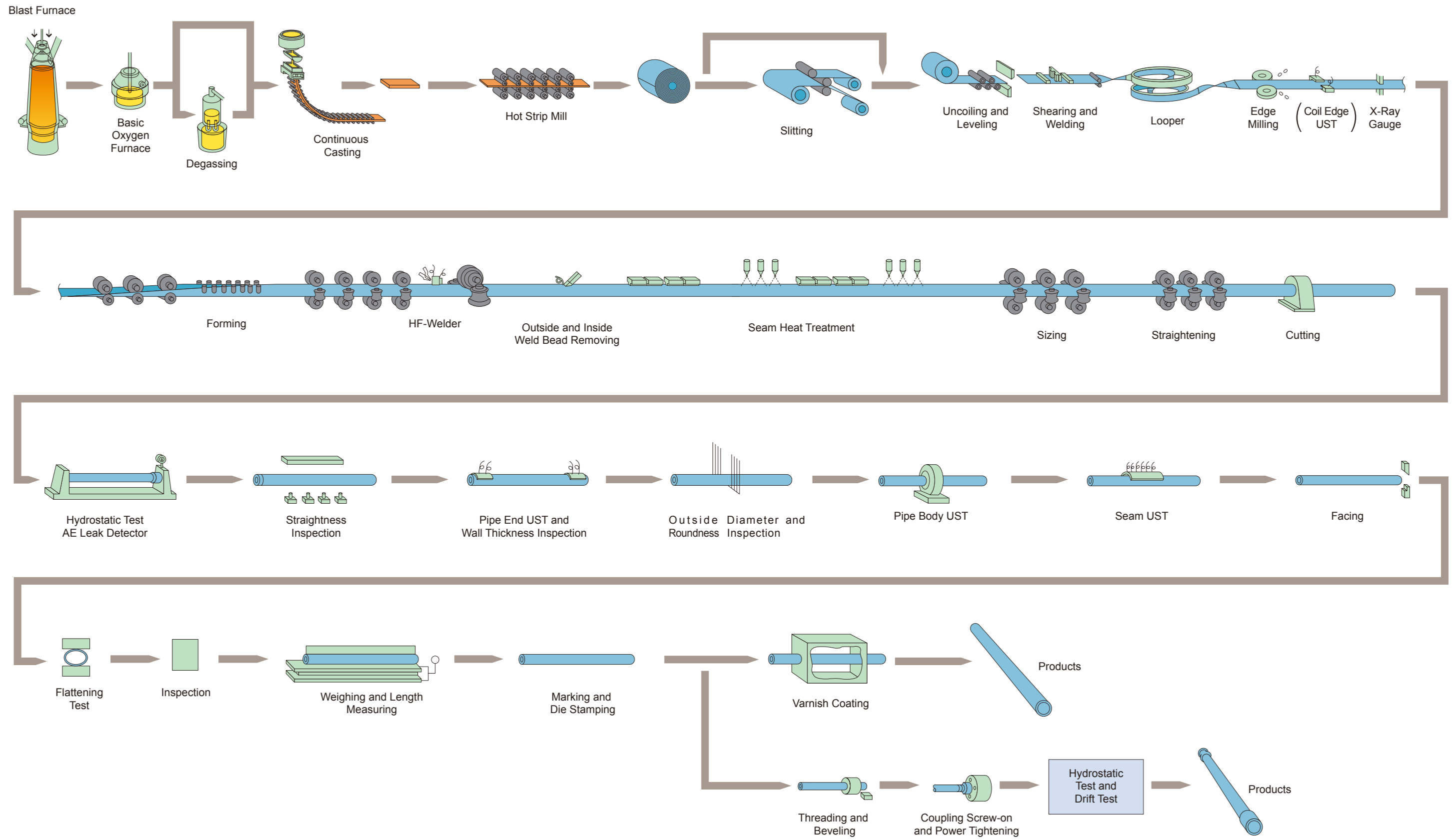
Outside Diameter in (mm)	Nominal Weight Thread & Coupling lbs/ft	Wall Thickness in      mm		Grade			Grade						Thread Type			
				API 5CT			NT-Series						Round		BTC	
				H-40	J-55	K-55	DE		HE		LHE	Short	Long	for API Grade	for NT-Series	
							NT-80DE	NT-95DE	NT-55HE	NT-80HE	NT-95HE					NT-80LHE
11 3/4 (298.5)	42.00	0.333	8.46	○	(○)	(○)	○	-	○	○	○	○	○	○	-	(○)
	47.00	0.375	9.52	(○)	○	○	○	-	○	○	○	○	○	○	○	○
	54.00	0.435	11.05	(○)	○	○	○	-	○	○	○	○	○	○	○	○
	60.00	0.489	12.42	(○)	○	○	○	-	○	○	○	○	○	○	○	○
13 3/8 (339.7)	48.00	0.330	8.38	○	(○)	(○)	○	-	○	○	○	○	○	○	-	(○)
	54.50	0.380	9.65	(○)	○	○	○	-	○	○	○	○	○	○	(○)	○
	61.00	0.430	10.92	(○)	○	○	○	-	○	○	○	○	○	○	○	○
	68.00	0.480	12.19	(○)	○	○	○	-	○	○	○	○	○	○	○	○
16 (406.4)	72.00	0.514	13.06	(○)	(○)	(○)	○	-	○	○	○	○	○	○	○	○
	65.00	0.375	9.52	○	(○)	(○)	○	-	-	-	-	-	○	-	-	-
	75.00	0.438	11.13	(○)	○	○	○	-	-	-	-	-	○	-	○	○
	84.00	0.495	12.57	(○)	○	○	○	-	-	-	-	-	○	-	○	○
18 5/8 (473.1)	94.50	0.562	14.27	(○)	(○)	(○)	○	-	-	-	-	-	○	-	(○)	(○)
	109.00	0.656	16.66	(○)	(○)	(○)	-	-	-	-	-	-	(○)	-	(○)	(○)
	78.00	0.385	9.78	(○)	(○)	(○)	○	-	-	-	-	-	-	-	-	-
	87.50	0.435	11.05	○	○	○	○	-	-	-	-	-	-	-	-	-
	94.50	0.468	11.89	(○)	(○)	(○)	○	-	-	-	-	-	-	-	-	-
	96.50	0.486	12.34	(○)	(○)	(○)	○	-	-	-	-	-	-	-	-	-
	106.00	0.531	13.49	(○)	(○)	(○)	○	-	-	-	-	-	-	-	-	-
109.35	0.563	14.30	(○)	(○)	(○)	-	-	-	-	-	-	-	-	-	-	
112.00	0.579	14.71	(○)	(○)	(○)	-	-	-	-	-	-	-	-	-	-	
115.00	0.594	15.09	(○)	(○)	(○)	-	-	-	-	-	-	-	-	-	-	
122.00	0.636	16.15	(○)	(○)	(○)	-	-	-	-	-	-	-	-	-	-	
20 (508.0)	94.00	0.438	11.13	○	○	○	○	○	-	-	-	-	○	○	○	○
	106.50	0.500	12.70	(○)	○	○	○	○	-	-	-	-	○	○	○	○
	117.00	0.563	14.30	(○)	(○)	(○)	-	-	-	-	-	-	(○)	(○)	(○)	(○)
	133.00	0.635	16.13	(○)	○	○	-	-	-	-	-	-	○	○	○	○

**(2) 18, 18 5/8, 20 and 24 in O. D. Casing with Threaded Connector**

Outside Diameter in (mm)	Wall Thickness		Calculated Weight lb/ft
	in	mm	
18 (457.2)	0.438	11.13	82.15
18 5/8 (473.1)	0.435	11.05	84.51
20 (508.0)	0.438	11.13	91.51
	0.500	12.70	104.13
	0.625	15.88	129.33
24 (609.6)	0.635	16.13	131.33
	0.438	11.13	110.22
	0.469	11.91	117.86
	0.500	12.70	125.49
	0.562	14.27	140.68

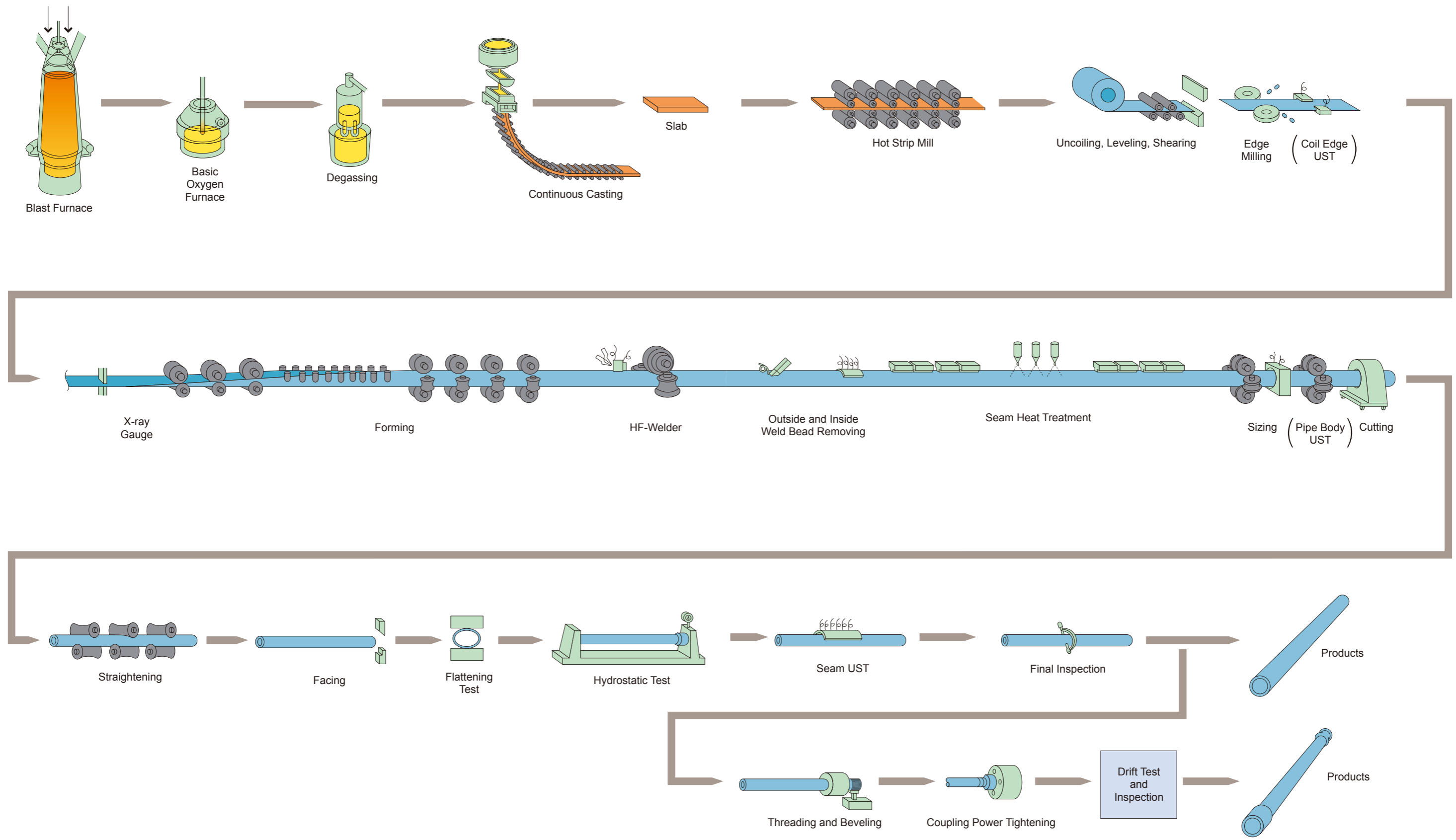
※ All types of connectors can be welded on, such as:  
 Vetco  
 Dril-Quip

