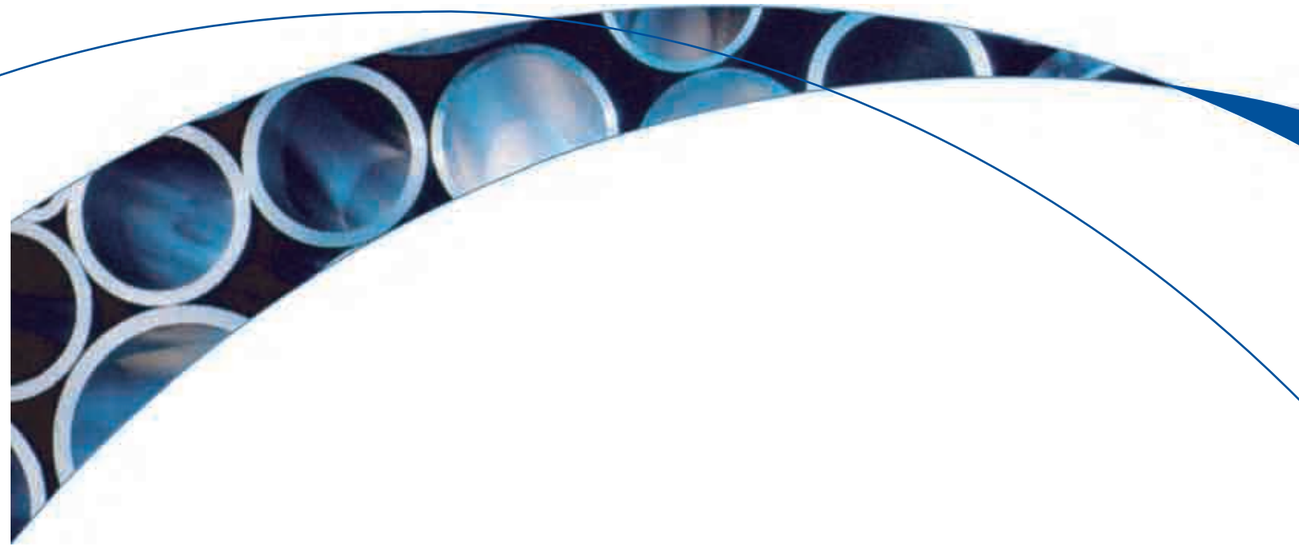
Steel Pipe & Tube
Products Catalog



2013

TPCO

Preface

Tianjin Pipe (Group) Corporation (TPCO), located in Tianjin, a dynamic fast growing industrial city in North China, specializes in the production of seamless and welded steel pipes. Commissioned with the world's most modern and technically advanced equipment. TPCO has a capacity to produce full range and a wide variety of quality seamless pipes which are mainly composed of casing, tubing, line pipe and other products, such as high, medium and low-pressure boiler tubes, high-pressure cylinder tube, mechanical pipe, hydraulic support tube, structural pipe and pipes for fluid transmission purposes. TPCO has been striving to develop its own high quality product series. Besides API series products, TPCO has also own the proprietary TP series products and premium connection series products.

TPCO has built one HFW 355 and one HFW 660 mill for producing high quality HFW pipes with the O.D. range from 5" (127mm) to 26" (660mm), W.T. from 0.126" (3.2mm) to 0.866" (22.0mm). The welded pipes majorly for casing, line pipe, fluid transmission pipe and round structural pipe, which are in conformity with API, ISO, JIS, EN, GB (China National Standards) and other specifications according to customer's requirement.

TPCO's products have been used in more than 24 domestic oil-fields onshore and offshore in China and exported to more than 100 countries and regions in the worldwide. TPCO is one of the world top seamless pipe and service providers.

From 1994 until now, TPCO has been granted a number of acceptance certificates issued by several international and domestic institutions, such as Certificate of Authority to use the Official API Monogram; Quality Management System Certificate for ISO 9001 by SGS United Kingdom Ltd; Yarsley International Certification Services; Det Norske Veritas (DNV); Lloyd's Register of shipbuilding; ABS Certificate of Design and Manufacturing Assessement; Product attestations by European Directive PED 97/23/EC and German Regulation (AD-W0/TRD100), and others. TPCO's products also been well accepted by major international oil companies such as Shell, BP, Chevron, Saudi ARAMCO, Total, Exxon Mobil, Conoco-Phillips, Apache, etc.

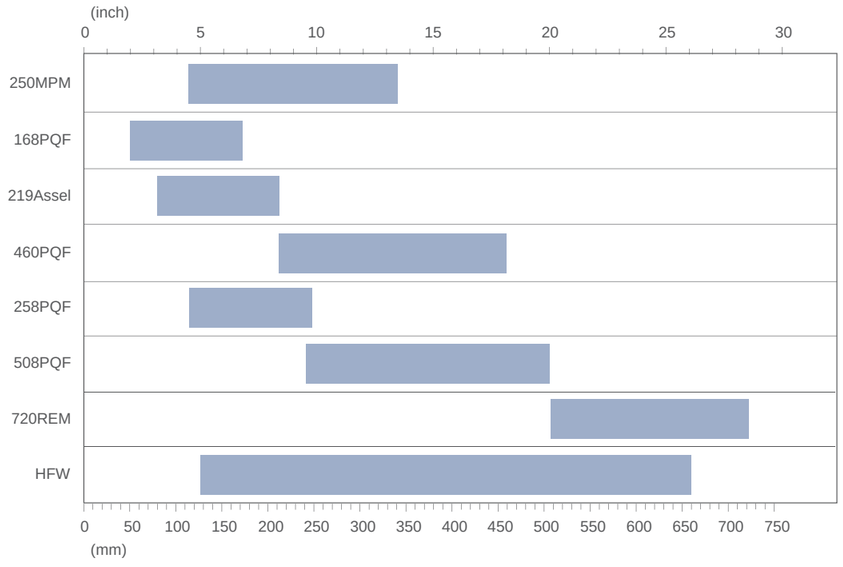
ISO 9(

OHSMS 18001

TPCO

CONTENTS:

Mill Size Range



Quality Products

Striving to become the world's top quality producer of tubular goods, TPCO adheres to its following internal guidelines:

- Superior material
- Refined smelting
- Accurate rolling
- Precision finishing
- Meticulous work

All products are manufactured with high quality steel round billets whose features are high purity, good uniformity and flawless surface. Using the most advanced rolling, heat treatment and finishing lines and sophisticated inspection equipment and with the meticulous work of TPCO personnel, premium pipes are produced and our goal of total quality control is attained.

Advanced Means Of Quality Inspection

To ensure product quality, a number of on-line inspection equipment has been established to monitor composition analysis, non-destructive testing, wall thickness measurement, drifting, hydrostatic testing and other critical elements of pipes.

In addition to on-line inspection and testing, TPCO has also set up five full-time & professional quality inspection stations which are responsible for the analysis, inspection and determination of process quality, quality of incoming raw material, physical and chemical properties of products and technical indexes, etc.

Rich Human & Material Resources in R&D

TPCO has strong research and development institutions. Its core competence is the technical center, responsible for all research and development of new products and other creative work. There are teams of highly qualified professionals in the R&D center equipped with advanced instruments and equipment to provide the technical guarantee required in new product development.

Total Quality Control & Customer Service

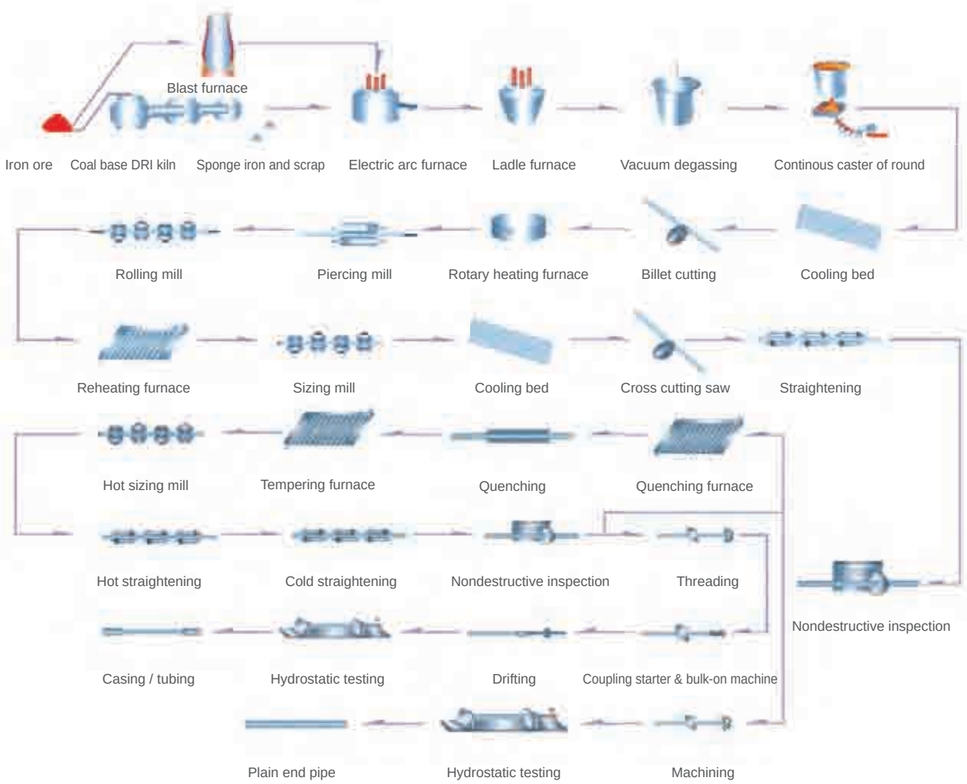
TPCO has established proven quality control systems in accordance with world-wide standards and is continuously implementing the latest proven systems as they become available. The current systems were established in accordance with API Q1 specifications, ISO9001 standards and others. TPCO insists on the system of internal quality examination and has trained internal examiners organized in groups who play an important role in system operations to attain the goal of "Total Quality Control".

