



High Pressure Boiler Tubes with IBR Approved MTC

Email: hpbtubes@gmail.com



About Us

Our core competency is **High Pressure Boiler** Tubes, Pipes for - Thermal Power Plants in any Size, Specification and Shape. We are not Traders but IBR Approved Manufacturers hence we First Technically Evaluate whether our clients requirement is suitable to their end-use and then we consider giving the right Technical Product meeting their need.

We have in depth knowledge within our Group of the Manufacturing Process of Steel Pipes, Tubes and Fittings and their uses in the Industry. Our Clients are generally wary of us as we ask a lot of Questions before we make an offer but that does not bother us because at the end of the day our clients are Grateful that we were careful before our commitments rather than regret later. We are associated with all the Tube Mills in India and in many countries in Japan, Europe ,USA Abroad with Techno- Commercial Consultations during their inception stages for the Product Mix, Technical Delivery Conditions, QAP etc. We have information on the monthly Rolling programs of all the mills in the world, their Strengths and their weaknesses which we use to the advantage of our customers to efficiently source with shortest delivery times , price advantages balanced to quality. Our Promoters are pioneers in the Field of Tubes and Pipes in India and were responsible for the Rise of the Largest Stockist and Importers of Pipes and Tubes in India for the last 65 Years and these Promoters and Staff have now turned Entrepreneurs to serve you Better, giving our clients the advantage of dealing with a smaller tighter agile ship with knowledge and stocks compatible to Large Corporate.

USERS:

Power Generation,
Petrochemicals,
Refineries,
Fertilizers,
Steel Plants,
Aluminum/Copper/Zinc Smelters,
Sugar Factories,
OEM Boiler Manufacturers,
Paper Factories,
Cement Plants,
Chemical Process Industries,
Ship-Yards.

Steel Pipes and Tubes are classified by the following methods:

1. **By Manufacturing** - Method which are broadly Classified as Seamless or Welded.
 - a) Seamless method is further classified as Hot Finished and Cold Drawn.
 - b) Welded are classified as ERW, SAW, CDW, SW, MMAW.
2. **By Steel Chemistry** - which are broadly Carbon Steels, Alloy Steel, Stainless Steels.
 - a) Carbon Steels are further classified as Low, Medium, High Carbon & Manganese Steels.
 - b) Alloy Steels are further classified by composition of Chrome and Moly.
 - c) Stainless Steels are classified by their various composition of Nickel, Chrome, Moly etc.
3. **End Use determines all the above three parameters best suited for required working Pressure & Metal Temperatures**
 - a) Tubes are used to transfer Heat Load Through its Walls (Thickness).
 - b) Pipes are used to transfer Heat Loads through its Bore.



High Pressure Boiler



When You Need Answers, Call on the Boiler Tube Experts.



HPB

We supply Steel Pipes, Tubes and Fittings to Various Specifications with MTC and IBR Certificates In the size Ranging from 8 mm OD to 1016 mm OD and thickness ranges 1 mm Thk to 76.2 mm Thk used for Steam /Line Piping, Boiler SuperHeaters, Economisers, Water Walls, Headers, Air Pre Heaters, Heat Exchangers. We also supply Rifle Bore Tubes, integral Finned tubes (Omega or Phi Tubes) etc.

Specifications handled by us :

ASME/ASTM : A178, A179, A192, A210 Gr. A1/C, SA 209 – T1a, b A 213 – T2, T11, T12, T22, T23 T5, T9, T91, T92, TP 304H, TP 321H, TP 347H, TP 347HFG, TP 30432 (Super 304H) TP310HCbN, Super 304 H etc. SA 214 A 53/A106 Gr. A, B, C, A 335 –all grades etc. **ASME/ASTM A 423, A333 Gr. 1/6, SA 556, SA 234 WPB, WP6, WP11.etc**

DIN : 17175 / EN10216-2 / St. 35.8 / 45.8 / P235 GH / 16Mo3 / 13CrMo4-5 / 10CrMo9-10 / X20CrMoV11-1 / DIN-2391/2448 etc.

