

BAOLAI STEEL



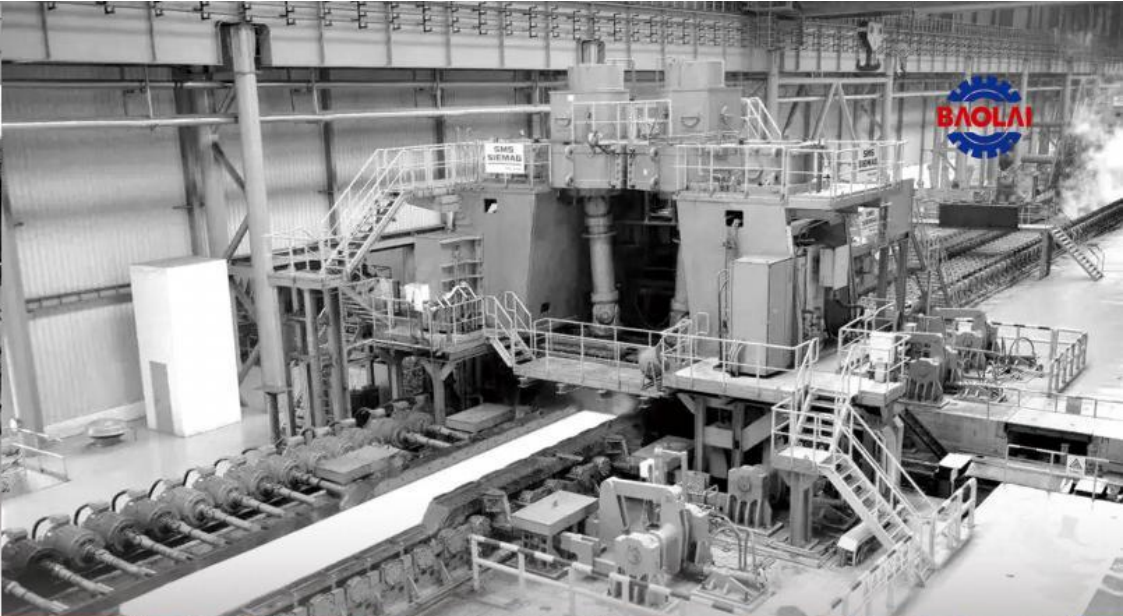
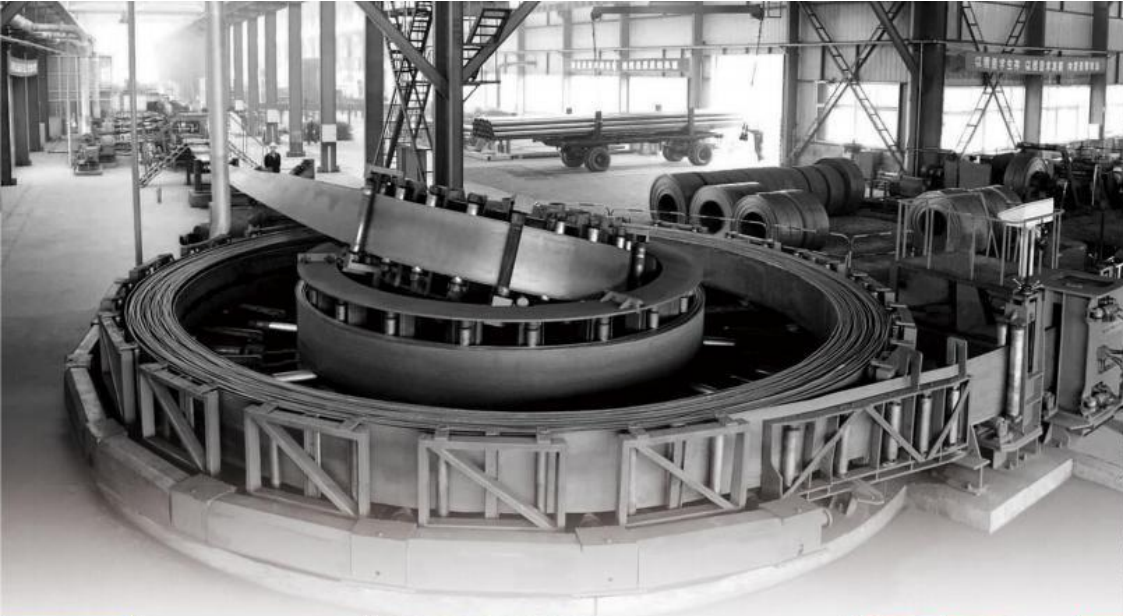
COMPANY PROFILE