TPCO is committed to the highest level of customer service. Some of the goals are, on time delivery, close communication and proactive after-sales service to attain full customer satisfaction.

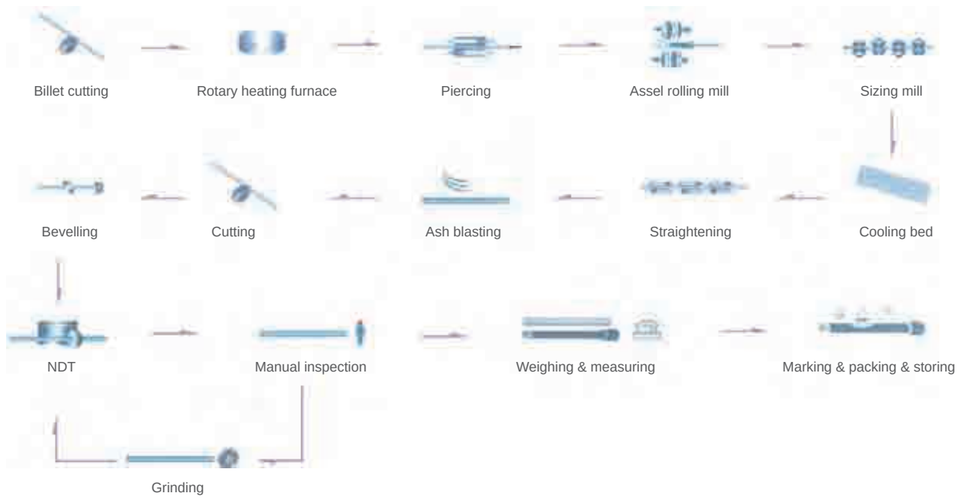
Main Customers

Production Process Flow Chart

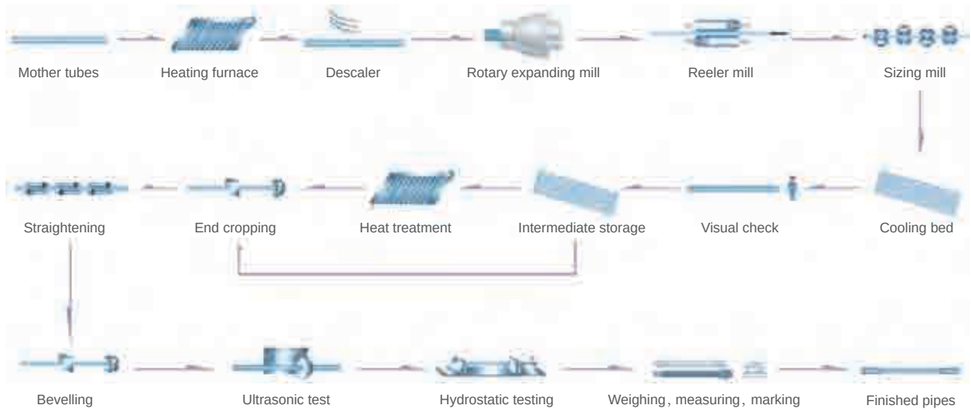
MPM & PQF



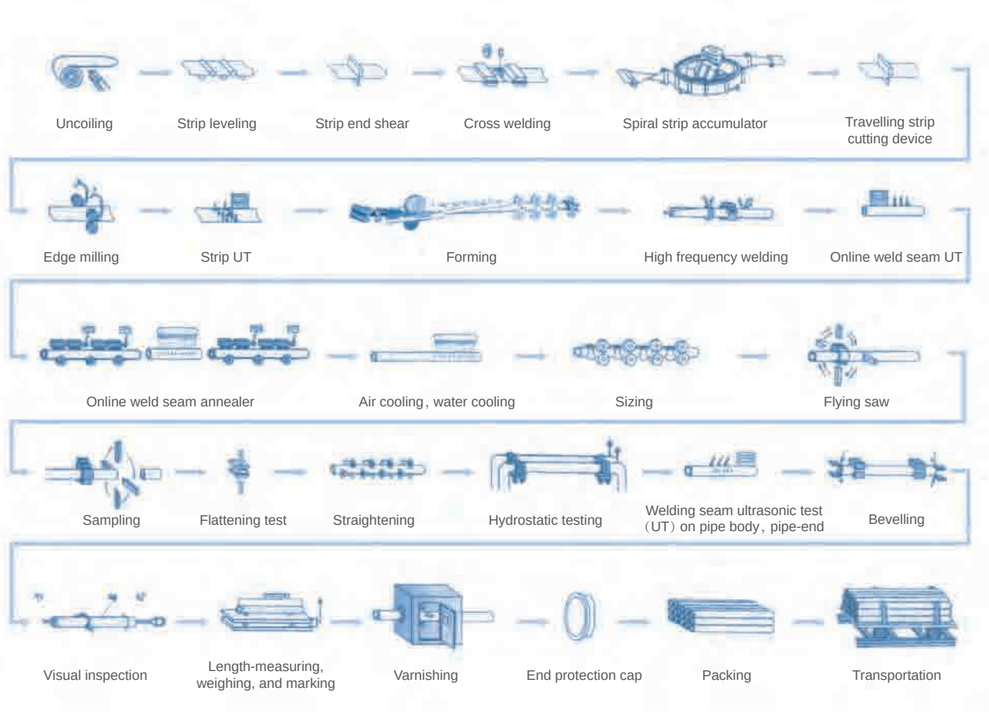
Assel



Rotary Expanding Mill



HFW



Seamless Pipe | API Casing

Spec (in)	Weight (lb/ft)	Outside Diameter (in)	Wall Thickness (in)	Drift Diameter (in)	Plain End *Wpe* (lb/ft)	Type of pipe end-finish[a]							
						J55/K55	M65	L80/R95	N80	C90/T95	C110	P110	Q125
4 1/2	9.5	4.5	0.205	3.965	9.41	PS	PS	-	-	-	-	-	-
	10.5	4.5	0.224	3.927	10.24	PSB	PSB	-	-	-	-	-	-
	11.6	4.5	0.25	3.875	11.36	PSLB	PLB	PLB	PLB	PLB	P	PLB	-
	13.5	4.5	0.29	3.795	13.05	-	PLB	PLB	PLB	PLB	P	PLB	-
	15.1	4.5	0.337	3.701	15.00	-	-	-	-	-	-	PLB	PLB
5	11.5	5	0.22	4.435	11.24	PS	PS	-	-	-	-	-	-
	13.0	5	0.253	4.369	12.84	PSLB	PSLB	-	-	-	-	-	-
	15.0	5	0.296	4.283	14.88	PSLB	PLB	PLB	PLB	PLB	P	PLB	-
	18.0	5	0.362	4.151	17.95	-	PLB	PLB	PLB	PLB	P	PLB	PLB
	21.4	5	0.437	4.001	21.32	-	PLB	PLB	PLB	PLB	P	PLB	PLB
	23.2	5	0.478	3.919	23.11	-	-	PLB	PLB	PLB	P	PLB	PLB
	24.1	5	0.5	3.875	24.05	-	-	PLB	PLB	PLB	P	PLB	PLB
5 1/2	14.0	5.5	0.224	4.887	13.71	PS	PS	-	-	-	-	-	-
	15.5	5.5	0.275	4.825	15.36	PSLB	PSLB	-	-	-	-	-	-
	17.0	5.5	0.304	4.767	16.89	PSLB	PLB	PLB	PLB	PLB	P	PLB	-
	20.0	5.5	0.361	4.653	19.83	-	PLB	PLB	PLB	PLB	P	PLB	-
	23.0	5.5	0.415	4.545	22.56	-	PLB	PLB	PLB	PLB	P	PLB	PLB
	26.8	5.5	0.5	4.375	26.72	-	-	-	-	P	P	-	-
	29.7	5.5	0.562	4.251	29.67	-	-	-	-	P	P	-	-
6 5/8	20.0	6.625	0.228	5.924	19.51	PSLB	PSLB	-	-	-	-	-	-
	24.0	6.625	0.352	5.796	23.60	PSLB	PLB	PLB	PLB	PLB	P	PLB	-
	28.0	6.625	0.417	5.666	27.67	-	PLB	PLB	PLB	PLB	P	PLB	-
	32.0	6.625	0.475	5.550	31.23	-	-	PLB	PLB	PLB	P	PLB	PLB
7	17.0	7	0.231	6.413	16.72	-	-	-	-	-	-	-	-
	20.0	7	0.272	6.331	19.56	PS	PS	-	-	-	-	-	-
	23.0	7	0.317	6.241	22.65	PSLB	PLB	PLB	PLB	PLB	P	-	-
	26.0	7	0.362	6.151	25.69	PSLB	PLB	PLB	PLB	PLB	P	PLB	-
	29.0	7	0.408	6.059	28.75	-	PLB	PLB	PLB	PLB	P	PLB	-
	32.0	7	0.453	5.969	31.70	-	PLB	PLB	PLB	PLB	P	PLB	-
	35.0	7	0.498	5.879	34.61	-	-	PLB	PLB	PLB	P	PLB	PLB
	38.0	7	0.54	5.795	37.29	-	-	PLB	PLB	PLB	P	PLB	PLB
7 5/8	24.0	7.625	0.3	6.900	23.49	-	-	-	-	-	-	-	-
	26.2	7.625	0.328	6.844	25.59	PSLB	PSLB	PLB	PLB	PLB	P	-	-
	29.7	7.625	0.375	6.750	29.06	-	PLB	PLB	PLB	PLB	P	PLB	-
	33.7	7.625	0.43	6.640	33.07	-	PLB	PLB	PLB	PLB	P	PLB	-
	39.0	7.625	0.5	6.500	38.08	-	-	PLB	PLB	PLB	P	PLB	PLB
	42.8	7.625	0.562	6.376	42.43	-	-	PLB	PLB	PLB	P	PLB	PLB
	45.3	7.625	0.595	6.310	44.71	-	-	PLB	PLB	PLB	P	PLB	PLB
7 3/4	46.1	7.750	0.595	6.435	45.51	-	-	P	P	P	P	P	P
8 5/8	24.0	8.625	0.264	7.972	23.60	PS	PS	-	-	-	-	-	-
	28.0	8.625	0.304	7.892	27.04	-	PS	-	-	-	-	-	-
	32.0	8.625	0.352	7.796	31.13	PSLB	PSLB	-	-	-	-	-	
	36.0	8.625	0.4	7.700	35.17	PSLB	PSLB	PLB	PLB	PLB	P	-	-
	40.0	8.625	0.45	7.600	39.33	-	PLB	PLB	PLB	PLB	P	PLB	-
	44.0	8.625	0.5	7.500	43.43	-	-	PLB	PLB	PLB	P	PLB	-
	49.0	8.625	0.557	7.286	48.04	-	-	PLB	PLB	PLB	P	PLB	PLB

Spec (in)	Weight (lb/ft)	Outside Diameter (in)	Wall Thickness (in)	Drift Diameter (in)	Plain End *Wpe* (lb/ft)	Type of pipe end-finish[a]							
						J55/K55	M65	L80/R95	N80	C90/T95	**C110**	P110	Q125
9 5/8	32.3	9.625	0.312	8.845	31.06	-	-	-	-	-	-	-	-
	36.0	9.625	0.352	8.765	34.89	PSLB	PSLB	-	-	-	-	-	-
	40.0	9.625	0.395	8.679	38.97	PSLB	PSLB	PLB	PLB	PLB	P	-	-
	43.5	9.625	0.435	8.599	42.37	-	PLB	PLB	PLB	PLB	P	PLB	-
	47.0	9.625	0.472	8.525	46.18	-	PLB	PLB	PLB	PLB	P	PLB	PLB
	53.5	9.625	0.545	8.379	52.90	-	-	PLB	PLB	PLB	P	PLB	PLB