BS 3059 : Part I/II – Gr. 320, 360, 440, 243, 620, 622, BS 6323.

GB 5310 : 20G, 15CrMoG, 12Cr1MoVG.

GOST : 20, 12XIMF, 15XM, 15X1MF.

JIS : STBA22, STBA 23, STBA 24, STBA 26.



PIPE DIMENSION												Standard Pipe Dimensions - ANSI B16.9												Wall Thickness in millimeter,		Kg/Mtr = Weight in Kg. per Mtr.						
	OD	SCH.10		SCH.20		SCH.30		SCH.STD.		SCH.40		SCH. X STRONG		SCH.60		SCH.80		SCH.100		SCH.120		SCH.140		SCH.160		SCH.XX STRONG						
INCH	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR	(MM)	KG/MTR				
1/4	13.7	1.65					2.24	0.63	2.24	0.63	3.02	0.80				3.02	0.80															
3/8	17.1	1.65					2.31	0.84	2.31	0.84	3.20	1.10				3.20	1.10															
1/2	21.3	2.11					2.77	1.27	2.77	1.27	3.73	1.62				3.73	1.62										4.78	1.95	7.47	2.55		
3/4	26.7	2.11					2.87	1.69	2.87	1.69	3.91	2.20				3.91	2.20										5.56	2.90	7.82	3.64		
1	33.4	2.77					3.38	2.50	3.38	2.50	4.55	3.24				4.55	3.24										6.35	4.24	9.00	5.42		
1 1/4	42.2	2.77					3.56	3.39	3.56	3.39	4.85	4.47				4.85	4.47										6.35	5.61	9.70	7.77		
1 1/2	48.3	2.77					3.68	4.05	3.68	4.05	5.08	5.41				5.08	5.41										7.14	7.25	10.15	9.55		
2	60.3	2.77					3.91	5.44	3.91	5.44	5.54	7.48				5.54	7.48										8.74	11.11	11.07	13.44		
2 1/2	73	3.05					5.16	8.63	5.16	8.63	7.01	11.41				7.01	11.41										9.59	15.00	14.02	20.39		
3	88.9	3.05					5.49	11.29	5.49	11.29	7.62	15.27				7.62	15.27										11.13	21.35	15.24	27.68		
3 1/2	101.6	3.05					5.74	13.57	5.74	13.57	8.08	18.63				8.08	18.63															
4	114.3	3.05					6.02	16.07	6.02	16.07	8.56	22.32				8.58	22.37			11.13	28.32						13.48	33.51	17.12	41.03		
5	141.3	3.4					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		
6	168.3	3.4					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		
8	219.1	3.76					6.35	33.31	7.04	36.81	8.18	42.55	8.18	42.55	12.70	64.64	10.31	53.08	12.70	64.64	15.09	75.92	18.26	90.44	20.62	100.92	23.01	111.27	22.23	107.92		
10	273	4.19					6.35	41.75	7.80	51.01	9.27	60.29	12.70	81.52	12.70	81.52	15.09	95.97	18.25	114.65	21.44	133.00	25.40	155.09	28.58	172.26	25.40	155.09				
12	323.8	4.57					6.35	49.71	8.38	65.18	9.53	73.86	10.31	79.70	12.70	97.43	14.27	108.92	17.48	132.04	21.44	159.86	25.40	186.91	28.58	208.07	33.32	238.68	25.40	186.91		
14	355.8	6.35	54.72	7.92	67.94	9.53	81.38	9.53	81.38	11.13	94.60	12.70	107.45	15.09	126.78	19.05	158.20	23.83	195.08	27.79	224.79	31.75	253.72	35.71	281.87							
16	406.4	6.35	62.64	7.92	77.83	9.53	93.27	9.53	93.27	12.70	123.30	12.70	123.30	16.66	160.12	21.44	203.53	26.19	245.56	30.96	286.64	36.53	333.19	40.49	365.36							
18	457.2	6.35	70.60	7.92	87.75	11.13	122.43	9.53	105.21	14.27	155.87	12.70	139.21	19.05	205.83	23.83	254.67	29.36	309.76	34.83	362.78	39.67	408.45	45.24	459.59							
20	508	6.35	78.55	9.53	117.15	12.70	155.12	9.53	117.15	15.08	183.30	12.70	155.12	20.62	247.83	26.19	311.17	32.54	381.53	38.10	441.49	44.45	508.11	50.01	564.81							
22	558.8	6.35	86.51	9.53	129.08	12.70	171.03	9.53	129.08	12.70	171.03	22.23	294.14	28.58	373.69	34.83	450.04	41.28	526.82	47.36	597.31	53.88	670.88									
24	609.6	6.35	94.46	9.53	141.02	14.27	209.50	9.53	141.02	17.48	255.24	12.70	186.94	24.61	355.02	30.94	441.51	38.89	547.33	46.02	639.58	52.37	719.63	59.54	807.63							