Tianjin Baolai Steel Group Co., Ltd is a comprehensive company, which focus on steel pipes and other steel products. Established in 1991, Baolai is among the first few specialized companies that develop and manufacture ordinary and special diameter steel pipes. We manufacture API, ASTM, BS, DIN and JIS standards pipes with galvanizing facility. Our annual capacity is approximately 2,300,000MT in various specifications and export 150,000MT to all over the world.

We have been awarded "Top Ten Collective and Private Exporters of Tianjin" by Tianjin Commerce Department, "Top Ten Exporters of Hexi District" by Tianjin Hexi Commerce Department, "Top 100 Enterprises of Tianjin" and "Top 300 International Trade companies of Tianjin" by Tianjin government, and a credit rating "AAA" by banks.

Apart from being the supplier of a comprehensive range of our products, Baolai aims to extend its commitment to customers by enhancing its services and adding new facilities. A dedicated team is tasked to provide technical support so as to advise the proper usage of steel and assist customers in using the products to its best advantage.







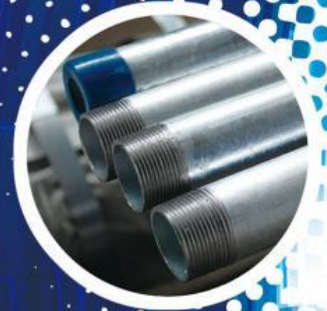
BAOLAI STEEL



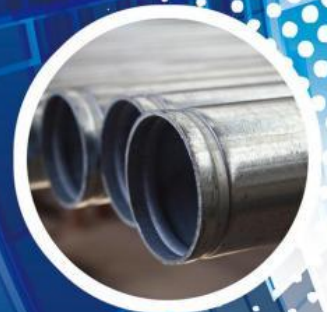
Galvanizing
Fabrication



Painted Pipe Workshop



Threaded Galvanized Pipe



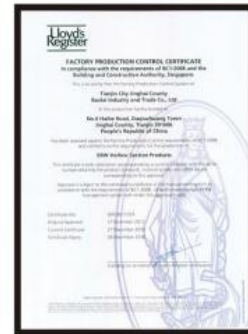
Grooved Pipe

BAOLAI STEEL



■ CERTIFICATES ■

■ CERTIFICATES ■



BAOLAI List of Specifications

Specifications	Application	Chemical Requirement(%)						Physical Requirement				
		C (Max)	Si (Max)	Mn (Max)	P (Max)	S (Max)	Others	Tensile Strength Min MPa(Psi)	Yield Strength Min MPa(Psi)			
BS 1139	—	Pipe Scaffolding	0.20	0.30	—	0.060	0.060	—	340-460MPa	210MPa		
BSEN10255	L	Carbon Steel pipes for ordinary piping	0.20	—	1.4	0.035	0.030	—	320-520MPa	195MPa		
	M							—				
	H							—				
BS 3059	320	For Boiler	0.16	0.35	1.30-0.70	0.040	0.040	—	340-480MPa	195MPa		
320	0.16	—	—	340-480MPa	195MPa							
BS 3601	360	Pipes for Pressure Service	0.17	0.35	1.40-0.80	0.040	0.040	—	360-500MPa	235MPa		
	360		0.17		—			360-500MPa	235MPa			
	430		0.21		—			430-570MPa	275MPa			
BS 6323 Part 5 Type KM	ERW 1	Carbon steel pipes for Mechanical Structural Purposes and General Structural Purposes	0.13	—	0.60	0.050	0.050	—	300MPa	200MPa		
	ERW 2		0.16	—	0.70			—	340MPa	250MPa		
	ERW 3		0.20	—	0.90			—	400MPa	300MPa		
	ERW 4		0.25	—	1.20			—	450MPa	350MPa		
	ERW 5		0.23	0.35	1.50			—	500MPa	420MPa		
API 5L (PSL 1)	L175(A25)	Line Pipe	0.21	0.50	0.60	—	—	—	310MPa (45000 psi)	175MPa (25400 psi)		
	L175P(A25P)								310MPa (45000 psi)	175MPa (25400 psi)		
	L210(A)								0.22	0.90	0.045-0.080	—
	L245(B)		—	1.20	—	—	415MPa (60200 psi)	290MPa (42100 psi)				
	L290(X42)		—	1.30	—	—	415MPa (60200 psi)	320MPa (46400 psi)				
	L320(X46)		0.26	1.40	0.030	0.030	—	—	—	435MPa (63100 psi)	290MPa (42100 psi)	
	L360(X52)									460MPa (66700 psi)	360MPa (52000 psi)	
	L390(X56)									490MPa (71100 psi)	390MPa (56000 psi)	
	L415(X60)		—	1.45	—	—	—	520MPa (75400 psi)	415MPa (60200 psi)			
	L450(X65)		—	1.45	—	—	—	535MPa (77600 psi)	450MPa (65300 psi)			
	L480(X70)		—	1.65	—	—	—	570MPa (82700 psi)	465MPa (67300 psi)			
	L245M(BM)		Line Pipe	0.22	—	1.40	0.025	0.015	—	—	415-760MPa (60200-110200 psi)	245-450MPa (35500-65300 psi)
	L290M(X42M)										415-760MPa (60200-110200 psi)	290-495MPa (42100-71800 psi)
L320M(X46M)	435-760MPa (63100-110200 psi)	320-525MPa (46400-76100 psi)										
L360M(X52M)	465-760MPa (67300-110200 psi)	360-530MPa (52200-76900 psi)										
L390M(X56M)	490-760MPa (71100-110200 psi)	390-545MPa (56000-79000 psi)										
L415M(X60M)	490-760MPa (71100-110200 psi)	390-545MPa (56000-79000 psi)										
L460M(X66M)	—	1.45		—	—	—	520-760MPa (75400-110200 psi)	415-565MPa (60200-81900 psi)				
L485M(X70M)	—	1.65		—	—	—	520-760MPa (82700-110200 psi)	485-635MPa (70300-92100 psi)				
L555M(X80M)	—	1.85		—	—	—	625-825MPa (90600-119700 psi)	555-705MPa (80500-102300 psi)				
API 5CT	J-55	Casing & Tubing		—	—	—	0.03	0.03	—	517MPa (75000 psi)	379-552MPa (55000-80000 psi)	
	K-55			—	—	—			655MPa (95000 psi)	379-552MPa (55000-80000 psi)		
	N-80			—	—	—			689MPa (100000 psi)	552-758MPa (80000-110000 psi)		
	L-80			—	—	—			655MPa (95000 psi)	552-655MPa (80000-95000 psi)		
	P-110		—	—	—	—			758-965MPa (110000-140000 psi)			