	58.4	9.625	0.595	8.279	57.44	-	-	PLB	PLB	PLB	P	PLB	PLB
10 3/4	32.75	10.75	0.279	10.036	31.23	-	-	-	-	-	-	-	-
	40.5	10.75	0.35	9.894	38.91	PSB	PSB	-	-	-	-	-	-
	45.5	10.75	0.40	9.794	44.26	PSB	PSB	-	-	-	-	-	-
	51.0	10.75	0.45	9.694	49.55	PSB	PSB	PSB	PSB	PSB	P	PSB	-
	55.5	10.75	0.495	9.604	54.26	-	PSB	PSB	PSB	PSB	P	PSB	-
	60.7	10.75	0.545	9.504	59.46	-	-	-	-	PSB	P	PSB	PSB
	65.7	10.75	0.595	9.404	64.59	-	-	-	-	PSB	P	PSB	PSB
11 3/4	42.0	11.75	0.333	10.928	40.64	-	-	-	-	-	-	-	-
	47.0	11.75	0.375	10.844	45.60	PSB	PSB	-	-	-	-	-	-
	54.0	11.75	0.435	10.724	52.62	PSB	PSB	-	-	-	-	-	-
	60.0	11.75	0.489	10.616	58.87	PSB	PSB	PSB	PSB	PSB	P	PSB	PSB
	65.0	11.75	0.534	10.526	64.03	-	-	P	P	P	P	P	P
	71.0	11.75	0.582	10.430	69.48	-	-	P	P	P	P	P	P
13 3/8	48.0	13.375	0.330	12.559	46.02	-	-	-	-	-	-	-	-
	54.5	13.375	0.380	12.459	52.79	PSB	PSB	-	-	-	-	-	-
	61.0	13.375	0.430	12.359	59.50	PSB	PSB	-	-	-	-	-	-
	68.0	13.375	0.480	12.259	66.17	PSB	PSB	PSB	PSB	PSB	P	PSB	-
	72.0	13.375	0.514	12.191	70.67	-	-	PSB	PSB	PSB	P	PSB	PSB
16	65.0	16.0	0.375	15.062	62.64	-	-	-	-	-	-	-	-
	75.0	16.0	0.438	14.936	72.86	PSB	PSB	-	-	-	-	-	-
	84.0	16.0	0.495	14.822	82.05	PSB	PSB	-	-	-	-	-	-
	109.0	16.0	0.656	14.500	107.60	P	-	P	P	-	-	P	P
18 5/8	87.5	18.625	0.435	17.567	84.59	PSB	PSB	-	-	-	-	-	-
20	94.0	20.0	0.438	18.936	91.59	PSLB	PSLB	-	-	-	-	-	-
	106.5	20.0	0.500	18.812	104.23	PSLB	PSLB	-	-	-	-	-	-
	133.0	20.0	0.635	18.542	131.45	PSLB	-	-	-	-	-	-	-

a: Buttress casing is available with regular, special clearance couplings or special clearance couplings with special bevel.
P= Plain end; **S**= Short round thread; **L**= Long round thread; **B**= Buttress thread.

Labels				O.D	Nominal linear masses[a,b]			Wall Thickness	Type of end-finish						
1	2				Non-upset T&C	Ext. upset T&C	Integ. Joint								
	NU T&C	EU T&C	IJ	(in)	(lb/ft)	(lb/ft)	(lb/ft)	(in)	H40	J55	L80/R95	N80 Type1,Q	C90	T95	P110
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
2-3/8	4.00	-	-	2.375	4.00	-	-	0.167	PN	PN	PN	PN	PN	PN	-
	4.60	4.70	-	2.375	4.60	4.70	-	0.190	PNU	PNU	PNU	PNU	PNU	PNU	PNU
	5.80	5.95	-	2.375	5.80	5.95	-	0.254	-	-	PNU	PNU	PNU	PNU	PNU
	6.60	-	-	2.375	6.60	-	-	0.295	-	-	P	-	P	P	-
	7.35	7.45	-	2.375	7.35	7.45	-	0.336	-	-	PU	-	PU	PU	-
2-7/8	6.40	6.50	-	2.875	6.40	6.50	-	0.217	PNU	PNU	PNU	PNU	PNU	PNU	PNU
	7.80	7.90	-	2.875	7.80	7.90	-	0.276	-	-	PNU	PNU	PNU	PNU	PNU
	8.60	8.70	-	2.875	8.60	8.70	-	0.308	-	-	PNU	PNU	PNU	PNU	PNU
	9.35	9.45	-	2.875	9.35	9.45	-	0.340	-	-	PU	-	PU	PU	-
	10.50	-	-	2.875	10.50	-	-	0.392	-	-	P	-	P	P	-
	11.50	-	-	2.875	11.50	-	-	0.440	-	-	P	-	P	P	-
3-1/2	7.70	-	-	3.500	7.70	-	-	0.216	PN	PN	PN	PN	PN	PN	-
	9.20	9.30	-	3.500	9.20	9.30	-	0.254	PNU	PNU	PNU	PNU	PNU	PNU	PNU
	10.20	-	-	3.500	10.20	-	-	0.289	PN	PN	PN	PN	PN	PN	-
	12.70	12.95	-	3.500	12.70	12.95	-	0.375	-	-	PNU	PNU	PNU	PNU	PNU
	14.30	-	-	3.500	14.30	-	-	0.430	-	-	P	-	P	P	-
	15.50	-	-	3.500	15.50	-	-	0.476	-	-	P	-	P	P	-
	17.00	-	-	3.500	17.00	-	-	0.530	-	-	P	-	P	P	-
4	9.50	-	-	4.000	9.50	-	-	0.226	PN	PN	PN	PN	PN	PN	-
	10.70	11.00	-	4.000	-	11.00	-	0.262	PU	PU	PU	PU	PU	PU	-
	13.20	-	-	4.000	13.20	-	-	0.330	-	-	P	-	P	P	-
	16.10	-	-	4.000	16.10	-	-	0.415	-	-	P	-	P	P	-
	18.90	-	-	4.000	18.90	-	-	0.500	-	-	P	-	P	P	-
	22.20	-	-	4.000	22.20	-	-	0.610	-	-	P	-	P	P	-
4-1/2	12.60	12.75	-	4.500	12.60	12.75	-	0.271	PNU	PNU	PNU	PNU	PNU	PNU	-
	15.20	-	-	4.500	15.20	-	-	0.337	-	-	P	-	P	P	-
	17.00	-	-	4.500	17.00	-	-	0.380	-	-	P	-	P	P	-
	18.90	-	-	4.500	18.90	-	-	0.430	-	-	P	-	P	P	-
	21.50	-	-	4.500	21.50	-	-	0.500	-	-	P	-	P	P	-
	23.70	-	-	4.500	23.70	-	-	0.560	-	-	P	-	P	P	-
	26.10	-	-	4.500	26.10	-	-	0.630	-	-	P	-	P	P	-