16-inch Mill Manufacturing Process





24-inch Mill Manufacturing Proces





**Principal Processes**

**1 Steelmaking**

Degassing and desulfurizing of the metal during the steelmaking process produce clean steel with low non-metallic inclusions and better surface finish.

**2 Hot Rolling**

Advanced hot rolling results in hot coil with a fine grain structure and high dimensional accuracy.

**3 Spiral Looper**

The spiral looper supplies a steady feed of coil downstream to the continuous edge milling, pipe forming and welding stands.

**4 Forming Stands**

Heavy duty stands accurately form the incoming coil into pipe having a wide range of wall thickness and outside diameter.

**5 HF-Welder**

"Welding Condition Monitoring and Controlling System", developed by NIPPON STEEL, produces high quality welds. Seams are inspected by ultrasonic testing.

**6 Welded Seam Heat Treatment**

Heat treatment in the welded zone stabilizes the microstructure and gives it the same physical properties as the base metal. The exact seam position is determined by optical sensors for seam heat treatment, and ultrasonic and hydrostatic testing.

**7 Non-destructive Testing**

Every length and entire surface of each T.U.F.-Pipe is subjected to a full line-up of non-destructive tests.

**8 Automatic Inspection**

Every pipe is given a comprehensive check using automatic inspection equipment.

**9 Monitoring and Tracking System**

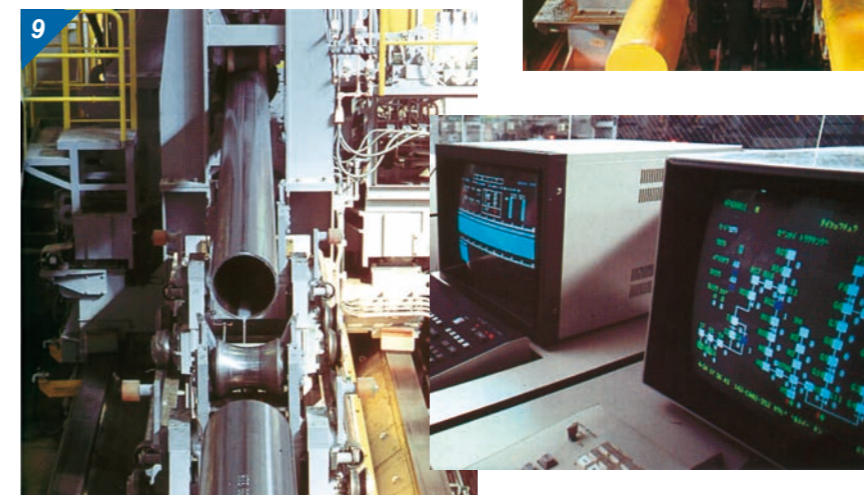
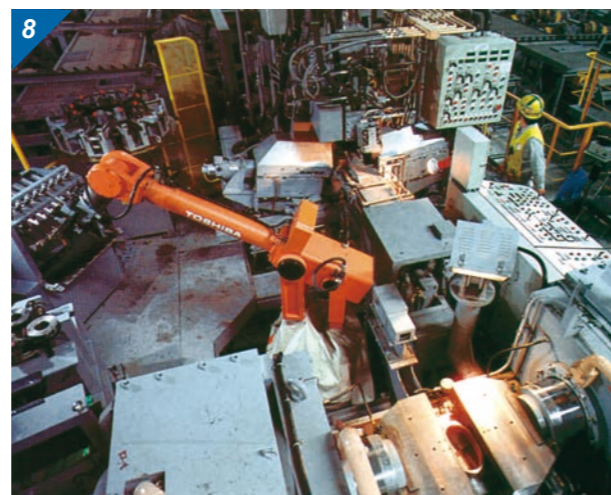
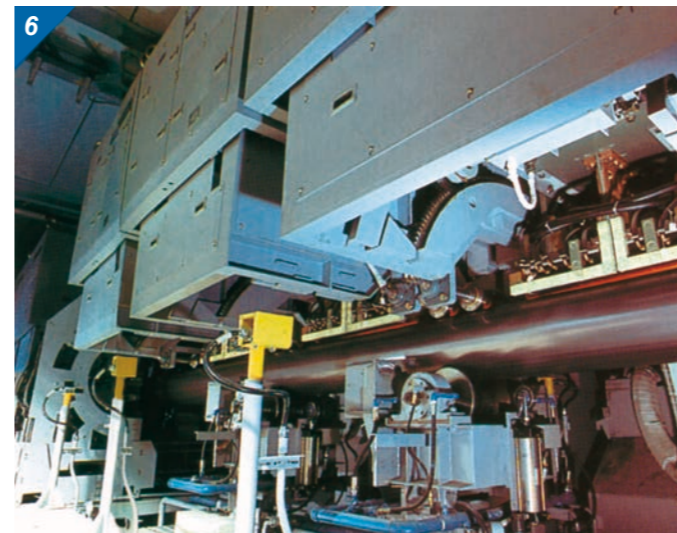
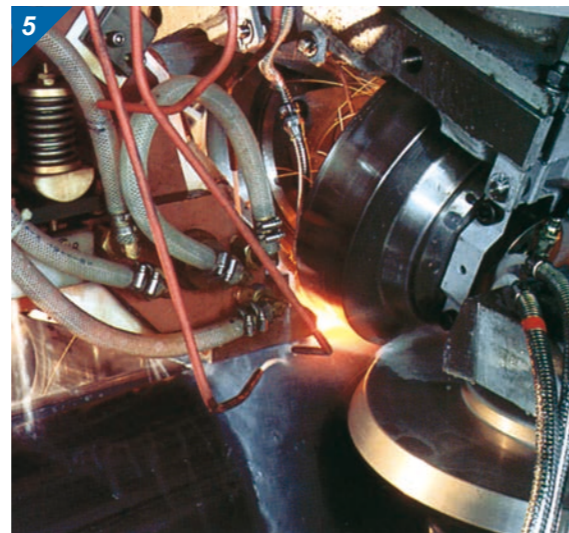
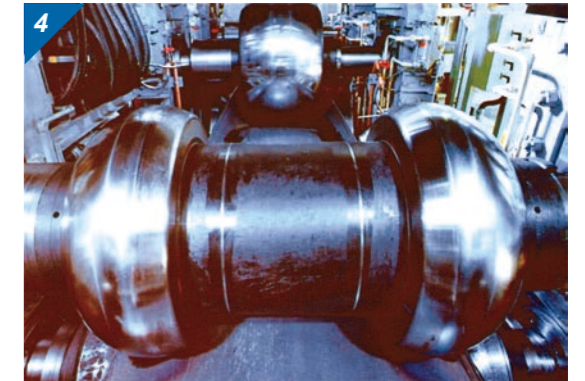
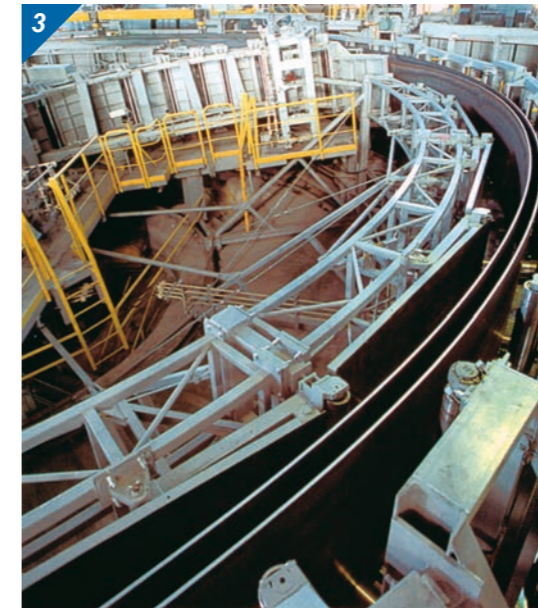
T.U.F.-Pipe is monitored and tracked at every stage of production by on-line computers. All manufacturing data is stored by computer and can be made available in any form required by the customer.

**10 Marking**

Automatic stencilling and die-stamping machines identify and clearly mark every pipe.

**11 Threading**

Advanced NC lathes cut high precision threads to order. Connectors for large O.D. casings are also available. The use of thread protectors is recommended to prevent damage to the connectors during handling, loading and pipe rolling.