Specifications	Application	Elongation Min(%)	Flattening Test	Bend Test	Hydrostatic & NDT	Others																				
							Longitudinal Direction	Transverse Direction																		
BS 1139	—	22	—	Black: 190°X6D Galva: 90°X3D	—	* Copper sulfate test: 4times(1 minute) * Zn Coating Weight: 300 g/m ² min																				
BSEN10255	Carbon Steel pipes for ordinary piping	20	—	Larger than DN 50 Weld portion:H=0.75D The other side of weld portion:H=0.6D	DN 50 and Smaller D 21.3, 26.8, 33.7, 42.4, 48.3, 60.3 R 48.3, 60.3, 100, 130, 178, 220	50Bar or NDT	* Copper sulfate test: 4times(1 minute)																			
								25	H= $\frac{(1+C)}{C+10}$ C:0.10	P= $\frac{2St}{D}$ or NDT																
								25	H= $\frac{(1+C)}{C+10}$ C:0.10 Gr: 320 0.023 0.10 *C: Constant 360 0.026 0.09 430 0.023 0.08																	
25	H= $\frac{(1+C)}{C+10}$ C:0.10																									
BS 6323 Part 5 Type KM	Carbon steel pipes for Mechanical Structural Purposes and General Structural Purposes	10	D/t ≤ 20	H = 0.66D	—	50Bar or P = $\frac{2St}{D}$	* Minimum expansion drift expanding test * Type GKM, GZF: annealing * Type NKM, NZF: Normalizing																			
								8	H = 0.75D																	
								7	H = 0.85D																	
								6	H = 0.85D																	
								6	H = 0.85D																	
API 5L (PSL 1)	Line Pipe	e-625,000 x $\frac{A^{0.2}}{UTS}$	A: Cross - Sectional area of the test specimen in sq in U: specified minimum ultimate tensile strength in Psi	Weld portion : H=2/3D The other side of weld portion: H=1/3D Weld ductility Test H= $\frac{3.07t}{0.07+3t/D}$ less than x 52 H= $\frac{3.05t}{0.05+3t/D}$ x 52 and higher	2 1/2 and Smaller 90° X 12D	P= $\frac{2St}{D}$ P= hydrostatic test Pressure(psi) S= fiber stress, equal to a percentage of specified min. yield strength for the various sizes as shown in the tabulation below. (psi) t = specified thickness (inch) D = Outside Diameter (inch) and NDT	* Heat treatment on the weld seam area * Metallographic Examination * Fracture Toughness Test(PSL2)																			
								Grade	Size Designation	Percent of specified min. yield strength standard Test Pressure Alternate Test Pressure																
											A20	5 9/16	60	—												
											A	2 3/8 and larger	80	75												
											B	5 1/8	80	75												
											X40-X80	5 1/8 and smaller	60	75												
												6 5/8 and 8 5/8	75	75												
												10 3/4 and 14 3/4	85	80												
												20 and larger	90	90												
											API 5CT	Casing & Tubing	e-625,000 x $\frac{A^{0.2}}{UTS}$	A: Cross - Sectional area of the test specimen in sq in U: specified minimum ultimate tensile strength in Psi	D/t ≥ 16, H=0.5D D/t < 16, H=D(0.83-0.0206 D/t) 9 ≤ D/t ≤ 28, H=D(1.074-0.0194 D/t) HD = D(1.086-0.0163 D/t)	—	P= $\frac{2St}{D}$ t is type and NDT. P= hydrostatic test pressure in psi t = a factor of 0.6 or 0.8, t _p = specified yield strength for the pipebody in psi t = specified wall thickness in inch D = Specified Outside diameter in inch Factor f	* Heat treatment on the weld seam area * Fracture Toughness Test								
																			Standard Test pressures	Size	H40	105,000	130,000			
																								100	100	100
																								100	100	100
100	100	100																								
100	100	100																								

BAOLAI List of Specifications

Specifications		Application	Chemical Requirement(%)					Physical Requirement			
			C (Max)	Si (Max)	Mn (Max)	P (Max)	S (Max)	Others	Tensile Strength Min MPa(Psi)	Yield Strength Min MPa(Psi)	
ASTM A53	A	Carbon Steel pipes for Ordinary piping	0.25	—	0.95	0.05	0.045	Cu, Cr, Ni ≤0.40	330MPa (48000 psi)	205MPa (30000 psi)	
	B		0.30	—	1.20	0.05	0.045	MOs0.15 V≤0.08	415MPa (60000 psi)	240MPa (35000 psi)	
ASTM A178	A	Boiler Tube	0.035	0.035	0.035	0.035	0.035	—	325MPa	180MPa	
	C								415MPa	255MPa	
	D								485MPa	275MPa	
ASTM A214	—	Heat-Exchanger & Condenser Tube	0.2	—	7~0	0.04	0	—	—		
ASTM A252	Grade I	—	—	—	—	0.05	—	—	345MPa (50000 psi)	207MPa (30000 psi)	
	Grade II								414MPa (60000 psi)	241MPa (35000 psi)	
	Grade III								455MPa (66000 psi)	310MPa (45000 psi)	
ASTM A500	A	Structural Carbon Steel Pipes in Round	0.30	—	—	0.045	0.045	cu ≥0.20	310MPa (45000 psi)	228MPa (33000 psi)	
	B		0.30	—	—	0.045	0.045		400MPa (58000 psi)	269MPa (42000 psi)	
	C		0.27	—	1.40	0.045	0.045		When required	428MPa (62000 psi)	317MPa (46000 psi)
	D		0.30	—	—	0.045	0.045		400MPa (58000 psi)	248MPa (36000 psi)	
	A	Structural Carbon Steel Pipes in Square & Rectangular	0.30	—	—	0.045	0.045	cu ≥0.20	310MPa (45000 psi)	269MPa (39000 psi)	
	B		0.30	—	—	0.045	0.045		400MPa (58000 psi)	317MPa (46000 psi)	
	C		0.27	—	1.40	0.045	0.045		When required	428MPa (62000 psi)	345MPa (50000 psi)
	D		0.30	—	—	0.045	0.045		400MPa (58000 psi)	248MPa (36000 psi)	
ASTM A589 (Type IV)	A	Water-well piping pipe	—	—	—	0.060	0.060	—	331MPa (48000 psi)	207MPa (30000 psi)	
	B		—	—	—	0.060	0.060		414MPa (60000 psi)	241MPa (35000 psi)	
ASTM A795	A	Carbon Steel pipes for fire protection use	0.25	—	0.95	0.035	0.035	—	—	—	
	B		0.30	—	1.20	0.035	0.035		—	—	