a: Nominal linear masses (col.6,7,8) are shown for information only.

b: The densities of martensitic chromium steels (L80 types 9Cr and 13Cr) are different from carbon steels. The masses shown are therefore not accurate for martensitic chromium steels. A mass correction factor of 0.989 may be used.

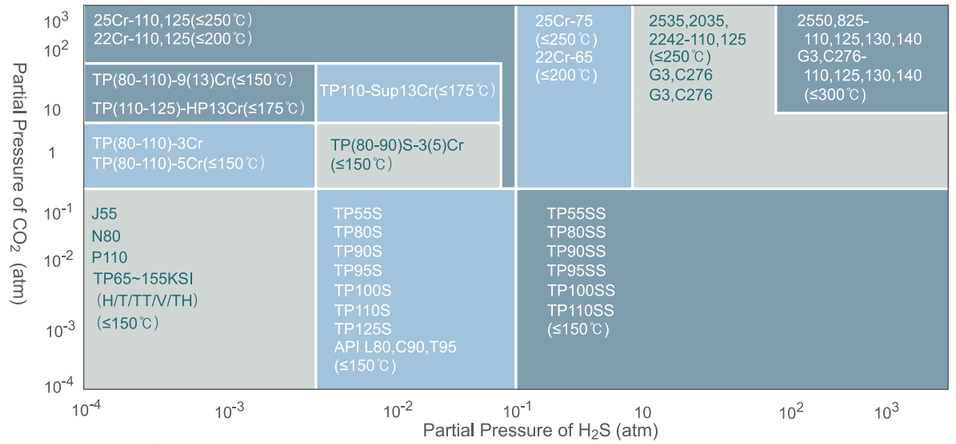
P= Plain end; **N**= Non-upset threaded and coupled; **U**= External upset threaded and coupled; **L**= Integral joint.

High Anti-Collapse Casing TPxxT & TPxxTT Series

Featuring uniform, fine microstructure and optimized chemical composition, these casings can sustain higher external pressure and axial load, suitable for offshore oil wells and those with complicated geological conditions. (such as TP80T, TP110TT,…)

Sour Service Casing TPxxS & TPxxSS Series

Featuring excellent anti-H_2S corrosion properties, these casings are suitable for medium and deep oil well applications in H_2S environment. (such as TP80S, TP95S,…)



Product series of anti-corrosion casing

Strength Level	Proprietary Grades					
	Anti-H_2S	Special Anti-H_2S	Anti-H_2S Anti-collapse	Anti-CO_2	Anti-CO_2 Anti-collapse	Anti-CO_2 Anti-H_2S
80	TP 80SS	L80-IRP	TP80TSS	TP80NC-3Cr TP80NC-13Cr	TP80TNC-3Cr TP80TTNC-3Cr TP80TNC-13Cr TP80TTNC-13Cr	TP80NC-3CrSS
90	TP90S	TP90SS	TP90TS TP90TSS			
95	TP95S	TP95SS	TP95TS TP95TSS			
100	TP100S	TP100SS	TP100TS TP100TSS			
105	TP105S	TP105SS	TP105TS TP105TSS			
110	TP110S	TP110S	TP110TS TP110TSS	TP110NC-3Cr	TP110TNC-3Cr TP110TTNC-3Cr TP110TNC-13Cr TP110TTNC-13Cr	TP110NC-3CrS
140				TP140NC-3Cr		

Heavy Oil Recovery Casing TPxxH Series

Featuring good thermal stability, high anti-collapse strength and good ductility, excellent sealing property in high temperatures, these casings are used specially for thermal production wells having high strength and ductility, suitable for steam injection at 350°C~400°C, and injection pressure 15~26 Mpa at the perforation section of wells. (such as TP90H, TP100H,...)

Seamless Pipe | Semi-finished Drill Pipe

Size	Weight	Weight for plain end		OD		WT		Grade
		lb/ft	kg/m	in	mm	in	mm	
2-3/8	6.65	6.27	9.33	2.375	60.3	0.280	7.11	E, X, G, S
2-7/8	10.40	9.72	14.47	2.875	73.0	0.362	9.19	E, X, G, S
3-1/2	9.50	8.81	13.12	3.500	88.9	0.254	6.45	E
	13.30	12.32	18.34	3.500	88.9	0.368	9.35	E, X, G, S
	15.50	14.64	21.79	3.500	88.9	0.449	11.40	E
	15.50	14.64	21.79	3.500	88.9	0.449	11.40	X, G, S
4	14.00	12.95	19.27	4.000	101.6	0.330	8.38	E, X, G, S
4-1/2	13.75	12.25	18.23	4.500	114.3	0.271	6.88	E
	16.60	15.00	22.32	4.500	114.3	0.337	8.56	E, X, G, S
	20.00	18.71	27.84	4.500	114.3	0.430	19.92	E, X, G, S
5	16.25	14.88	22.16	5.000	127.0	0.296	7.52	X, G, S
	19.50	17.95	26.70	5.000	127.0	0.362	9.19	E
	19.50	17.95	26.70	5.000	127.0	0.362	9.19	X, G, S
	25.60	24.05	35.80	5.000	127.0	0.500	12.70	E
	25.60	24.05	35.80	5.000	127.0	0.500	12.70	X, G, S
5-1/2	21.90	19.83	29.52	5.500	139.7	0.361	9.17	E, X, G, S
	24.70	22.56	33.57	5.500	139.7	0.415	10.54	E, X, G, S
6-5/8	25.20	22.21	33.04	6.625	168.3	0.330	8.38	E, X, G, S
	27.72	24.24	36.06	6.625	168.3	0.362	9.19	E, X, G, S

Seamless Pipe | Line Pipe

Line pipe and process pipe products are intended for the transmission of petroleum, natural gas and other gases & fluids, including over a hundred specifications for various applications in regular, pressure, onshore, offshore, low-temperature, high-temperature corrosion-resistant and other applications for onshore, offshore, chemical and petrochemical refinery projects. TPCO can supply products according to international standards such as API5L, ASTM, ASME, JIS, DIN, EN, etc. And it also can meet the customers' special specifications by mutual agreement.