Pipe Weight = (OD - thk) x thk x 0.02466. Kg/Mt. (OD, thk / in mm.)

Recommended Metal Temperatures for Boiler Tube Grades. Typical Steel Grades of Tubes Fabricated by us.

Max. Service temp.	454°C 850°F				537°C 1000°F				538°C 1000°F		649°C 1200°F		649°C 1200°F		648°C 1200°F				648°C 1200°F		648°C 1200°F					
ASTM A 106	Gr. A	Gr. B	Gr. C		T1	P1			T2/P2		T12/P12		T11/P11		T22/P22		T9/P9		T91/P91							
A 192	A192	Gr. A-1	Gr. C																							
A 209-A 210																										
A213-A335																										
BS 3059-3602-3604	360	410	440-460	490 Nb	243							620				621	622	660		629	762					
DIN 17175	St35.8	St45.8	17Mn4	19Mn5	15Mo3	16Mo5	15NiCuMoNb5					13CrMo44				10CrMo9 10	14MoV63			X12CrMo91	1.4922					
	1.0305	1.0405	1.0461	1.0482	1.5415	1.5423	1.6368					1.7335				1.7380	1.7715			1.7386	1.4922					
GOST TV 143-460-75			20									15XM	12X1MF							15X1MF						
JIS G 3456 G3458	STPT38	STPT42	STPT49									STPA20	STPA22			STPA23	STPA24					STPA26				
G3461 G3462	STB35	STB42										STBA20	STBA22			STPA23	STBA24					STBA26				
NF A49-213	TU37-C	TU42-C	TU48-C	TU52-C	TU15D3							TU15CD2.05	TU13CD4.04			TU10CD5.05	TU10CD9.10					TUZ10CD9	TUZ10CDNv9.2			

Tube Dimension & Weight Table

WEIGHT FOR STEEL TUBES (KGS PER MTR)														STRESS						
THICKNESS/ OUTSIDE DIAMETER	S.W.G	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Pa	Mpa(N/mm²)	kgf/mm²	lbf/in²	
		MM THK ->	7.62	7.01	6.40	5.89	5.38	4.88	4.47	4.06	3.66	3.25	2.94	2.64	2.33	2.03	1	1x10 ⁶	1	1.01972x10 ⁻⁷
1/2	12.7	-	-	-	-	-	-	-	-	0.82	0.76	0.71	0.65	0.60	0.53					
3/4	19.05	-	-	-	-	-	-	-	-	1.39	1.27	1.17	1.07	0.96	0.85					
1	25.4	-	-	-	-	-	-	-	-	1.96	1.78	1.63	1.48	1.33	1.17					
1 1/4	31.75	-	-	-	-	-	3.23	3.01	2.77	2.54	2.28	2.09	1.90	1.69	1.49					
1 1/2	38.1	-	5.37	5.00	4.68	4.34	4.00	3.71	3.41	3.11	2.79	2.55	2.31	2.06	1.81					
1 3/4	44.45	6.92	6.47	6.01	5.60	5.18	4.76	4.41	4.04	3.68	3.30	3.01	2.72	2.42	2.12					
2	50.8	8.11	7.57	7.01	6.52	6.03	5.53	5.11	4.68	4.25	3.81	3.47	3.14	2.78	2.44					
2 1/4	57.15	9.31	8.67	8.01	7.45	6.87	6.29	5.81	5.32	4.83	4.32	3.93	3.55	3.15	2.76					
2 3/8	60.33	9.90	9.22	8.51	7.91	7.29	6.67	6.16	5.63	5.11	4.57	4.16	3.76	3.33	2.92					
2 1/2	63.5	10.50	9.77	9.01	8.37	7.71	7.05	6.51	5.95	5.40	4.83	4.39	3.96	3.51	3.08					
2 3/4	69.85	11.69	10.86	10.01	9.29	8.55	7.82	7.21	6.59	5.97	5.34	4.85	4.38	3.88	3.40					
2 7/8	73.03	12.29	11.41	10.52	9.75	8.98	8.20	7.56	6.91	6.26	5.59	5.08	4.58	4.06	3.55					
3	76.2	12.89	11.96	11.02	10.21	9.40	8.58	7.91	7.22	6.55	5.85	5.31	4.79	4.24	3.71					
3 1/4	82.55	14.08	13.06	12.02	11.13	10.24	9.35	8.61	7.86	7.12	6.36	5.77	5.20	4.61	4.03					
3 1/2	88.9	15.27	14.16	13.02	12.06	11.08	10.11	9.31	8.49	7.69	6.86	6.23	5.62	4.97	4.35					