Elongation Min(%)	Flattening Test	Bend Test	Hydrostatic & NDT	Others
e-625,000 x e: minimum elongation in 2 in (50.8) A: Cross- Sectional area of the test specimen in sq in U: specified minimum ultimate tensile strength in Psi	Weld portion : H=2/3D The other side of weld portion: H=1/3D	For Pipe NPS 2 and under 90° X 12D 180° X 8D When order for close coiling	Specified respectively in size and grade (p=2s/D) The maximum pressure NPS 3 ≤ P=2,500 Psi NPS > 3 : P=2,800 Psi. NDT and NDT (NPS 2 and over)	*Zn Coating Weight :500 g/m ² min *Heat treatment on the weld seam area(Grade B)
35	H = $\frac{(1+e)t}{e+D}$ e:0.07(C≥0.19) 0.09(C ≤ 0.18)	—	p = 220.69D or NDT P : hydrostatic test Pressure(Mpa) t : specified wall thickness(mm) D : specified outside diameter(mm)	*Full Body Normalizing *Flange Test *Reverse Flattening Test *Crush test(when required)
30	H = $\frac{(1+e)t}{e+D}$ e:0.07(C≥0.19) 0.09(C ≤ 0.18)	—	p = 220.69D or NDT P : hydrostatic test Pressure(Mpa) t : specified wall thickness(mm) D : specified outside diameter(mm)	*Full Body Normalizing *Flange Test *Reverse Flattening Test *Crush test(when required)
30 (E=48+15.00), t=(inch)	—	—	—	—
25 (E=40+12.50), t=(inch)	—	—	—	—
20 (E=32+10.00), t=(inch)	—	—	—	—
25	H = $\frac{(1+e)t}{e+D}$ A. e=0.07 B. e=0.09 C. e=0.06	—	—	If necessary, Stress relieved, annealed
23	—	—	—	—
21	—	—	—	—
23	—	—	—	—
25	—	—	—	—
23	—	—	—	—
21	—	—	—	—
23	—	—	—	—
e-625,000 x $\frac{A^{3/2}}{D^2}$ e: minimum elongation in 2 in (50.8mm) A: Cross - Sectional area of the test specimen in sq in U: specified minimum ultimate tensile strength in Psi	—	—	In accordance with the specified hydrostatic pressures	*Zn Coating Weight :550 g/m ² (min)
—	Weld portion : H=2/3D The other side of weld portion: H=1/2D	—	In accordance with the specified hydrostatic pressures or NDT	*Zn Coating Weight :460 g/m ² (min)

BAOLAI List of Specifications

Standard	Application	Chemical Requirement(%)						Physical Requirement		
		C (Max)	Si (Max)	Mn (Max)	P (Max)	S (Max)	Others	Tensile Strength Min MPa(Psi)	Yield Strength Min MPa(Psi)	
KS D 3507 (JIS G 3452)	SPP(SGP)	General Piping	—	—	—	0.040	0.040	—	294(30)	—
KS D 3631	SPPG	Fuel Gas Piping	0.30	0.35	0.95	0.040	0.035	—	334(34)	206(21)
KS D 3562 (JIS G 3454)	SPPS 380 (STPG 370) SPPS 420 (STPG 410)	Pressure Service	0.25	0.35	0.30-0.90	0.040	0.040	—	380(38)	220(22)
			0.30	0.35	0.30-1.00	0.040	0.040	—	420(42)	250(25)
KS D 3563 (JIS G 3461)	STBH 340 (STB 340) STBH 410 (STB 410) STBH 510 (STB 510)	Boiler and Heat Exchanger	0.18	0.35	0.30-0.60	0.035	0.035	—	340(35)	175(18)
			0.32	0.35	0.30-0.80	0.035	0.035	—	410(42)	255(26)
			0.25	0.35	1.00-1.50	0.035	0.035	—	510(52)	295(30)
KS C 8401 (JIS G 8305)	—	Protecting Electric Wires	Use Steel Strips Specified in KS D 3555 (JIS G 3132)							
KS D 3566 (JIS G 3444)	STK 290	General Structural Purposes	—	—	—	0.050	0.050	—	290(30)	—
	STK 400		0.25	—	—	0.040	0.040	—	400(41)	235(24)
	STK 500		0.24	0.35	0.30-1.00	0.040	0.040	—	490(51)	315(36)
	STK 490		0.18	0.55	1.50	0.040	0.040	—	500(50)	355(32)
	STK 540		0.23	0.55	1.50	0.040	0.040	—	540(55)	390(40)
KS D 3568 (JIS G 3466)	SPSR 400	Square Pipes for General Structural Purposes	0.25	—	—	0.040	0.040	—	400(41)	245(25)
	SPSR 490		0.18	0.55	1.50	0.040	0.040	—	490(50)	325(33)