Nominal Diameter		Outside Diameter		Schedule											
mm	inch	mm	inch	20	30	STD	40	60	XS	80	100	120	140	160	XXS
50	2	60.3	2.375			3.91 5.44	3.91 5.44		5.54 7.48	5.54 7.48				8.74 11.11	11.07 13.44
65	2 1/2	73.0	2.875			5.16 8.63	5.16 8.63		7.01 11.41	7.01 11.41				9.53 14.92	14.02 20.39
80	3	88.9	3.500			5.49 11.29	5.49 11.29		7.62 15.27	7.62 15.27				11.13 21.35	15.24 27.68
90	3 1/2	101.6	4.000			5.74 13.57	5.74 13.57		8.08 18.63	8.08 18.63					
100	4	114.3	4.500			6.02 16.07	6.02 16.07		8.56 22.32	8.56 22.32		11.13 28.32		13.49 33.54	17.12 41.03
125	5	141.3	5.563			6.55 21.77	6.55 21.77		9.53 30.97	9.53 30.97		12.70 40.28		15.88 49.11	19.05 57.43
150	6	168.3	6.625			7.11 28.26	7.11 28.26		10.97 42.56	10.97 42.56		14.27 54.20		18.26 67.56	21.95 79.22
200	8	219.1	8.625	6.35 33.31	7.04 36.81	8.18 42.55	8.18 42.55	10.31 53.08	12.70 64.64	12.70 64.64	15.09 75.92	18.26 90.44	20.62 100.92	23.01 111.27	22.23 107.92
250	10	273.1	10.750	6.35 41.77	7.80 51.03	9.27 60.31	9.27 60.31	12.70 81.55	12.70 81.55	15.09 96.01	18.26 114.75	21.44 133.06	25.40 155.15	28.58 172.33	25.40 155.15
300	12	323.9	12.750	6.35 49.73	8.38 65.20	9.53 73.88	10.31 79.73	14.27 108.96	12.70 97.46	17.48 132.08	21.44 159.91	25.40 186.97	28.58 208.14	33.32 238.76	25.40 186.97
350	14	355.6	14.000	7.92 67.90	9.53 81.33	9.53 81.33	11.13 94.55	15.09 126.71	12.70 107.39	19.05 158.10	23.83 194.96	27.79 224.65	31.75 253.56	35.71 281.70	
400	16	406.4	16.000	7.92 77.83	9.53 93.27	9.53 93.27	12.70 123.30	16.66 160.12	12.70 123.30	21.44 203.53	26.19 245.56	30.96 286.64	36.53 333.19	40.49 365.35	
450	18	457.2	18.000	7.92 87.71	11.13 122.38	9.53 105.16	14.27 155.80	19.05 205.74	12.70 139.15	23.88 254.55	29.36 309.62	34.93 363.56	39.67 408.26	45.24 459.37	
500	20	508.0	20.000	9.53 117.15	12.70 155.12	9.53 117.15	15.09 183.42	20.62 247.83	12.70 155.12	26.19 311.17	32.54 381.53	38.10 441.49	44.45 508.11	50.01 564.81	
550	22	558.8	22.000	9.53 129.13	12.70 171.09	9.53 129.13		22.23 294.25	12.70 171.09	28.58 373.83	34.93 451.42	41.28 527.02	47.63 600.63	53.98 672.26	
600	24	609.6	24.000	9.53 141.12	14.27 209.64	9.53 141.12	17.48 255.41	24.61 355.26	12.70 187.06	30.96 442.08	38.89 547.71	46.02 640.03	52.37 720.15	59.54 808.22	
650	26	660.4	26.000	12.70 202.72		9.53 152.87			12.70 202.72						
700	28	711.2	28.000	12.70 218.69	15.88 271.21	9.53 164.85			12.70 218.69						

Unit: -Wall Thickness(mm) -Weight(kg/m)

All line pipes mentioned above can meet Standard NACE MR-01-75 upon customer's request.

Standard grade & application

Standard	Grade	Application
API 5L(PSL1, PSL2)	Up to X80 Up to L555	Transmission of petroleum & natural gas
ASTM A53/ASTM SA53 ASTM A106/ASTM SA106	A, B A, B, C	Transmission of low-pressure water, coal gas, air, oil & steam
DIN 1629	ST37.0, ST44.0, ST52.0	Regular line pipe
JIS G3454	STPG370, STPG410	Pressure pipe,100kg/m² (-10˚C~350˚C)
JIS G3455	STPG370, STPG410, STPG480	High pressure pipe, 100-1000kg/m² (-10˚C~350˚C)
JIS G3456	STPG370, STPG410, STPG480	High pressure pipe, 350˚C~400˚C
CAN/CSA Z245.1	172, 207, 241, 291, 317, 259, 414, 448, 483, 550	Transmission of oil & natural gas
ASTM A333	6	Low temperature
DNV-OS-F101	Up to 485/X70	Transmission of petroleum & natural gas offshore

In addition, TPCO produces and supplies to customers' product specification, such as: Saudi Aramco (01-SAMSS-031/035), Shell (DEP), TOTAL (GS EP PLR 201/211), ADCO (ES-30-99-00-0105), KOC (KOC-MS-001) etc.

Seamless Pipe | High Pressure Cylinder Pipe & Accumulator Pipe

High-pressure seamless cylinders are made either from billets, plate or seamless pipes. The latter production process is very popular among cylinder manufacturers. Cylinder pipes are provided as raw material for making cylinders. The advantages of the cylinder made by seamless pipe are good external and internal surface quality, uniform wall thickness, light in weight, simple process procedures, high production efficiency, high yield rate.

Specifications of high-pressure cylinder tube

O.D(mm)	W.T(mm)
60	4.5-6.5
70	4.5-7.0
89	4.5-8.0
102, 108, 114, 121	4.5-10.0
123, 127, 140 (139.7), 146, 152 (152.4)	4.5-12.0
165	5.0-12.0
168	5.0-14.0
178, 180, 182, 194, 204, 219, 223	5.5-15.0
229	5.5-14.0
232	6.0, 8.0-18.0
245	6.5-20.0
255, 262, 267, 273, 279	7.5-21.0, 24.0-30.0
325	7.5-9.0
351	14
356	8.5-17.0, 20.0-27.0, 30.0-36.0
377	14
406	8.5-22.0, 25.0-28.0, 35.0-38.0
559	16.0-27.0
610	18.0-30.0
630	18.0-30.0

Chemical composition

Steel Grade	Chemical composition(%)										
	C	Si	Mn	P	S	P+S	Cr	Mo	Ni	Cu	V
30CrMo	0.26-0.34	0.17-0.37	0.40-0.70	≤0.030	≤0.025	≤0.050	0.80-1.10	0.15-0.25		≤0.20	
34CrMo4	0.30-0.37	<0.40	0.60-0.90	≤0.035	≤0.030	≤0.050	0.90-1.20	0.15-0.30			
37Mn/1	0.36-0.40	0.17-0.37	1.50-1.75	≤0.030	≤0.025	≤0.050	≤0.30			≤0.20	
37Mn/2	0.34-0.38	0.17-0.37	1.45-1.70	≤0.030	≤0.025	≤0.050	≤0.30			≤0.20	
37Mn/3	0.30-0.37	0.17-0.37	1.40-1.75	≤0.035	≤0.035	≤0.050	≤0.30	≤0.10	≤0.30	≤0.20	0.07-0.12

Mechanical performance

Steel Grade	Heat Treatment System for Specimen	Mechanical property			
		Tensile Strength* (≥Mpa)	Yield Strength* (≥Mpa)	Elongation (≥%)	Impact Test (≥J)
30CrMo	Quenching 890+/-10℃ Tempering 650+/-10℃	780	660	16	55
34CrMo4 ①	Quenching 830-890 ℃ Tempering 540-680 ℃	900-1100	650	12	40
34CrMo4 ②	Quenching 830-890 ℃ Tempering 540-680 ℃	1000-1200	800	11	-
37Mn/1	Normalizing 840+/-10℃	730	520	16	30
37Mn/2	Quenching 840+/-10℃ Tempering 600+/-10℃	730	610	16	55
37Mn/3	Normalizing 870+/-10℃	730	520	16	30

Note:

34CrMo4 acc. to EN10083, others to GB18248

① 8<W.T≤ 20 ② W.T≤ 8

* For reference only

Seamless Pipe | Coupling

Round thread and buttress thread casing couplings dimensions, weights and tolerances.

Size		Outside diameter				Minimum length						Weight					
		Round thread		Buttress		Round thread				Buttress		Round thread				Buttress	
						Short		Long									
		W		W		NL		NL		NL		Short		Long			
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg	lb	kg
4-1/2	114.3	5.000	127.0	5.000	127.0	6-1/4	158.8	7	177.8	8-7/8	225.4	7.98	3.623	9.15	4.154	10.11	4.590
5	127.0	5.563	141.3	5.563	141.3	6-1/2	165.1	7-3/4	196.9	9-1/8	231.8	10.26	4.658	12.66	5.748	12.99	5.897
5-1/2	129.7	6.050	153.7	6.050	153.7	6-3/4	171.5	8	293.2	9-1/4	235.0	11.53	5.235	14.14	6.420	14.14	6.420
6-5/8	468.3	7.390	187.7	7.390	187.7	7-1/4	184.2	8-3/4	222.3	9-5/8	244.5	20.09	9.121	24.98	11.341	24.46	11.105
7	177.8	7.656	200.0	7.656	200.0	7-1/2	184.2	9	228.6	10	254.0	18.47	8.385	23.85	10.828	23.22	10.542
7-5/8	193.7	8.500	215.9	8.500	215.9	7-3/4	184.2	9-1/4	235.0	10-3/8	263.5	27.08	12.294	34.42	15.627	34.85	15.822
8-5/8	219.1	9.625	244.5	9.625	244.5	7-3/4	196.9	10	254.0	10-5/8	269.9	35.75	16.231	47.72	21.665	45.94	20.857
9-5/8	244.5	10.625	269.9	10.625	269.9	7-3/4	196.9	10-1/2	260.4	10-5/8	269.9	39.71	18.028	56.05	25.447	51.00	23.154
10-3/4	273.1	11.750	298.5	11.750	298.5	8	203.2	-	-	10-5/8	269.9	45.76	20.775	-	-	56.69	25.737
11-3/4	298.5	12.750	323.9	12.750	323.9	8	203.2	-	-	10-5/8	269.9	49.87	22.640	-	-	61.74	28.030
13-3/8	339.7	14.375	365.1	14.375	365.1	8	203.2	-	-	10-5/8	269.9	56.52	25.660	-	-	69.98	31.770
16	406.4	17.000	431.8	17.000	431.8	9	228.6	-	-	10-5/8	269.9	76.96	34.910	-	-	88.81	40.280
18-5/8	473.0	20.000	508.0	20.000	508.0	9	228.6	-	-	10-5/8	269.9	119.07	54.010	-	-	138.18	62.680
20	508.0	21.000	533.4	21.000	533.4	9	228.6	11-1/2	292.1	10-5/8	269.9	95.73	43.420	126.87	57.040	110.45	50.100