MATERIAL SPECIFICATIONS

STEEL GRADE	CHEMICAL COMPOSITIONS (%)										COMPARISON STANDARDS									
	C	Si	Mn	P	S	Ni	Cr	Mo	OTHERS	ASTM	BS	NOS.	DIN	CODE	AISI	JIS	GB			
LOW CARBON STEEL	0.08-0.18	0.10-0.35	0.30-0.60	≤0.035	≤0.035	—	—	—	Cu≤0.20	A179-A192	3601/320	1.0308	st35	STPG38, STS35, ST338, STP38, STB30, STB33, STB35						
MEDIUM CARBON STEEL	0.17-0.25	0.10-0.35	0.30-0.80	≤0.035	≤0.035	—	—	—	Cu≤0.20	A53-Gr8, A106Gr8 A210 GR.A1	3601/ 3602/410	1.0408	st45 st45.4 st45.8 C22	1015	STPG42, STS42, STPT42, STB42	SI10G				
MEDIUM CARBON STEEL	0.25-0.30	0.10-0.35	0.30-1.00	≤0.035	≤0.035	—	—	—	Cu≤0.20	106Gr.C, 210GR.A1				1025						
MEDIUM CARBON STEEL	0.30-0.35	0.10-0.35	0.30-1.00	≤0.035	≤0.035	—	—	—	Cu≤0.20		3602 /Steel35	1.0507 1.0509	st55 st55.4	1030						
0.3 Mo Steel	0.10-0.20	0.10-0.35	0.50-0.80	≤0.030	≤0.030	—	—	—	Cu≤0.20		3059/243	1.5415	15Mo3						15CrMoG	
0.5 Mo Steel	0.10-0.20	0.10-0.35	0.30-0.60	≤0.030	≤0.030	—	—	—	Cu≤0.20	P1,T1				STPA12, STBA12						
0.5Cr-0.5Mo Steel	0.10-0.20	0.10-0.30	0.30-0.60	≤0.030	≤0.030	—	—	—	Cu≤0.20	P2,T2				STPA20, STBA20						
1Cr-0.5Mo Steel	≤0.15	0.10-0.50	0.30-0.60	≤0.030	≤0.030	—	—	—	Cu≤0.20	P12,T12	3604/620-460			STPA22, STBA22						
1Cr-0.5Mo Steel	≤0.15	0.10-0.35	0.40-0.60	≤0.030	≤0.030	—	—	—	Cu≤0.20		3609/620			13CrMo44						
1.25Cr-0.5Mo-0.75Si Steel	≤0.15	0.50-1.00	0.30-0.60	≤0.025	≤0.025	—	—	—	Cu≤0.20	P11,T11	621			STPA23, STBA23						
2.25Cr-1Mo Steel	≤0.15	0.10-0.50	0.30-0.60	≤0.030	≤0.030	—	—	—	Cu≤0.20	P22,T22	622			10CrMo910	STPA24, STBA24					
5Cr-0.5Mo Steel	≤0.15	0.10-0.50	0.30-0.60	≤0.030	≤0.030	—	—	—	Cu≤0.20	P5,T5	625	1.738		12CrMo195	STPA25, STBA25					
9Cr-1Mo Steel	≤0.15	0.25-1.00	0.30-0.60	≤0.030	≤0.030	—	—	—	Cu≤0.20	P9,T9	629	1.7386		X12CrMo91	STPA26, STBA26					