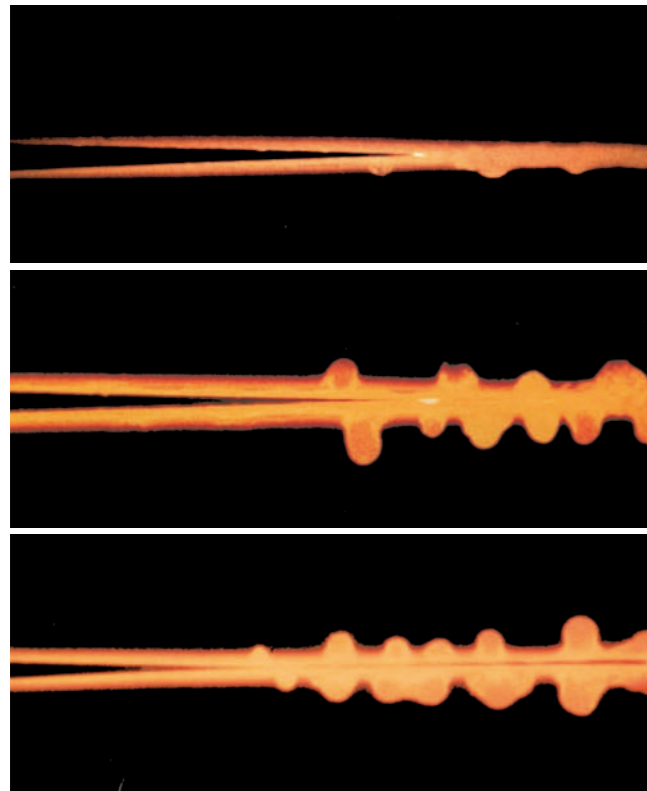




## Welding Condition Monitoring and Controlling System

### 1. Welding conditions are not always the same

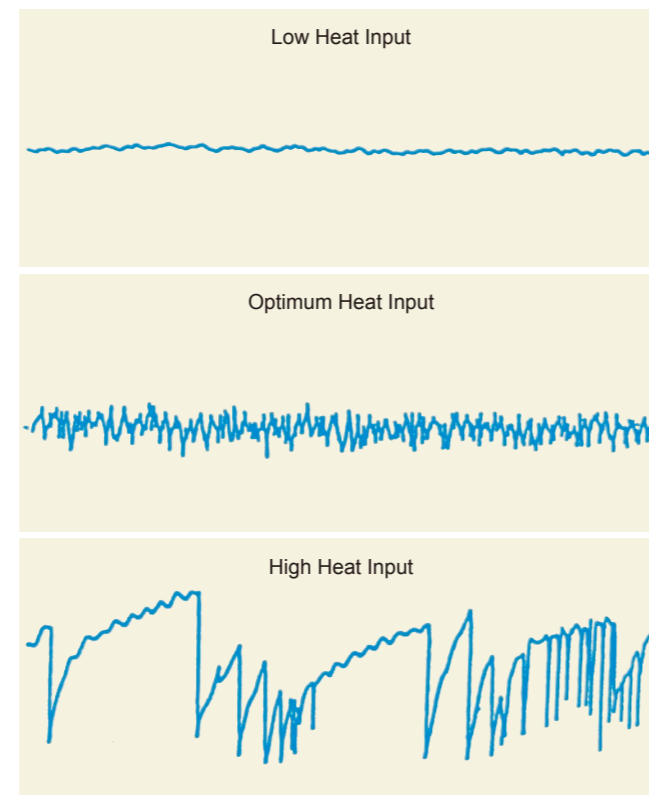
Varying combinations of welding heat input, welding speed, pipe wall thickness and the like produce different weld results.



Classification of Welding Phenomena

### 2. Optimum welding conditions form a narrow range.

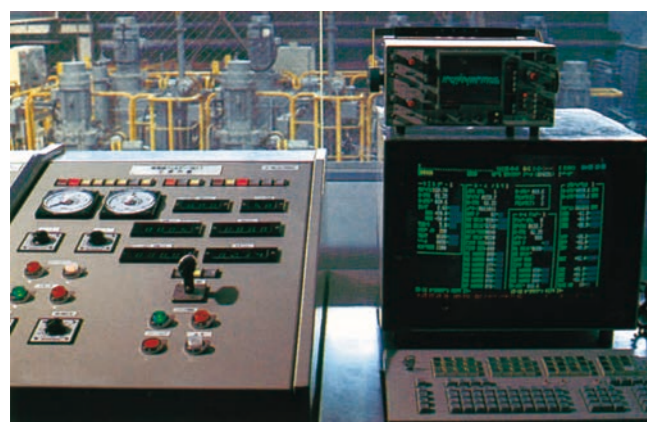
Low heat input causes undesirable cold welds. High heat input leads to so-called penetrators. A sound weld thus requires control of heat input within a relatively narrow range.



Fluctuation Patterns of Oscillation

### 3. The System monitors and controls welding conditions at every instant.

With this system, welding conditions are controlled within the optimum range and the operator is clearly aware of state of welding.



## Inspection

The three combined Non-destructive Inspection System, Automatic Measuring and Inspection System, and On-line Monitoring and Tracking System together represent a thorough battery of tests that will satisfy every customer's requirements. Each pipe undergoes this examination.

### 1. Non-destructive Inspection System

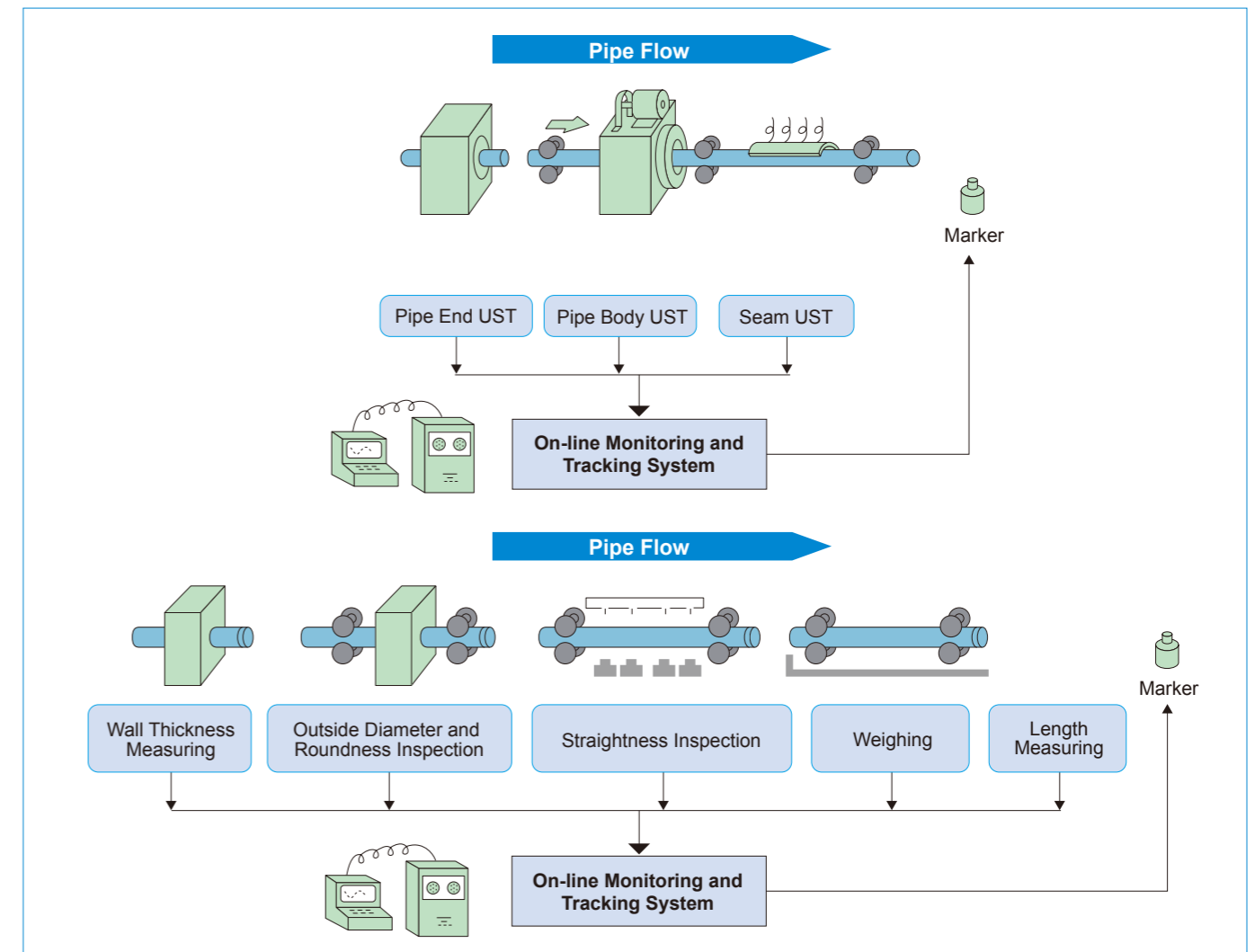
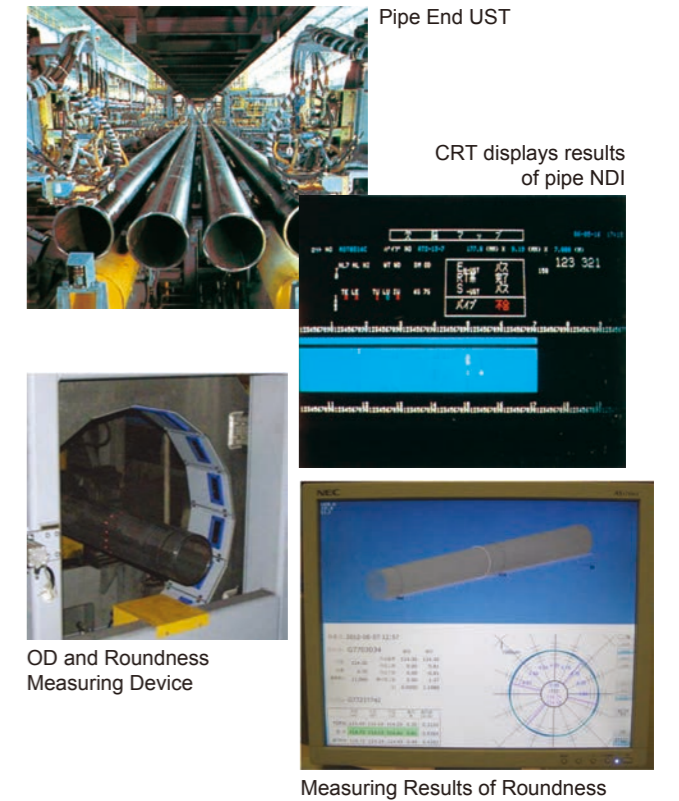
The NDI checks not only the whole pipe body, but also the weld seam and pipe-ends.