Seamless Pipe | Low-Medium And High Pressure Boiler Tubes

Outside Diameter (mm)	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	11.0	12.5	14.2
48.3	3.97	4.37	4.86	5.34	5.9	6.53	7.21	7.95	8.57	9.4	10.1	11.0	
51.0	4.23	4.66	5.13	5.67	6.24	6.95	7.69	8.43	9.10	10.1	10.9	11.9	12.9
57.0	4.78	5.27	5.81	6.41	7.08	7.91	8.77	9.65	10.1	11.6	12.5	13.8	15.0
60.3	5.07	5.59	6.17	6.82	7.53	8.42	9.34	10.3	11.1	12.4	13.4	14.8	16.2
63.5	5.36	5.91	6.52	7.21	7.97	8.91	9.90	10.9	11.8	13.2	14.3	15.8	17.3
70.0	5.93	6.55	7.24	8.01	8.85	9.92	10.0	12.2	13.2	14.8	16.0	17.8	19.6
76.1	6.49	7.17	7.92	8.77	9.71	10.9	12.1	13.4	14.6	16.3	17.7	19.7	21.7
82.5	7.06	7.80	8.63	9.56	10.6	11.9	13.2	14.6	15.9	17.9	19.5	21.7	24.0
88.9	7.63	8.43	9.33	10.3	11.5	12.9	14.4	15.9	17.3	19.5	21.2	23.7	26.2
101.6		9.70	10.7	11.9	13.2	14.9	16.6	18.4	20.1	22.6	24.7	27.6	30.7
108.0		10.3	11.4	12.7	14.1	15.8	17.7	19.6	21.4	24.2	26.4	29.6	32.9
114.3		11.0	12.1	13.5	16.0	16.8	18.8	20.9	22.8	25.7	28.1	31.6	35.1
121.0			12.9	14.3	15.9	17.8	19.2	22.3	24.3	27.4	29.8	33.4	37.4
127.0			13.5	15.0	16.7	18.8	21.0	23.4	25.5	28.9	31.6	35.5	39.6
133.0			14.2	15.8	17.6	19.8	22.1	24.6	26.9	30.3	33.3	37.4	41.8
139.7			14.9	16.6	18.5	20.8	23.3	25.9	28.3	32.0	35.1	39.5	44.0
152.4				18.2	20.2	22.8	25.5	28.4	31.0	35.1	38.5	43.4	48.5
159.0				19.0	21.1	23.8	26.6	29.6	32.4	36.7	40.3	45.5	50.8
165.1				19.7	21.9	24.8	27.7	30.9	33.8	38.2	42.0	47.4	53.0
168.3				20.1	22.4	25.3	28.3	31.5	34.5	39.0	42.9	48.4	54.1
177.8					28.7	26.7	30.0	33.4	36.5	41.4	45.4	51.3	57.4
193.7						29.2	32.6	36.5	40.0	45.3	49.8	56.2	63.0
216.0						32.6	36.6	41.0	45.0	50.8	55.6	62.7	70.7
219.1						33.2	37.2	41.5	45.4	51.6	56.7	64.1	71.9
244.5							41.2	46.5	50.9	57.8	63.6	72.0	80.8
267.0							45.6	50.9	55.8	63.4	69.7	79.0	88.7
273.0							46.7	52.1	57.1	64.9	71.4	80.9	90.9
406.4										97.8	107	121	137
457.0											119	135	153
508.0											134	153	173
559.0												168	191
610.0												184	208

Note:
Intermediate sizes are available on request.

Comparison of materials

ASTM/ASME					DIN	EN	JIS	
A/SA 106	A/SA 53	A/SA 209	A/SA 210	A/SA 213 A/SA 335	17175	10216-2	3461 3462	3456 3458
Gr.A	Gr.A				St35.8	P235GH	STB340	STPT370
Gr.B	Gr.B		Gr.A1		St45.8	P265GH	STB410	STPT410
Gr.C			Gr.C		17Mn4		STB510	STPT480
					19Mn5	20MnNb6		
					15Mo3	16Mo3		
		T1/T1A/T1B		P1		8MoB5-4	STBA12	STPA12
				T2/P2			STBA20	STPA20
				T11/P11		10CrMo5-5	STBA23	STPA23
				T12/P12	13CrMo44	13CrMo4-5	STBA22	STPA22
				T22/P22	10GrMo9-10	10CrMo9-10	STBA24	STPA24
				T23/P23				
					14MoV6-3	14MoV6-3		
				T9/P9		X11CrMo9-1	STBA26	STPA26
				T91/P91		X10CrMoVNb9-1		

16.0	17.5	20.0	20.2	25	28	30	32	36	40	45	50	55	Outside Diameter (mm)
													48.3
													51.0
16.2													57.0
17.4													60.3
18.7													63.5
21.2	22.6							Tolerance range acc to EN10216-2					70.0
23.7	25.3	27.7							+/-12.5%				76.1
26.2	28.0	30.8	33.0						+/-20%				82.5
28.7	30.8	34.0	36.5						+/-15%				88.9
33.7	36.2	40.2	43.5						+/-10%				101.6
36.2	39.0	43.4	47.0										108.0
38.6	41.7	46.5	50.4										114.3
41.4	44.7	49.8	54.1										121.0
43.6	47.2	52.8	57.4										127.0
46.1	49.9	55.7	60.8										133.0
48.6	52.7	59.0	64.4										139.7
53.6	58.1	65.3	71.3										152.4
56.2	60.9	68.6	74.8										159.0
58.6	63.6	71.6	78.2										165.1
59.9	65.0	73.1	80.0										168.3
63.6	69.1	77.8	85.2										177.8
69.8	75.9	85.7	93.9										193.7
78.9	85.7	96.7	106										216.0
79.8	96.9	98.2	108										219.1
89.8	97.8	111	122										244.5
98.6	107	122	134										267.0
101	110	125	137										273.0
154	168	191	210	235	261	278	295	329	361	401	439		406.4
	190	216	238	266	296	316	335	374	411	457	520	545	457.0
194	212	241	266	298	331	354	376	419	462				508.0
214	234	266	294	329	367	391	416	464	512				559.0
234	256	291	322	360	402	429	456	509	562				610.0

TPCO

Seamless Pipe | Mechanical Pipe

Chemical composition limits (%) as per ASTM A519

Grade	C	Mn	P	S	Si	Ni	Cr	Mo
1030	0.28-0.34	0.60-0.90	0.040	0.050	-	-	-	-
1035	0.32-0.38	0.60-0.90	0.040	0.050	-	-	-	-
1040	0.37-0.44	0.60-0.90	0.040	0.050	-	-	-	-
1045	0.43-0.50	0.60-0.90	0.040	0.050	-	-	-	-
4130	0.28-0.33	0.40-0.60	0.040	0.040	0.15-0.35	-	0.80-1.10	0.15-0.25
4135	0.33-0.38	0.70-0.90	0.040	0.040	0.15-0.35	-	0.80-1.10	0.15-0.25
4140	0.38-0.43	0.75-1.00	0.040	0.040	0.15-0.35	-	0.80-1.10	0.15-0.25
4145	0.43-0.48	0.75-1.00	0.040	0.040	0.15-0.35	-	0.80-1.10	0.15-0.25

Note:
The purchaser may specify the following maximum amounts: Copper, 0.3%; Aluminum, 0.05%; Oxygen, 0.0015%.