Elongation Min(%)		Flattening Test H= Distance between Flattening Plate D= Outside Diameter T= Wall Thickness	Bend Test	Hydrostatic & NDI P = Test Pressure (MPa) S = Fiber Stress (MPa)	Others																				
Specimen Type																									
11.12	5																								
30	25	H = 2/3D	Size 50A and Under 90° X 6D	P = 2.5 MPa / or NDT	Copper Sulfate test: 5 times (1 minute)																				
30	25	H = 2/3D	Size 40A and Under 90° X 6D	P = 3.0 MPa / or NDT	Normalizing On the Weld Seam area																				
30	25	Weld portion : H=2/3D The other side of weld portion: H=1/3D	Size 40A and Under 90° X 6D	<table border="1"> <tr> <td colspan="6">Unit = Kg/cm²</td> </tr> <tr> <td>SCH.NO</td> <td>1.0</td> <td>2.0</td> <td>3.0</td> <td>4.0</td> <td>5.0</td> <td>6.0</td> </tr> <tr> <td>test pressure</td> <td>2.0</td> <td>3.5</td> <td>5.0</td> <td>6.0</td> <td>9.0</td> <td>12.0</td> </tr> </table> or NDT	Unit = Kg/cm ²						SCH.NO	1.0	2.0	3.0	4.0	5.0	6.0	test pressure	2.0	3.5	5.0	6.0	9.0	12.0	—
Unit = Kg/cm ²																									
SCH.NO	1.0	2.0	3.0	4.0	5.0	6.0																			
test pressure	2.0	3.5	5.0	6.0	9.0	12.0																			
25	20																								
35	—	$H = \frac{(1+e)t}{e+1/D}$	—	$P = \frac{200st}{D}$ S = 60% x Yp Yp = Yield Point or NDT	* Full Body Normalizing * Flange Test * Reverse Flattening Test																				
25	—					e = 0.09																			
25	—					e = 0.08																			
25	—	e = 0.07	—	—	—																				
—	—	—	90° X 4D(G16,G22) 90° X 4D(G28)	—	Copper Sulfate test: 3 times (1 minute)																				
30	25	H = 2/3D	Outside Diameter 50mm and Under 90° X 8D	—	—																				
23	18	H = 2/3D	90° X 6D	—	—																				
15	10	H = 7/8D	90° X 6D	—	—																				
23	18	H = 7/8D	90° X 6D	—	—																				
20	16	H = 7/8D	90° X 6D	—	—																				
—	23	—	—	—	—																				
—	23	—	—	—	—																				

BAOLAI FIRE SPRINKLER PIPES



UL listed and FM approved BAOLAI fire protection pipes offer the most suitable products to its customers; black, galvanized, primer varnished, epoxy coating options and roll grooving, threading & coupling or beveled finishings.