### 2. Automatic Measuring and Inspection System

The outside diameter, roundness and straightness, as well as the length, weight and wall thickness of every pipe are checked and recorded automatically.

### 3. On-line Monitoring and Tracking System

An on-line computer monitors and tracks each pipe at every step of the pipe-making process. This inspection data is collected and stored to assure the quality of each product.





**Research and Development**

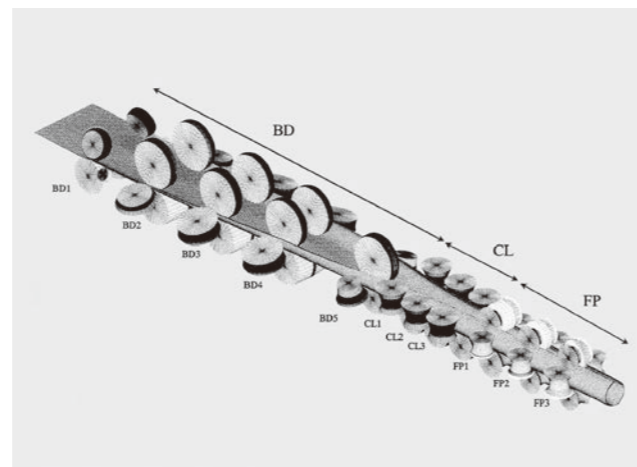
NIPPON STEEL's Research specialists are always working to develop new products with higher performance properties suited to increasingly severe service environments.



Collapse Tester



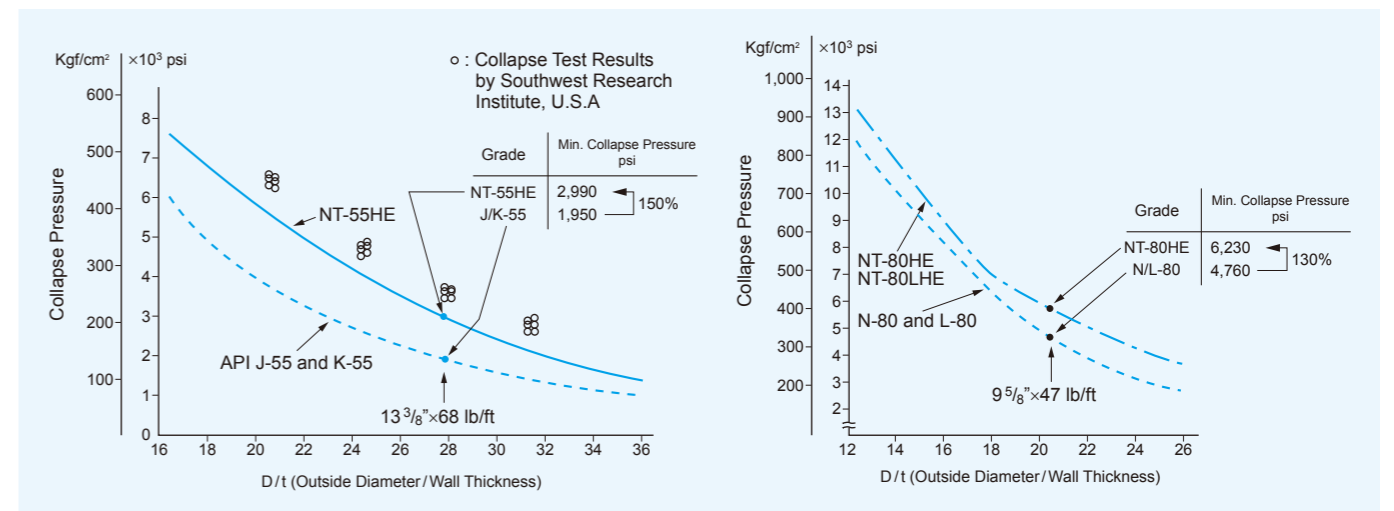
Tension and Compression Tester



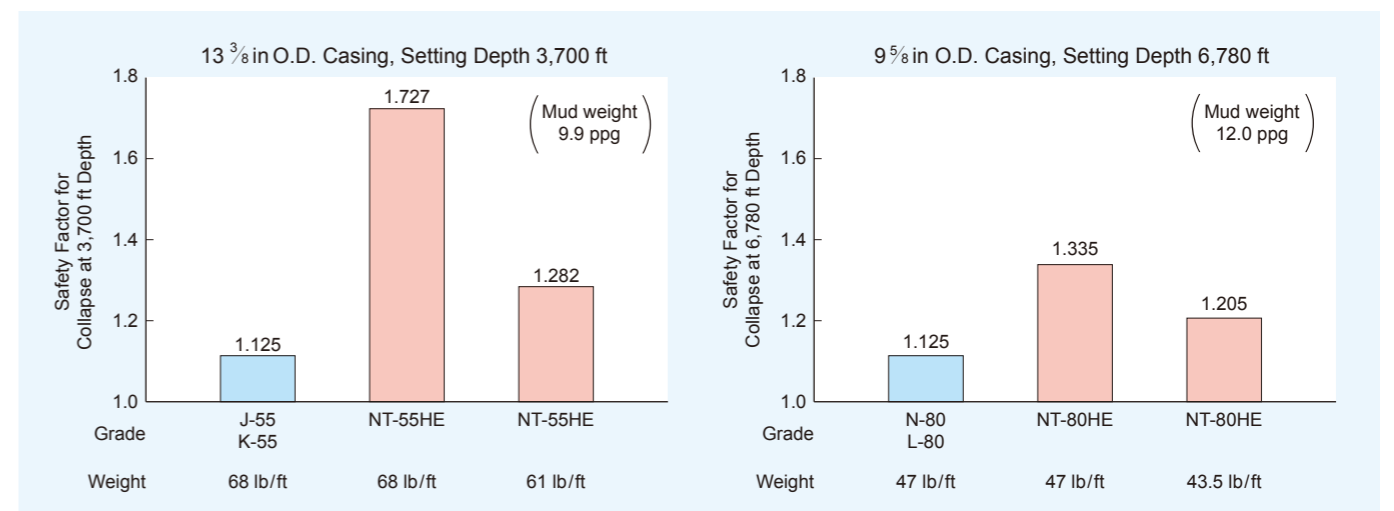
Typical Analysis Result of Roll Stand by the Finite Element Method

**Performance Properties**

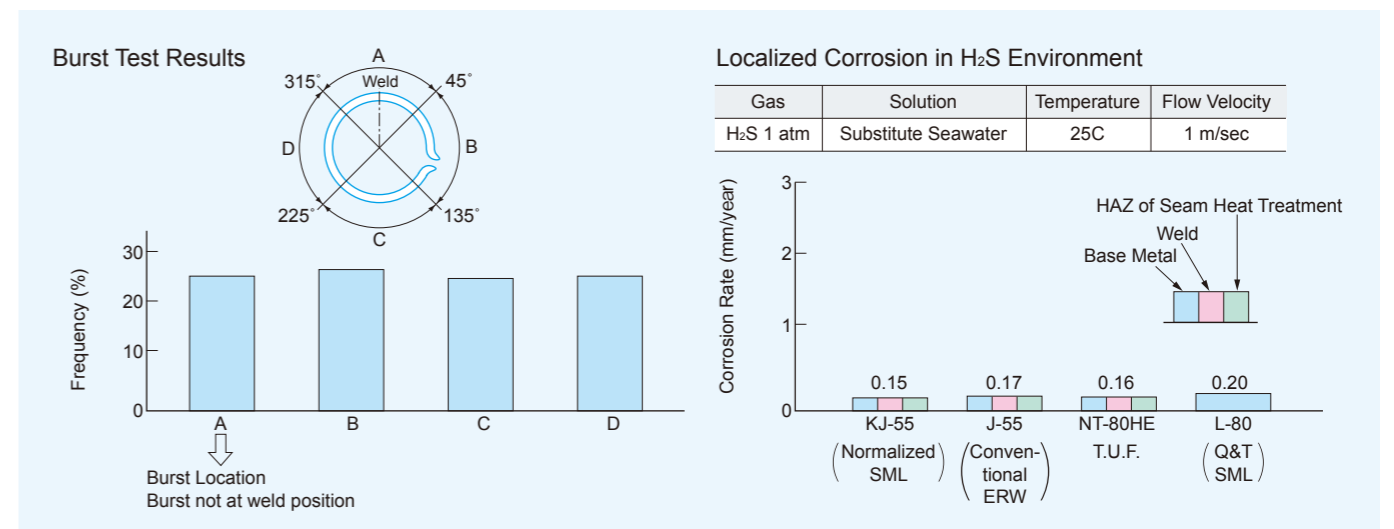
**(1) T.U.F. has Higher Collapse Resistance than API**