Typical tensile properties, hardness and thermal condition for some common carbon and alloy steels

Grade Designation	Condition	Ultimate Strength		Yield Strength		Elongation in 2 in.or 50 mm, %	Rockwell Hardness B Scale
		Ksi	Mpa	Ksi	Mpa		
1035	HR	65	448	40	276	20	72
	CW	85	586	75	517	5	88
	SR	75	517	65	448	8	80
	A	60	414	33	228	25	67
	N	65	448	40	276	20	72
1045	HR	75	517	45	310	15	80
	CW	90	621	80	552	5	90
	SR	80	552	70	483	8	85
	A	65	448	35	241	20	72
	N	75	517	48	331	15	80
4130	HR	90	621	70	483	20	89
	SR	105	724	85	586	10	95
	A	75	517	55	379	30	81
	N	90	621	60	414	20	89
4140	HR	120	855	90	621	15	100
	SR	120	855	100	689	10	100
	A	80	552	60	414	25	85
	N	120	855	90	621	20	100

Note:
HR-Hot Rolled, SR-Stress Relieved, A-Annealed, N-Normalized, CW-Cold Worked.

Mechanical pipe size range:

mm	Wall thickness mm	mm
114.0	6.0 – 24.0	114.0
121.0	6.0 – 37.0	121.0
127.0	6.0 – 37.0	127.0
133.0	6.0 – 24.0	133.0
141.0	6.0 – 24.0	141.0
152.0	6.0 – 40.0	152.0
153.7	13.0 – 40.0	153.7
159.0	12.0 – 40.0	159.0
168.0	10.0 – 45.0	168.0
180.0	7.0 – 70.0	180.0
194.0	6.0 – 65.0	194.0
203.0	6.0 – 65.0	203.0
219.0	6.0 – 65.0	219.0
232.0	25.0 – 65.0	232.0
245.0	6.5 – 40.0	245.0
299.0	8.0 – 50.0	299.0
325.0	7.5 – 50.0	325.0
339.7	7.5 – 50.0	339.7
351.0	7.5 – 50.0	351.0
356.0	9.0 – 34.0	356.0
377.0	10.0 – 57.0	377.0
406.0	9.5 – 57.0	406.0
426.0	9.5 – 57.0	426.0
457.0	9.5 – 57.0	457.0
508.0	8.0 – 60.0	508.0
559.0	8.0 – 40.0	559.0
630.0	8.0 – 40.0	630.0
700.0	12.0 – 40.0	700.0
710.0	12.0 – 40.0	710.0

HFW Pipe

Two high level welded pipe production lines have been set up in TPCO, in which the line pipe, casing, mechanical pipe and structural round pipe can be produced according to international standards and customer's requirements. The main equipments were imported from Germany, Austria, Norway and Canada.

HFW Pipe | Casing

Spec (in)	Weigh (lb/ft)	Outside Diameter (in)	Wall Thickness (in)	Drift Diameter (in)	Plain-end Wpe (lb/ft)	Type Of Pipe Finishing		
						H40	J55/K55	N80-1
5	11.5	5.000	0.220	4.435	11.24	-	PS	-
	13.0	5.000	0.253	4.369	12.84	-	PSLB	-
	15.0	5.000	0.296	4.283	14.88	-	PSLBE	PLBE
	18.0	5.000	0.362	4.151	17.95	-	-	PLBE
5 1/2	14.0	5.500	0.244	4.887	13.71	PS	PS	-
	15.5	5.500	0.275	4.825	15.36	-	PSLBE	-
	17.0	5.500	0.304	4.767	16.89	-	PSLBE	PLBE
	20.0	5.500	0.361	4.653	19.83	-	-	PLBE
	23.0	5.500	0.415	4.545	22.56	-	-	PLBE
	26.8	5.500	0.500	4.375	26.72	-	-	-
6 5/8	20.0	6.625	0.288	5.924	19.51	PS	PSLB	-
	24.0	6.625	0.352	5.796	23.60	-	PSLBE	PLBE
	28.0	6.625	0.417	5.666	27.67	-	-	PLBE
	32.0	6.625	0.475	5.550	31.23	-	-	PLBE
7	17.0	7.000	0.231	6.413	16.72	PS	-	-
	20.0	7.000	0.272	6.331	19.56	PS	PS	-
	23.0	7.000	0.317	6.241	22.65	-	PSLBE	PLBE
	26.0	7.000	0.362	6.151	25.69	-	-	PLBE
	29.0	7.000	0.408	6.059	28.75	-	-	PLBE
	32.0	7.000	0.453	5.969	31.70	-	-	PLBE
	35.0	7.000	0.498	5.879	34.61	-	-	PLBE
7 5/8	24.0	7.625	0.300	6.900	23.49	PS	-	-
	26.2	7.625	0.328	6.844	25.59	-	PSLBE	PLBE
	29.7	7.625	0.375	6.750	29.06	-	-	PLBE
	33.7	7.625	0.430	6.640	33.07	-	-	PLBE
	39.0	7.625	0.500	6.500	38.08	-	-	PLBE
	42.8	7.625	0.562	6.376	42.43	-	-	PLB
8 5/8	24.0	8.625	0.264	7.972	23.60	-	PS	-
	28.0	8.625	0.304	7.892	27.04	PS	-	-
	32.0	8.625	0.352	7.796	31.13	PS	PSLBE	-
	36.0	8.625	0.400	7.700	35.17	-	PSLBE	PLBE
	40.0	8.625	0.450	7.600	39.33	-	-	PLBE
	44.0	8.625	0.500	7.500	43.43	-	-	PLBE
	49.0	8.625	0.557	7.286	48.04	-	-	PLBE
9 5/8	32.30	9.625	0.312	8.845	31.06	PS	-	-
	36.00	9.625	0.352	8.765	34.89	PS	PSLB	-
	40.00	9.625	0.395	8.679	38.97	-	PSLBE	PLBE
	43.50	9.625	0.435	8.599	42.37	-	-	PLBE
	47.00	9.625	0.472	8.525	46.18	-	-	PLBE
	53.50	9.625	0.545	8.379	52.90	-	-	PLBE
	58.40	9.625	0.595	8.279	57.44	-	-	PLB
	59.40	9.625	0.609	8.251	58.70	-	-	-
10 3/4	32.75	10.750	0.279	10.036	31.23	PS	-	-
	40.50	10.750	0.350	9.894	38.91	PS	PSB	-
	45.50	10.750	0.400	9.875	44.26	-	PSBE	-
	45.50	10.750	0.400	9.794	44.26	-	PSBE	-
	51.00	10.750	0.450	9.694	49.55	-	PSBE	PSBE
	55.50	10.750	0.495	9.604	54.26	-	-	PSBE
	60.70	10.750	0.545	9.504	59.45	-	-	-
	65.70	10.750	0.595	9.404	64.59	-	-	-
11 3/4	42.00	11.750	0.333	10.928	40.64	PS	-	-
	47.00	11.750	0.375	10.844	45.60	-	PSB	-
	54.00	11.750	0.435	10.724	52.62	-	PSB	-
	60.00	11.750	0.489	10.616	58.87	-	PSB	PSB
	65.00	11.750	0.534	10.526	64.03	-	-	P
	71.00	11.750	0.582	10.430	69.48	-	-	P