EN FM & UL

	OD (mm)	Wall Thickness (mm)	FM	UL
Light Wall	33.7	2.0	✓	
	33.7	2.6	✓	
	42.4	2.0	✓	
	42.4	2.3	✓	
	42.4	2.6	✓	
	48.3	2.0	✓	
	48.3	2.6	✓	
	60.3	2.0	✓	
	60.3	2.9	✓	
	76.1	2.18	✓	
	76.1	2.9	✓	
	88.9	2.36	✓	
	88.9	3.2	✓	
	114.3	2.6	✓	
	114.3	3.6	✓	
	139.7	3.4	✓	

	OD (mm)	Wall Thickness (mm)	FM	UL
EN 10255 Medium	33.7	3.2	✓	
	42.4	3.2	✓	✓
	48.3	3.2	✓	✓
	60.3	3.6	✓	✓
	76.1	3.6	✓	✓
	88.9	4.0	✓	✓
114.3	4.5	✓	✓	
139.7	5.0	✓	✓	
165.1	5.0	✓	✓	

	OD (mm)	Wall Thickness (mm)	FM	UL
EN 10255 Heavy	21.3	3.2	✓	
	26.9	3.2	✓	✓
	33.7	4.0	✓	✓
	42.4	4.0	✓	✓
	48.3	4.0	✓	✓
	60.3	4.5	✓	✓
	76.1	4.5	✓	✓
	88.9	5.0	✓	✓
	114.3	5.4	✓	✓
	139.7	5.4	✓	✓
165.1	5.4	✓	✓	

ASTM FM & UL

	Nominal Sizes (inch)	OD (mm)	Wall Thickness (inch)	Wall Thickness (mm)	Weight (lb/ft)	Weight (kg/mt PE)	FM	UL
Light Wall	1	33.4	0.102	2.60	1.34	1.99	✓	
	1 1/4	42.2	0.091	2.30	1.53	2.27	✓	
	1 1/4	42.2	0.102	2.60	1.71	2.55	✓	
	1 1/2	48.3	0.102	2.60	1.97	2.93	✓	
	2	60.3	0.114	2.90	2.76	4.10	✓	
	2 1/2	73	0.114	2.90	3.52	5.23	✓	
	3	88.9	0.126	3.20	4.54	6.76	✓	
	4	114.3	0.142	3.60	6.60	9.83	✓	
	5	141.3	0.134	3.40	7.68	11.43	✓	
	1	33.4	0.079	2.00	1.05	1.56	✓	
SCH 7	1 1/4	42.2	0.079	2.00	1.34	1.99	✓	
	1 1/2	48.3	0.084	2.13	1.53	2.28	✓	
	2	60.3	0.084	2.13	1.93	2.88	✓	
	2 1/2	73	0.086	2.18	2.67	3.97	✓	
	3	88.9	0.093	2.36	3.38	5.04	✓	
4	114.3	0.108	2.60	4.81	7.16	✓		
SCH 10	3/4"	26.7	0.083	2.11	0.86	1.28	✓	✓
	1"	33.4	0.109	2.77	1.41	2.09	✓	✓
	1 1/4"	42.2	0.109	2.77	1.81	2.69	✓	✓
	1 1/2"	48.3	0.109	2.77	2.09	3.11	✓	✓
	2"	60.3	0.109	2.77	2.64	3.93	✓	✓
	2 1/2"	73	0.120	3.05	3.53	5.26	✓	✓
	3"	88.9	0.120	3.05	4.34	6.46	✓	✓
	3 1/2"	101.6	0.120	3.05	4.98	7.41	✓	✓