**(2) Higher Safety Factor and Lighter Well Design**

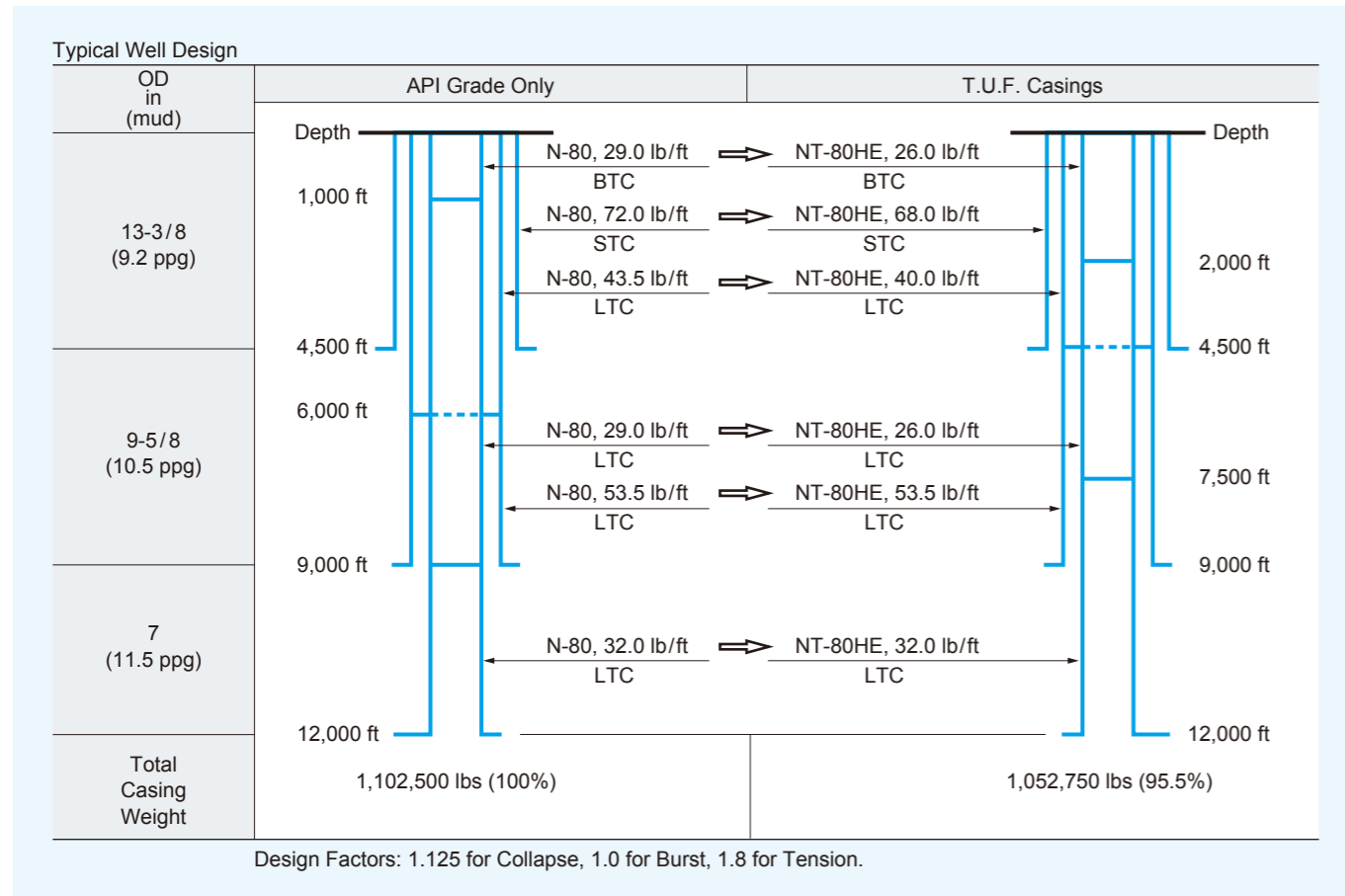


**(3) High Reliability of Weld Quality**



**Performance Properties**

**Example of Lighter Well Design**



**Performance Properties and Dimension**

Size (in)	Weight (lbs/ft)	Grade	W.T. (in)	Collapse (psi)	Min. Internal Yield Pressure (psi)				Joint Strength (1,000 lbs)			PBYS (1,000 lbs)	Drift D. (in)
					PE	STC	LTC	BTC	STC	LTC	BTC		
4 1/2	9.50	H-40	0.205	2760	3190	3190			77			111	3.965
	9.50	J-55	0.205	3300	4380	4380			101			152	3.965
	9.50	K-55	0.205	3300	4380	4380			112		229	152	3.965
	9.50	NT-55HE	0.205	5000	4640	4640		4640	112			152	4.005
	9.50	NT-80LHE	0.205	5450	6740	6740		6740	140		241	221	4.005
	9.50	NT-80DE	0.205	3900	6740	6740		6740	143			221	4.005
	9.50	NT-80HE	0.205	5450	6740	6740		6740	143		252	221	4.005
	10.50	J-55	0.224	3990	4800	4800		4800	133		203	166	3.927
	10.50	K-55	0.224	3990	4800	4800		4800	147		250	166	3.927
	10.50	NT-55HE	0.224	5710	5070	5070	5070	5070	147	155	250	166	3.967
	10.50	NT-80LHE	0.224	6380	7380	7380	7380	7380	183	183	263	241	3.967
	10.50	NT-80DE	0.224	4940	7380	7380	7380	7380	186		274	241	3.967
	10.50	NT-80HE	0.224	6380	7380	7380	7380	7380	186	192	274	241	3.967
	11.60	J-55	0.250	4960	5350	5350	5350	5350	154	162	225	184	3.875
	11.60	K-55	0.250	4960	5350	5350	5350	5350	170	180	277	184	3.875
	11.60	NT-55HE	0.250	6620	5650	5650	5650	5650	170	180	277	184	3.915
	11.60	L-80	0.250	6360	7780		7780	7780		212	291	267	3.875
	11.60	N-80	0.250	6360	7780		7780	7780		223	304	267	3.875
	11.60	NT-80LHE	0.250	7500	8220	8220	8220	8220	212	212	291	267	3.915
	11.60	NT-80DE	0.250	6360	8220	8220	8220	8220	216	223	304	267	3.915
	11.60	NT-80HE	0.250	7500	8220	8220	8220	8220	216	223	304	267	3.915
	13.50	NT-55HE	0.290	7890	6560		6560	6560		218	318	211	3.835
	13.50	L-80	0.290	8540	9020		9020	9020		257	334	307	3.795
	13.50	N-80	0.290	8540	9020		9020	9020		270	349	307	3.795
13.50	NT-80LHE	0.290	9020	9540		9540	9540		257	334	307	3.835	
13.50	NT-80DE	0.290	8540	9540		9540	9540		270	349	307	3.835	
13.50	NT-80HE	0.290	9020	9540		9540	9540		270	349	307	3.835	
15.10	NT-55HE	0.337	9320	7620		7320	6740		261	365	242	3.741	
15.10	NT-80LHE	0.337	10700	11080		10650	9800		308	384	353	3.741	
15.10	NT-80DE	0.337	11090	11080		10650	9800		325	401	353	3.741	
15.10	NT-80HE	0.337	10700	11080		10650	9800		325	401	353	3.741	
5	11.50	J-55	0.220	3060	4240	4240			133			182	4.435
	11.50	K-55	0.220	3060	4240	4240			147			182	4.435
	11.50	NT-55HE	0.220	4710	4480	4480	4480	4480	147	166	271	182	4.475
	11.50	NT-80LHE	0.220	5080	6510	6510	6510	6510	184	199	286	264	4.475
	11.50	NT-80DE	0.220	3560	6510	6510			188			264	4.475
	11.50	NT-80HE	0.220	5080	6510	6510	6510	6510	188	209	299	264	4.475
	13.00	J-55	0.253	4140	4870	4870	4870	4870	169	182	252	208	4.369
	13.00	K-55	0.253	4140	4870	4870	4870	4870	186	201	309	208	4.369
	13.00	NT-55HE	0.253	5860	5150	5150	5150	5150	186	201	309	208	4.409
	13.00	NT-80LHE	0.253	6560	7490	7490	7490	7490	233	241	327	302	4.409
	13.00	NT-80DE	0.253	5140	7490	7490	7490	7490	237	254	341	302	4.409
	13.00	NT-80HE	0.253	6560	7490	7490	7490	7490	237	254	341	302	4.409
	15.00	J-55	0.296	5560	5700	5700	5700	5700	207	223	293	241	4.283
	15.00	K-55	0.296	5560	5700	5700	5700	5700	228	246	359	241	4.283
	15.00	NT-55HE	0.296	7150	6020	6020	6020	6020	228	246	359	241	4.323
	15.00	L-80	0.296	7250	8290		8290	8290		295	379	350	4.283
	15.00	N-80	0.296	7250	8290		8290	8290		311	396	350	4.283
	15.00	NT-80LHE	0.296	8140	8760	8760	8760	8760	286	295	379	350	4.323
	15.00	NT-80DE	0.296	7250	8760	8760	8760	8760	291	311	396	350	4.323
	15.00	NT-80HE	0.296	8140	8760	8760	8760	8760	291	311	396	350	4.323
	18.00	NT-55HE	0.362	8980	7370		7370	6820		314	432	290	4.191
	18.00	L-80	0.362	10500	10140		10140	9910		376	457	422	4.151
	18.00	N-80	0.362	10500	10140		10140	9910		396	477	422	4.151
	18.00	NT-80LHE	0.362	10300	10720		10720	9910		376	457	422	4.191
18.00	NT-80DE	0.362	10500	10720		10720	9910		396	477	422	4.191	
18.00	NT-80HE	0.362	10300	10720		10720	9910		396	477	422	4.191	
21.40	NT-55HE	0.437	11020	8890		7440	6820		389	510	345	4.041	
21.40	L-80	0.437	12760	12220		10820	9910		466	510	501	4.001	
21.40	N-80	0.437	12760	12220		10820	9910		490	537	501	4.001	
21.40	NT-80LHE	0.437	12670	12940		10820	9910		466	510	501	4.041	
21.40	NT-80DE	0.437	12760	12940		10820	9910		490	537	501	4.041	
21.40	NT-80HE	0.437	12670	12940		10820	9910		490	537	501	4.041	