9Cr-1Mo-Nb-V Steel	0.08-0.12	0.20-0.50	0.30-0.60	≤0.020	≤0.010	≤0.40	8.00-9.50	0.85-1.05	V:0.18-0.25 Nb:0.06-0.10 Sol-Al:0.04 N:0.03-0.07	A213-T-91 A335-P-91										
0.5Cr-0.5Mo-025 V Steel	0.10-0.15	0.10-0.35	0.40-0.70	≤0.030	≤0.030	—	—	—	Cu≤0.20	P11-22-28	680	1.7715		14MoV63					12Cr1MoVG	
Al-KILLED STEEL	≤0.12	≤0.35	≤1.35	≤0.035	≤0.035	—	—	—	Cu≤0.10-0.60	A333-1,A334-1										
Cr-Mo Steel	0.33-0.39	0.15-0.30	0.40-0.70	≤0.030	≤0.030	≤0.30	0.80-1.10	0.15-0.25	Cu≤0.20				1.722							
Al-KILLED STEEL	≤0.14	≤0.35	≤1.00	≤0.035	≤0.035	—	—	—	Cu≤0.10-0.60	A333-1,A334-1				STPL39,STBL39 ,STS38						
3.5Ni Steel	≤0.18	0.10-0.35	0.30-60	≤0.030	≤0.030	3.20-3.80	—	—	Cu≤0.09-0.125	A333Gr3, A334-Gr3	3603/503	1.5637		10Ni14	STPL46,STBL46					
22Cr-Cu Steel	≤0.20	≤0.75	≤1.00	≤0.040	≤0.030	≤0.50	18.00-23.00	—	Cu≤0.09-0.125	TP443										
12Cr-1Mo-0.3V Steel	0.17-0.23	0.10-0.50	0.30-0.80	≤0.035	≤0.030	0.30-0.80	11.10-12.50	0.80-1.20	V:0.20-0.35 W:0.40-0.60				1.4922		X20CrMoV121					
12Cr-1Mo-0.3V-0.5W Steel	0.17-0.23	0.10-0.50	0.30-0.80	≤0.035	≤0.030	0.30-0.80	11.10-12.50	0.80-1.20	V:0.20-0.35 W:0.40-0.60		3604/762	1.4935		x20CrMoWV121						
18Cr-8 Ni-Steel	0.04-0.10	≤0.75	≤2.00	≤0.030	≤0.030	8.00-11.00	18.00-20.00	—	—	TP304H	3609/304S18	1.4301	x5CrNi189							
18Cr-8Ni-TiSteel	0.04-0.10	≤0.75	≤2.00	≤0.030	≤0.030	9.00-13.00	17.00-20.00	—	Ti:4Xc%-60	TP321H	3609/321S18	1.4300	x12CrNi189	321	sus304H					
18Cr-8Ni-NbSteel	0.04-0.10	≤0.75	≤2.00	≤0.030	≤0.030	9.00-13.00	17.00-20.00	—	Nb:28xc%	TP347H	3609/347S18	1.455	X10CrNb189	347, 348	sus347H					

HPB
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An ISO-9001-2015 COMPANY
(IBR APPROVED)

Office : 90, Ashok Chamber, 5th Floor, Bharuch Street, Dana Bunder, Mumbai - 400 009.

Email: hpbtubes@gmail.com

Phone No.: +91 22 23489993, Land line: +91 88509 88237

LLPIN - AAW-0301