	4"	114.3	0.120	3.05	5.62	8.37	✓	✓
	5"	141.3	0.134	3.4	7.78	11.58	✓	✓
	6"	168.3	0.134	3.4	9.30	13.85	✓	✓
	8"	219.1	0.188	4.78	16.96	25.26	✓	✓
10"	273.1	0.188	4.78	21.23	31.62	✓	✓	
12"	323.8	0.188	4.78	25.28	37.61	✓	✓	
SCH 30	1"	33.4	0.114	2.9	1.46	2.17	✓	
	1 1/4"	42.2	0.117	2.97	1.93	2.87	✓	
	1 1/2"	48.3	0.125	3.18	2.37	3.53	✓	
	2"	60.3	0.125	3.18	3.00	4.48	✓	
	2 1/2"	73	0.188	4.78	5.40	8.04	✓	
	3"	88.9	0.188	4.78	6.65	9.92	✓	
	3 1/2"	101.6	0.188	4.78	7.65	11.41	✓	
	4"	114.3	0.188	4.78	8.66	12.91	✓	
	8"	219.1	0.277	7.04	24.70	36.81	✓	
	10"	273.1	0.307	7.8	34.24	51.03	✓	
12"	323.8	0.33	8.38	43.77	65.20	✓		
SCH 40	1/2"	21.3	0.109	2.77	0.85	1.27	✓	✓
	3/4"	26.7	0.113	2.87	1.13	1.69	✓	✓
	1"	33.4	0.133	3.38	1.68	2.50	✓	✓
	1 1/4"	42.2	0.140	3.56	2.27	3.39	✓	✓
	1 1/2"	48.3	0.145	3.68	2.72	4.05	✓	✓
	2"	60.3	0.154	3.91	3.66	5.45	✓	✓
	2 1/2"	73	0.203	5.16	5.80	8.64	✓	✓
	3"	88.9	0.216	5.49	7.58	11.29	✓	✓
	3 1/2"	101.6	0.226	5.74	9.12	13.58	✓	✓
	4"	114.3	0.237	6.02	10.80	16.09	✓	✓
5"	141.3	0.258	6.55	14.63	21.79	✓	✓	
6"	168.3	0.280	7.11	18.99	28.29	✓	✓	
8"	219.1	0.322	8.18	30.45	45.34	✓	✓	
10"	273.1	0.365	9.27	40.52	60.29	✓	✓	
SCH 80	1/2"	21.3	0.147	3.73	1.09	1.62	✓	
	3/4"	26.7	0.154	3.91	1.47	2.20	✓	
	1"	33.4	0.179	4.55	2.19	3.25	✓	
	1 1/4"	42.2	0.191	4.85	3.03	4.49	✓	
	1 1/2"	48.3	0.200	5.08	3.65	5.39	✓	
	2"	60.3	0.218	5.54	5.08	7.55	✓	
	2 1/2"	73	0.275	7.01	7.75	11.52	✓	
	3"	88.9	0.300	7.62	10.35	15.39	✓	
	3 1/2"	101.6	0.318	8.08	12.67	18.82	✓	
	4"	114.3	0.337	8.56	15.20	22.60	✓	
5"	141.3	0.375	9.52	21.04	31.42	✓		
6"	168.3	0.432	10.97	28.88	43.05	✓		
8"	219.1	0.500	12.70	44.00	65.41	✓		