Performance Properties and Dimension

Size (in)	Weight (lbs/ft)	Grade	W.T. (in)	Collapse (psi)	Min. Internal Yield Pressure (psi)				Joint Strength (1,000 lbs)			PBYS (1,000 lbs)	Drift D. (in)			
					PE	STC	LTC	BTC	STC	LTC	BTC					
7 <sup>5</sup> / <sub>8</sub>	24.00	H-40	0.300	2030	2750	2750			212			276	6.900			
	24.00	NT-55HE	0.300	3750	4000	4000			306		533	380	6.940			
	24.00	NT-80LHE	0.300	3920	5820	5820			393		583	552	6.940			
	24.00	NT-80DE	0.300	2820	5820	5820			399			552	6.940			
	24.00	NT-80HE	0.300	3920	5820	5820			399		605	552	6.940			
	24.00	NT-95HE	0.300	3980	6910	6910			463		679	656	6.940			
	26.40	J-55	0.328	2900	4140	4140	4140	4140	315	346	483	414	6.844			
	26.40	K-55	0.328	2900	4140	4140	4140	4140	342	377	581	414	6.844			
	26.40	NT-55HE	0.328	4520	4380	4380	4380	4380	342	377	581	414	6.884			
	26.40	L-80	0.328	3400	6020	6020	6020	6020		482	635	602	6.844			
	26.40	N-80	0.328	3400	6020	6020	6020	6020		490	659	602	6.844			
	26.40	NT-80LHE	0.328	4840	6370	6370	6370	6370	440	482	635	602	6.884			
	26.40	NT-80DE	0.328	3400	6370	6370	6370	6370	446	490	659	602	6.884			
	26.40	NT-80HE	0.328	4840	6370	6370	6370	6370	446	490	659	602	6.884			
	26.40	NT-95HE	0.328	5130	7560	7560	7560	7560	518	568	740	714	6.884			
	29.70	NT-55HE	0.375	5630	5000		5000	5000		443	660	470	6.790			
	29.70	L-80	0.375	4790	6890		6890	6890		567	721	683	6.750			
	29.70	N-80	0.375	4790	6890		6890	6890		575	749	683	6.750			
	29.70	NT-80LHE	0.375	6260	7280		7280	7280		567	721	683	6.790			
	29.70	NT-80DE	0.375	4790	7280		7280	7280		575	749	683	6.790			
	29.70	NT-80HE	0.375	6260	7280		7280	7280		575	749	683	6.790			
	29.70	NT-95HE	0.375	7230	8640		8640	8640		668	841	811	6.790			
	33.70	NT-55HE	0.430	6740	5740		5740	5740		519	751	535	6.680			
	33.70	L-80	0.430	6560	7900		7900	7900		664	820	778	6.640			
33.70	N-80	0.430	6560	7900		7900	7900		674	852	778	6.640				
33.70	NT-80LHE	0.430	7650	8350		8350	8350		664	820	778	6.680				
33.70	NT-80DE	0.430	6560	8350		8350	8350		674	852	778	6.680				
33.70	NT-80HE	0.430	7650	8350		8350	8350		674	852	778	6.680				
39.00	NT-55HE	0.500	8040	6670		6670	6670		614	864	616	6.540				
39.00	L-80	0.500	8820	9180		9180	9180		786	945	895	6.500				
39.00	N-80	0.500	8820	9180		9180	9180		798	981	895	6.500				
39.00	NT-80LHE	0.500	9200	9700		9700	9700		786	945	895	6.540				
39.00	NT-80DE	0.500	8820	9700		9700	9700		798	981	895	6.540				
39.00	NT-80HE	0.500	9200	9700		9700	9700		798	981	895	6.540				
8 <sup>5</sup> / <sub>8</sub>	24.00	H-40	0.264	1230	2140	2140			183			277	7.972			
	24.00	J-55	0.264	1340	2950	2950			244			381	7.972			
	24.00	K-55	0.264	1340	2950	2950			263			381	7.972			
	24.00	NT-55HE	0.264	1930	3110	3110		3110	263		523	381	8.012			
	24.00	NT-80LHE	0.264	1960	4530	4530		4530	341		579	555	8.012			
	24.00	NT-80DE	0.264	1430	4530	4530			346			555	8.012			
	24.00	NT-80HE	0.264	1960	4530	4530		4530	346		600	555	8.012			
	24.00	NT-95HE	0.264	1890	5380	5380		5380	403		676	659	8.012			
	28.00	H-40	0.304	1610	2470	2470			233			318	7.892			
	28.00	NT-55HE	0.304	2850	3590	3590		3590	336		599	437	7.932			
	28.00	NT-80LHE	0.304	2930	5220	5220		5220	434		664	636	7.932			
	28.00	NT-80DE	0.304	2160	5220	5220			440			636	7.932			
	28.00	NT-80HE	0.304	2930	5220	5220		5220	440		688	636	7.932			
	28.00	NT-95HE	0.304	2880	6190	6190		6190	512		775	755	7.932			
	32.00	J-55	0.352	2530	3930	3930	3930	3930	372	417	579	503	7.796			
	32.00	K-55	0.352	2530	3930	3930	3930	3930	402	452	690	503	7.796			
	32.00	NT-55HE	0.352	4060	4150	4150	4150	4150	402	452	690	503	7.875			
	32.00	NT-80LHE	0.352	4280	6040	6040	6040	6040	521	583	764	732	7.875			
	32.00	NT-80DE	0.352	3050	6040	6040	6040	6040	528	591	792	732	7.875			
	32.00	NT-80HE	0.352	4280	6040	6040	6040	6040	528	591	792	732	7.875			
	32.00	NT-95HE	0.352	4420	7170	7170	7170	7170	614	687	892	869	7.875			
	36.00	J-55	0.400	3450	4460	4460	4460	4460	434	486	654	568	7.700			
	36.00	K-55	0.400	3450	4460	4460	4460	4460	468	526	780	568	7.700			
	36.00	NT-55HE	0.400	5150	4720	4720	4720	4720	468	526	780	568	7.740			
36.00	L-80	0.400	4100	6490	6490	6490	6490		678	864	827	7.700				
36.00	N-80	0.400	4100	6490	6490	6490	6490		688	895	827	7.700				
36.00	NT-80LHE	0.400	5640	6860	6860	6860	6860	606	678	864	827	7.740				
36.00	NT-80DE	0.400	4100	6860	6860	6860	6860	615	688	895	827	7.740				
36.00	NT-80HE	0.400	5640	6860	6860	6860	6860	615	688	895	827	7.740				
36.00	NT-95HE	0.400	6270	8150	8150	8150	8150	715	800	1008	982	7.740				
9 <sup>5</sup> / <sub>8</sub>	40.00	NT-55HE	0.450	6110	5310		5310	5310				603	872	636	7.625	
	40.00	L-80	0.450	5530	7300		7300	7300				776	966	925	7.600	
	40.00	N-80	0.450	5530	7300		7300	7300				788	1001	925	7.600	
	40.00	NT-80LHE	0.450	6870	7720		7720	7720				776	966	925	7.625	
	40.00	NT-80DE	0.450	5530	7720		7720	7720				788	1001	925	7.625	
	40.00	NT-80HE	0.450	6870	7720		7720	7720				788	1001	925	7.625	
	40.00	NT-95HE	0.450	8210	9170		9170	9170				916	1127	1098	7.625	
	44.00	NT-55HE	0.500	6970	5900		5900	5900				678	963	702	7.540	
	44.00	L-80	0.500	6950	8120		8120	8120				874	1066	1021	7.500	
	44.00	N-80	0.500	6950	8120		8120	8120				887	1105	1021	7.500	
	44.00	NT-80LHE	0.500	7920	8580		8580	8580				874	1066	1021	7.540	
	44.00	NT-80DE	0.500	6950	8580		8580	8580				887	1105	1021	7.540	
	44.00	NT-80HE	0.500	7920	8580		8580	8580				887	1105	1021	7.540	
	49.00	NT-55HE	0.557	7910	6570		6570	6570				763	1065	776	7.426	
	49.00	L-80	0.557	8580	9040		9040	9040				983	1180	1129	7.386	
	49.00	N-80	0.557	8580	9040		9040	9040				997	1222	1129	7.386	
	49.00	NT-80LHE	0.557	9050	9560		9560	9560				983	1180	1129	7.426	
	49.00	NT-80DE	0.557	8580	9560		9560	9560				997	1222	1129	7.426	
	49.00	NT-80HE	0.557	9050	9560		9560	9560				997	1222	1129	7.426	
	8 <sup>5</sup> / <sub>8</sub>	32.30	H-40	0.312	1380	2270	2270						254	421	365	8.845
		32.30	NT-55HE	0.312	2270	3300	3300	3300	3300				365	672	502	8.885
		32.30	NT-80LHE	0.312	2310	4800	4800	4800	4800				475	546	730	8.885
		32.30	NT-80DE	0.312	1700	4800	4800						481	730	730	8.885
		32.30	NT-80HE	0.312	2310	4800	4800	4800	4800				481	553	781	8.885
32.30		NT-95HE	0.312	2250	5700	5700	5700	5700				560	644	882	8.885	
36.00		H-40	0.352	1720	2560	2560						294	453	410	8.765	
36.00		J-55	0.352	2020	3520	3520	3520	3520								