HFW Pipe | Line Pipe

Nominal Size	Outside Diameter		Wall Thickness		Plain-end Wpe		Steel Grade
NPS	(in)	mm	(in)	mm	(lb/ft)	kg	
12 3/4	12.750	323.9	0.188	4.8	25.36	37.77	B to X80
	12.750	323.9	0.205	5.2	27.23	40.87	B to X80
	12.750	323.9	0.219	5.6	29.34	43.96	B to X80
	12.750	323.9	0.250	6.4	33.41	50.11	B to X80
	12.750	323.9	0.281	7.1	37.46	55.47	B to X80
	12.750	323.9	0.312	7.9	41.48	61.56	B to X80
	12.750	323.9	0.323	8.2	57.48	63.84	B to X80
	12.750	323.9	0.344	8.7	45.62	67.62	B to X80
	12.750	323.9	0.375	9.5	49.61	73.65	B to X80
	12.750	323.9	0.406	10.3	53.57	79.65	B to X80
	12.750	323.9	0.437	11.1	57.65	85.62	B to X80
	12.750	323.9	0.500	12.7	65.48	97.46	B to X80
	12.750	323.9	0.562	14.3	73.22	109.18	B to X65
	12.750	323.9	0.625	15.9	81.01	120.76	B to X60
	12.750	323.9	0.688	17.5	88.71	132.23	B to X60
14	14.000	355.6	0.188	4.8	27.88	41.53	B to X80
	14.000	355.6	0.205	5.2	29.94	44.93	B to X80
	14.000	355.6	0.219	5.6	32.26	48.33	B to X80
	14.000	355.6	0.250	6.4	36.75	55.11	B to X80
	14.000	355.6	0.281	7.1	41.21	61.02	B to X80
	14.000	355.6	0.312	7.9	45.65	67.74	B to X80
	14.000	355.6	0.323	8.2	47.17	70.25	B to X80
	14.000	355.6	0.344	8.7	50.22	74.42	B to X80
	14.000	355.6	0.375	9.5	54.62	81.08	B to X80
	14.000	355.6	0.406	10.3	59.00	87.71	B to X80
	14.000	355.6	0.437	11.1	63.50	94.30	B to X80
	14.000	355.6	0.500	12.7	72.16	107.39	B to X80
	14.000	355.6	0.562	14.3	80.73	120.36	B to X65
	14.000	355.6	0.625	15.9	89.36	133.19	B to X60
	14.000	355.6	0.688	17.5	97.96	145.92	B to X60
16	16.000	406.4	0.219	5.6	34.28	55.35	B to X80
	16.000	406.4	0.250	6.4	42.09	63.13	B to X80
	16.000	406.4	0.281	7.1	47.22	69.91	B to X80
	16.000	406.4	0.312	7.9	52.32	77.63	B to X80
	16.000	406.4	0.323	8.2	54.06	80.53	B to X80
	16.000	406.4	0.344	8.7	57.57	85.32	B to X80
	16.000	406.4	0.375	9.5	62.64	92.98	B to X80
	16.000	406.4	0.406	10.3	67.68	100.61	B to X80
	16.000	406.4	0.437	11.1	72.86	108.20	B to X80
	16.000	406.4	0.500	12.7	82.85	123.30	B to X80
	16.000	406.4	0.562	14.3	92.75	138.27	B to X80
	16.000	406.4	0.625	15.9	102.72	153.11	B to X80
	16.000	406.4	0.688	17.5	112.62	167.83	B to X65
	16.000	406.4	0.750	19.1	122.48	182.43	B to X60
Non-API	16.772	426.0	0.219	5.6	38.98	58.06	B to X60
	16.772	426.0	0.250	6.4	44.46	66.23	B to X80
	16.772	426.0	0.281	7.1	49.24	73.35	B to X80
	16.772	426.0	0.312	7.9	54.69	81.46	B to X80
	16.772	426.0	0.323	8.2	56.72	84.49	B to X80
	16.772	426.0	0.344	8.7	60.11	89.53	B to X80
	16.772	426.0	0.375	9.5	65.51	97.58	B to X80
	16.772	426.0	0.406	10.3	70.89	105.59	B to X80
	16.772	426.0	0.437	11.1	76.25	113.58	B to X80
	16.772	426.0	0.500	12.7	86.91	129.45	B to X80
	16.772	426.0	0.562	14.3	97.48	145.19	B to X80
	16.772	426.0	0.625	15.9	107.96	160.81	B to X80
	16.772	426.0	0.688	17.5	118.36	176.30	B to X65
	16.772	426.0	0.750	19.1	128.68	191.66	B to X60
18	18.000	457.0	0.250	6.4	47.44	71.12	B to X60
	18.000	457.0	0.281	7.1	53.23	78.77	B to X80
	18.000	457.0	0.312	7.9	58.99	87.49	B to X80
	18.000	457.0	0.323	8.2	60.93	90.76	B to X80
	18.000	457.0	0.344	8.7	64.93	96.18	B to X80
	18.000	457.0	0.375	9.5	70.65	104.84	B to X80
	18.000	457.0	0.406	10.3	76.36	113.46	B to X80
	18.000	457.0	0.437	11.1	82.23	122.05	B to X80
	18.000	457.0	0.500	12.7	93.54	139.15	B to X80
	18.000	457.0	0.562	14.3	104.76	156.11	B to X80
	18.000	457.0	0.625	15.9	116.09	172.95	B to X80
	18.000	457.0	0.688	17.5	127.32	189.67	B to X80
	18.000	457.0	0.750	19.1	138.30	206.25	B to X65
	18.000	457.0	0.810	20.6	148.84	221.70	B to X60
	18.000	457.0	0.866	22.2	37.25	238.05	B to X60

Nominal Size	Outside Diameter		Wall Thickness		Plain-end Wpe		Steel Grade
NPS	(in)	mm	(in)	mm	(lb/ft)	kg	
20	20.000	508.0	0.250	6.4	52.78	79.16	B to X80
	20.000	508.0	0.281	7.1	59.23	87.70	B to X80
	20.000	508.0	0.312	7.9	65.66	97.43	B to X80
	20.000	508.0	0.323	8.2	67.86	101.07	B to X80
	20.000	508.0	0.344	8.7	72.28	107.12	B to X80
	20.000	508.0	0.375	9.5	78.67	116.78	B to X80
	20.000	508.0	0.406	10.3	85.04	126.41	B to X80
	20.000	508.0	0.437	11.1	91.59	136.01	B to X80
	20.000	508.0	0.500	12.7	104.23	155.12	B to X80
	20.000	508.0	0.562	14.3	116.78	174.10	B to X80
	20.000	508.0	0.625	15.9	129.45	192.95	B to X80
	20.000	508.0	0.688	17.5	142.03	211.69	B to X80
	20.000	508.0	0.750	19.1	154.34	230.27	B to X65
	20.000	508.0	0.810	20.6	166.56	247.60	B to X60
	20.000	508.0	0.866	22.2	178.89	265.95	B to X60
Non-API	20.866	530.0	0.250	6.4	55.48	82.64	B to X80
	20.866	530.0	0.281	7.1	61.47	91.55	B to X80
	20.866	530.0	0.312	7.9	68.29	101.71	B to X80
	20.866	530.0	0.323	8.2	70.84	105.51	B to X80
	20.866	530.0	0.344	8.7	75.09	111.84	B to X80
	20.866	530.0	0.375	9.5	81.86	121.94	B to X80
	20.866	530.0	0.406	10.3	88.62	132.00	B to X80
	20.866	530.0	0.437	11.1	95.36	142.04	B to X80
	20.866	530.0	0.500	12.7	108.77	162.01	B to X80
	20.866	530.0	0.562	14.3	122.09	181.86	B to X80
	20.866	530.0	0.625	15.9	135.33	201.58	B to X80
	20.866	530.0	0.688	17.5	148.49	221.17	B to X80
	20.866	530.0	0.750	19.1	161.56	240.64	B to X65
	20.866	530.0	0.810	20.6	173.73	258.77	B to X60
	20.866	530.0	0.866	22.2	186.64	278.00	B to X60
22	22.000	559.0	0.250	6.4	58.13	87.21	B to X80
	22.000	559.0	0.281	7.1	65.24	96.63	B to X80
	22.000	559.0	0.312	7.9	72.34	107.36	B to X80
	22.000	559.0	0.323	8.2	74.78	111.39	B to X80
	22.000	559.0	0.344	8.7	79.64	118.06	B to X80
	22.000	559.0	0.375	9.5	86.69	128.73	B to X80
	22.000	559.0	0.406	10.3	93.72	139.37	B to X80
	22.000	559.0	0.437	11.1	100.96	149.97	B to X80
	22.000	559.0	0.500	12.7	114.92	171.09	B to X80
	22.000	559.0	0.562	14.3	128.79	192.08	B to X80
	22.000	559.0	0.625	15.9	142.81	212.95	B to X80
	22.000	559.0	0.688	17.5	156.74	233.68	B to X80
	22.000	559.0	0.750	19.1	170.37	254.30	B to X65
	22.000	559.0	0.810	20.6	183.92	273.51	B to X60
	22.000	559.0	0.866	22.2	197.60	293.87	B to X60
24	24.000	610.0	0.281	7.1	71.25	105.56	B to X80
	24.000	610.0	0.312	7.9	79.01	117.30	B to X80
	24.000	610.0	0.323	8.2	81.70	121.69	B to X80
	24.000	610.0	0.344	8.7	86.99	129.00	B to X80
	24.000	610.0	0.375	9.5	94.71	140.68	B to X80
	24.000	610.0	0.406	10.3	102.40	152.32	B to X80
	24.000	610.0	0.437	11.1	110.32	163.93	B to X80
	24.000	610.0	0.500	12.7	125.61	187.06	B to X80
	24.000	610.0	0.562	14.3	140.81	210.07	B to X80
	24.000	610.0	0.625	15.9	156.17	232.94	B to X80
	24.000	610.0	0.688	17.5	171.45	255.69	B to X80
	24.000	610.0	0.750	19.1	186.41	278.32	B to X65
	24.000	610.0	0.810	20.6	201.28	299.41	B to X60
	24.000	610.0	0.866	22.2	216.31	321.79	B to X60
26	26.000	660.0	0.281	7.1	77.26	114.31	B to X80
	26.000	660.0	0.312	7.9	85.68	127.04	B to X80
	26.000	660.0	0.323	8.2	88.49	131.80	B to X80
	26.000	660.0	0.344	8.7	94.35	139.73	B to X80
	26.000	660.0	0.375	9.5	102.72	152.39	B to X80
	26.000	660.0	0.406	10.3	111.08	165.02	B to X80
	26.000	660.0	0.437	11.1	119.69	177.62	B to X80
	26.000	660.0	0.500	12.7	136.30	202.72	B to X80
	26.000	660.0	0.562	14.3	152.83	227.70	B to X80
	26.000	660.0	0.625	15.9	169.54	252.55	B to X80
	26.000	660.0	0.688	17.5	186.16	277.27	B to X80
	26.000	660.0	0.750	19.1	202.44	301.87	B to X65
	26.000	660.0	0.810	20.6	218.64	324.81	B to X60
	26.000	660.0	0.866	22.2	235.01	349.16	B to X60