Performance Properties and Dimension

Size (in)	Weight (lbs/ft)	Grade	W.T. (in)	Collapse (psi)	Min. Internal Yield Pressure (psi)				Joint Strength (1,000 lbs)			PBYS (1,000 lbs)	Drift D. (in)	
					PE	STC	LTC	BTC	STC	LTC	BTC			
10 <sup>3/4</sup>	32.75	H-40	0.279	840	1820	1820			205			367	10.036	
	32.75	NT-55HE	0.279	1190	2640	2640			294		657	505	10.076	
	32.75	NT-80LHE	0.279	1200	3840	3840			387		750	734	10.076	
	32.75	NT-80DE	0.279	870	3840	3840			392			734	10.076	
	32.75	NT-80HE	0.279	1200	3840	3840			392		774	734	10.076	
	32.75	NT-95HE	0.279	1150	4560	4560			457			872	10.076	
	40.50	H-40	0.350	1390	2280	2280				314			457	9.894
	40.50	J-55	0.350	1590	3130	3130			3130	420		700	629	9.894
	40.50	K-55	0.350	1590	3130	3130			3130	450		819	629	9.894
	40.50	NT-55HE	0.350	2300	3310	3310			3310	450		819	629	9.934
	40.50	NT-80LHE	0.350	2340	4820	4820			4820	590		934	915	9.934
	40.50	NT-80DE	0.350	1730	4820	4820			4820	597		964	915	9.934
	40.50	NT-80HE	0.350	2340	4820	4820			4820	597		964	915	9.934
	40.50	NT-95HE	0.350	2280	5720	5720			5720	696		1093	1086	9.934
	45.50	J-55	0.400	2090	3580	3580			3580	493		796	715	9.794
	45.50	K-55	0.400	2090	3580	3580			3580	528		931	715	9.794
	45.50	NT-55HE	0.400	3280	3790	3790			3790	528		931	715	9.875
	45.50	NT-80LHE	0.400	3390	5510	5510			5510	692		1063	1040	9.875
	45.50	NT-80DE	0.400	2480	5510	5510			5510	701		1097	1040	9.875
	45.50	NT-80HE	0.400	3390	5510	5510			5510	701		1097	1040	9.875
	45.50	NT-95HE	0.400	3380	6540	6540			6540	817		1243	1236	9.875
	51.00	J-55	0.450	2710	4030	4030			4030	565		891	801	9.694
	51.00	K-55	0.450	2710	4030	4030			4030	606		1043	801	9.694
	51.00	NT-55HE	0.450	4280	4260	4260			4260	606		1043	801	9.734
	51.00	L-80	0.450	3220	5860	5860			5860	794		1190	1165	9.694
	51.00	N-80	0.450	3220	5860	5860			5860	804		1228	1165	9.694
	51.00	NT-80LHE	0.450	4550	6200	6200			6200	794		1190	1165	9.734
	51.00	NT-80DE	0.450	3220	6200	6200			6200	804		1228	1165	9.734
	51.00	NT-80HE	0.450	4550	6200	6200			6200	804		1228	1165	9.734
	51.00	NT-95HE	0.450	4750	7360	6880			7360	937		1392	1383	9.734
	55.50	NT-55HE	0.495	5090	4690	4690			4690	675		1142	877	9.625
	55.50	L-80	0.495	4020	6450	6450			6450	884		1303	1276	9.604
	55.50	N-80	0.495	4020	6450	6450			6450	895		1345	1276	9.604
	55.50	NT-80LHE	0.495	5560	6810	6810			6810	884		1303	1276	9.625
	55.50	NT-80DE	0.495	4020	6810	6810			6810	895		1345	1276	9.625
	55.50	NT-80HE	0.495	5560	6810	6810			6810	895		1345	1276	9.625
55.50	NT-95HE	0.495	6150	8090	6880			7450	1043		1524	1515	9.625	
60.70	NT-55HE	0.545	5880	5160	5160			5160	751		1251	961	9.544	
60.70	NT-80LHE	0.545	6580	7500	6880			7450	983		1428	1398	9.544	
60.70	NT-80DE	0.545	5160	7500	6880			7450	996		1473	1398	9.544	
60.70	NT-80HE	0.545	6580	7500	6880			7450	996		1473	1398	9.544	
60.70	NT-95HE	0.545	7740	8910	6880			7450	1161		1670	1660	9.544	
11 <sup>3/4</sup>	42.00	H-40	0.333	1040	1980	1980			307			478	10.928	
	42.00	NT-55HE	0.333	1540	2880	2880			440		834	657	11.000	
	42.00	NT-80LHE	0.333	1560	4190	4190			580		966	956	11.000	
	42.00	NT-80DE	0.333	1130	4190	4190			587			956	11.000	
	42.00	NT-80HE	0.333	1560	4190	4190			587		994	956	11.000	
	42.00	NT-95HE	0.333	1500	4980	4980			4980	685		1131	1135	11.000
	47.00	J-55	0.375	1510	3070	3070			3070	477		807	737	10.844
	47.00	K-55	0.375	1510	3070	3070			3070	509		935	737	10.844
	47.00	NT-55HE	0.375	2170	3250	3250			3250	509		935	737	10.884
	47.00	NT-80LHE	0.375	2210	4720	4720			4720	670		1084	1072	10.884
	47.00	NT-80DE	0.375	1630	4720	4720			4720	678		1116	1072	10.884
	47.00	NT-80HE	0.375	2210	4720	4720			4720	678		1116	1072	10.884
	47.00	NT-95HE	0.375	2140	5610	5610			5610	791		1269	1273	10.884
	54.00	J-55	0.435	2070	3560	3560			3560	568		931	850	10.724
	54.00	K-55	0.435	2070	3560	3560			3560	606		1079	850	10.724
	54.00	NT-55HE	0.435	3240	3770	3770			3770	606		1079	850	10.764
	54.00	NT-80LHE	0.435	3350	5480	5480			5480	798		1250	1237	10.764
	54.00	NT-80DE	0.435	2450	5480	5480			5480	808		1287	1237	10.764
	54.00	NT-80HE	0.435	3350	5480	5480			5480	808		1287	1237	10.764
	54.00	NT-95HE	0.435	3330	6510	5820			6300	943		1464	1469	10.764

Size (in)	Weight (lbs/ft)	Grade	W.T. (in)	Collapse (psi)	Min. Internal Yield Pressure (psi)				Joint Strength (1,000 lbs)			PBYS (1,000 lbs)	Drift D. (in)		
					PE	STC	LTC	BTC	STC	LTC	BTC				
11 <sup>3/4</sup>	60.00	J-55	0.489	2670	4010	4010			4010	649		1042	951	10.616	
	60.00	K-55	0.489	2670	4010	4010			4010	693		1208	951	10.616	
	60.00	NT-55HE	0.489	4230	4230	4230			4230	693		1208	951	10.625	
	60.00	L-80	0.489	3180	5830	5820			5830	913		1399	1384	10.616	
	60.00	N-80	0.489	3180	5830	5820			5830	924		1440	1384	10.616	
	60.00	NT-80LHE	0.489	4490	6160	5820			6160	913		1399	1384	10.625	
	60.00	NT-80DE	0.489	3180	6160	5820			6160	924		1440	1384	10.625	
	60.00	NT-80HE	0.489	4490	6160	5820			6160	924		1440	1384	10.625	
	60.00	NT-95HE	0.489	4670	7310	5820			6300	1078		1638	1643	10.625	
	13 <sup>3/8</sup>	48.00	H-40	0.330	740	1730	1730							541	12.559
		48.00	NT-55HE	0.330	1030	2510	2510						2510	460	12.599
		48.00	NT-80LHE	0.330	1040	3650	3650						3650	610	12.599
48.00		NT-80DE	0.330	740	3650	3650							617	12.599	
48.00		NT-80HE	0.330	1040	3650	3650						3650	617	12.599	
48.00		NT-95HE	0.330	1000	4340	4340						4340	720	12.599	
54.50		J-55	0.380	1130	2730	2730						2730	514	12.459	
54.50		K-55	0.380	1130	2730	2730						2730	547	12.459	
54.50		NT-55HE	0.380	1550	2890	2890						2890	547	12.499	
54.50		NT-80LHE	0.380	1570	4200	4200						4200	725	12.499	
54.50		NT-80DE	0.380	1140	4200	4200						4200	733	12.499	
54.50		NT-80HE	0.380	1570	4200	4200						4200	733	12.499	
54.50		NT-95HE	0.380	1510	4990	4550						4930	856	12.499	
61.00		J-55	0.430	1540	3090	3090						3090	595	12.359	
61.00		K-55	0.430	1540	3090	3090						3090	633	12.359	
61.00		NT-55HE	0.430	2220	3270	3270						3270	633	12.399	
61.00		NT-80LHE	0.430	2260	4760	4550						4760	839	12.399	
61.00		NT-80DE	0.430	1670	4760	4550						4760	849	12.399	
61.00		NT-80HE	0.430	2260	4760	4550						4760	849	12.399	
61.00		NT-95HE	0.430	2190	5650	4550						4930	991	12.399	
68.00		J-55	0.480	1950	3450	3450						3450	675	12.259	
68.00		K-55	0.480	1950	3450	3450						3450	718	12.259	
68.00		NT-55HE	0.480	2990	3650	3650						3650	718	12.299	
68.00		L-80	0.480	2260	5020	4550						4930	952	12.259	
68.00		N-80	0.480	2260	5020	4550						4930	963	12.259	
68.00		NT-80LHE	0.480	3080	5310	4550						4930	952	12.299	
68.00		NT-80DE	0.480	2260	5310	4550						4930	963	12.299	
68.00		NT-80HE	0.480	3080	5310	4550						4930	963	12.299	
68.00		NT-95HE	0.480	3040	6310	4550						4930	1125	12.299	
72.00		NT-55HE	0.514	3550	3910	3910						3910	776	12.250	
72.00		L-80	0.514	2670	5380	4550						4930	1029	12.191	
72.00		N-80	0.514	2670	5380	4550						4930			

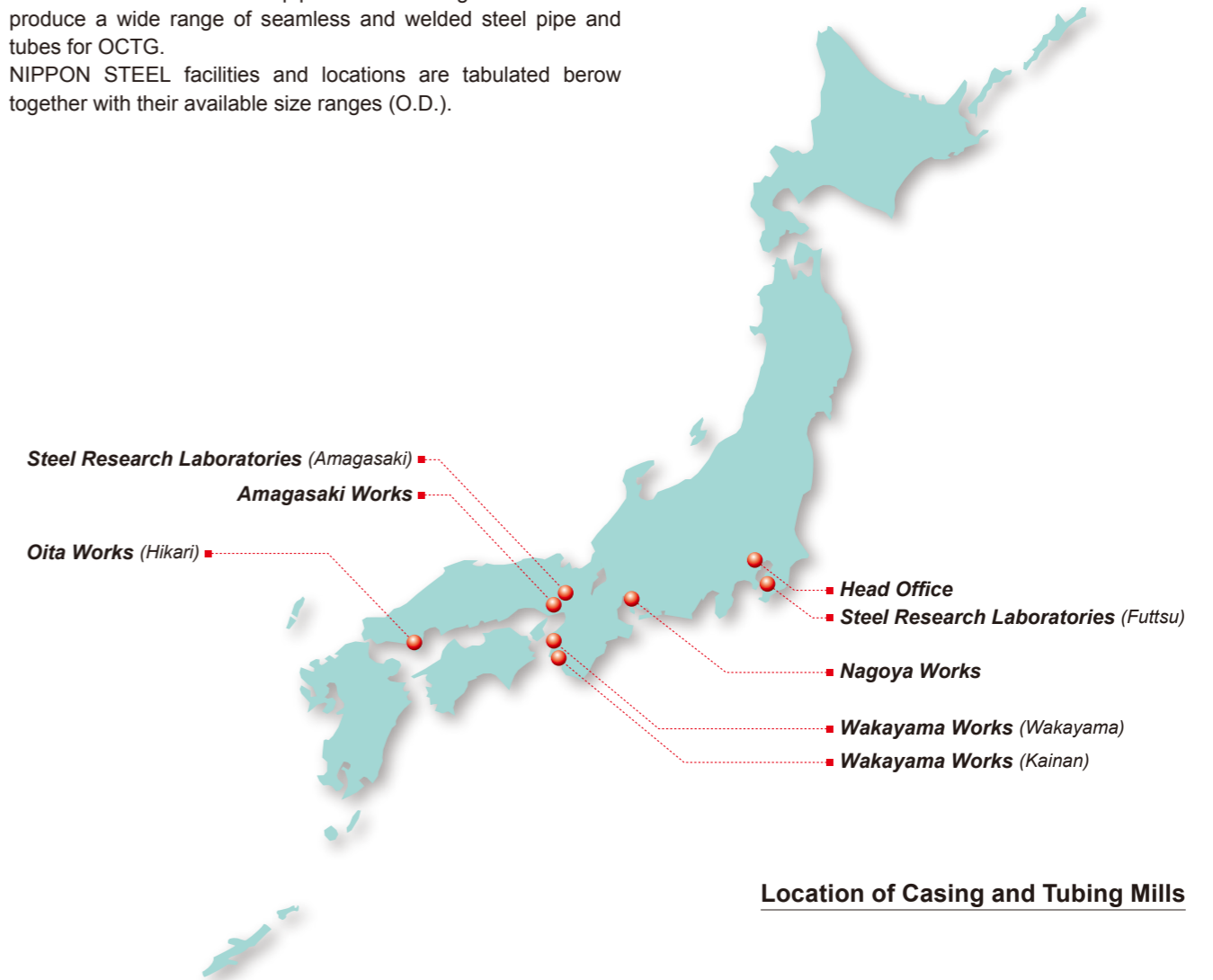


**Performance Properties and Dimension**

Size (in)	Weight (lbs/ft)	Grade	W.T. (in)	Collapse (psi)	Min. Internal Yield Pressure (psi)				Joint Strength (1,000 lbs)			PBYS (1,000 lbs)	Drift D. (in)
					PE	STC	LTC	BTC	STC	LTC	BTC		
16	65.00	H-40	0.375	630	1640	1640			439		439	736	15.062
	65.00	NT-80DE	0.375	630	3470	3230			843		843	1473	15.062
	75.00	J-55	0.438	1020	2630	2630		2630	710		710	1178	14.938
	75.00	K-55	0.438	1020	2630	2630		2630	752		752	1178	14.938
	75.00	NT-80DE	0.438	1020	4050	3230		3560	1014		1014	1713	14.938
	84.00	J-55	0.495	1410	2980	2980		2980	817		817	1326	14.822
	84.00	K-55	0.495	1410	2980	2980		2980	865		865	1326	14.822
	84.00	NT-80DE	0.495	1480	4580	3230		3560	1167		1167	1929	14.822
	94.50	NT-80DE	0.562	2140	5200	3230		3560	1346		1346	2181	14.689
	18 <sup>5</sup> / <sub>8</sub>	87.50	H-40	0.435	630	1630	1630			559			994
87.50		J-55	0.435	630	2250	2250		2250	754		1329	1367	17.567
87.50		K-55	0.435	630	2250	2250		2250	794		1427	1367	17.567
87.50		NT-80DE	0.435	630	3460	3150		3460	1079		1888	1989	17.567
94.50		NT-80DE	0.468	780	3720	3150		3500	1174		2027	2136	17.501
96.50		NT-80DE	0.486	880	3860	3150		3500	1226		2103	2216	17.465
106.00		NT-80DE	0.531	1150	4220	3150		3500	1356		2292	2415	17.375
109.35		NT-80DE	0.563	1380	4470	3150		3500	1448		2426	2556	17.311
112.00		NT-80DE	0.579	1500	4600	3150		3500	1494		2492	2626	17.279
115.00		NT-80DE	0.594	1630	4720	3150		3500	1536		2555	2692	17.249
122.00	NT-80DE	0.636	1980	5050	3150		3500	1656		2729	2875	17.165	
20	94.00	H-40	0.438	520	1530	1530	1530		581	673		1077	18.936
	94.00	J-55	0.438	520	2110	2110	2110	2110	783	907	1402	1480	18.936
	94.00	K-55	0.438	520	2110	2110	2110	2110	823	955	1479	1480	18.936
	94.00	NT-80DE	0.438	520	3240	2410	2410	2320	1122	1297	2004	2153	18.936
	106.50	J-55	0.500	770	2410	2410	2410	2320	913	1056	1595	1685	18.812
	106.50	K-55	0.500	770	2410	2410	2410	2320	959	1113	1683	1685	18.812
	106.50	NT-80DE	0.500	770	3700	2410	2410	2320	1306	1511	2281	2450	18.812
	117.00	NT-80DE	0.563	1110	4170	2410	2410	2320	1494	1728	2560	2750	18.686
	133.00	J-55	0.635	1500	3060	2410	2410	2320	1192	1379	2012	2125	18.542
	133.00	K-55	0.635	1500	3060	2410	2410	2320	1252	1453	2123	2125	18.542
133.00	NT-80DE	0.635	1600	4700	2410	2410	2320	1706	1973	2877	3091	18.542	

**Facilities and Locations**

NIPPON STEEL has steel pipe manufacturing facilities which produce a wide range of seamless and welded steel pipe and tubes for OCTG. NIPPON STEEL facilities and locations are tabulated below together with their available size ranges (O.D.).



Location of Casing and Tubing Mills

**NIPPON STEEL Tube Making Equipment and Available Sizes**

Tube Mills	Location of Works	Outside Diameter in Inches																			
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	35	40	45	50	60	
<b>ERW</b>	Hikari																		12	24	
	Nagoya																			4 <sup>1</sup> / <sub>2</sub>	16
Seamless (Hot Finished)	Mannesmann (2 sets)																			2 <sup>3</sup> / <sub>8</sub>	7
	Mannesmann																			5 <sup>1</sup> / <sub>2</sub>	16 <sup>3</sup> / <sub>4</sub>
Seamless (Hot Finished)	Extrusion																			2 <sup>3</sup> / <sub>8</sub>	9 <sup>5</sup> / <sub>8</sub>
	Hollow Forging																			8	28

**Available Grades (ERW and SML)**

Min. Yield Strength (psi)	API SPEC 5CT				SM SERIES / NT SERIES										NEW SM SERIES				
	SEAMLESS & ERW				SEAMLESS & ERW										SEAMLESS				
	GROUP 1	GROUP 2	GROUP 3	GROUP 4	GENERAL & DEEP WELL SERVICE	HIGH COLLAPSE		ARCTIC SERVICE		SOUR SERVICE			SOUR SERVICE + COLLAPSE		Wet CO <sub>2</sub> CORROSION WELL SERVICE	Wet CO <sub>2</sub> -MILD SOUR CORROSION WELL SERVICE	Wet CO <sub>2</sub> -SOUR CORROSION WELL SERVICE		
				General		Arctic Service	Mild Sour			Enhanced Mild Sour	Extreme Sour	Enhanced Mild Sour	Extreme Sour						
40,000	H40																		
55,000	J55 K55					NT-55HE													
65,000		M65																	
80,000	N80Q	L80-1 L80-13CR			NT-80DE	NT-80HE SM-80T	NT-80LHE	SM-80L SM-80LL				SM-80XS		SM-80TXS	SM13CR-80 SM13CRI-80				
85,000														SM13CR-85					
90,000		C90-1										SM-90XS		SM-90TXS					
95,000	R95	T95-1			NT-95DE	NT-95HE SM-95T SM-95TT		SM-95L SM-95LL				SM-95XS		SM-95TXS	SM13CR-95 SM13CRM-95	SM13CRS-95			
100,000																			
110,000		C110	P110			NT-110HE SM-110T SM-110TT		SM-110L SM-110LL				SM-110ES	SM-110XS	SM-110TES	SM-110TXS	SM13CRM-110	SM13CRS-110 SM17CRS-110 SM22CR-110 SM25CR-110	SM2535-110 SM2242-110 SM2035-110	SM2550-110 SM2050-110 SMC276-110
125,000				Q125-1		SM-125TT				SM-125S	SM-125ES		SM-125TES			SM17CRS-125 SM22CR-125 SM25CR-125 SM25CRW-125	SM2535-125 SM2035-125	SM2550-125 SM2050-125 SMC276-125	
130,000					SM-130G SM-130CY												SM2535-140	SMC276-140	
140,000					SM-140G														

Available grade: Black.....Seamless & ERW    Red.....ERW    Blue.....Seamless (Refer to SML catalogue for detail information)