BAOLAI EPOXY COATED FIRESIST PIPES

A leading Chinese producer of steel pipes, BAOLAI is moving towards to become a leader in fire protection area with its epoxy coated firesist pipes. Since fire protection measures have become an increasingly vital matter, BAOLAI helps to save lives with a wide range product portfolio in the area of fire protection pipes. With a high durability against corrosion (C3++ class), firesist epoxy coated pipes can be used in fire protection systems by customers with a peace of mind.

- Widest range of UL and FM approval
- Superior epoxy coating (up to 110 micron)
- Corrosion Class C3++
- Available in red (RAL 3000), red brown (RAL3009), gray (RAL7012)
- Wide production range between ½" – 12"
- Production availability acc. to ASTM and EN standards
- Reliable in easy flow light walls (min. 2 mm thickness), light series, medium series and heavy series
- Pressure ratings exceeding 300 psi (depending per size)
- Roll Grooved, Threaded & Coupled or Beveled options
- Custom length options (please contact with us for details)
- Inside weld bead is removed upon request
- Consistent roundness, straightness
- Superior pipe end finishing
- Tight tolerances
- CE certified

- Compliant to main Projects' Requirements
- Maintains corrosion resistance
- Firesist Epoxy Coated pipe eliminates field painting
- Consistent coating quality
- Easy to weld & install
- Long-lasting performance
- Perfect product tolerances with Lean 6 Sigma production technique
- Well established sales organization and excellent service (Voice of Customer Management)
- Saves labor, time & cost



BAOLAI PRIMER VARNISHED FIRE SPRINKLER PIPES

BAOLAI primer varnished sprinkler pipes provides corrosion protection and protects from atmospheric rust. Primer varnishing is applied to the adherence surface without contamination of dust or dirt etc. Primer varnished pipes provide low overhead costs and saves time, labor and scrap.

- Widest range of UL and FM approval
- Varnishing around 20-25 micron
- Available in black (RAL 9005), red (RAL 3000), red brown (RAL3009), gray (RAL7012)
- Wide production range between ½" – 12"
- Production availability acc. to ASTM and EN standards
- Reliable in easy flow light walls (min. 2 mm thickness), light series, medium series and heavy series
- Pressure ratings exceeding 300 psi (depending per size)
- Roll Grooved, Threaded & Coupled or Beveled options
- Custom length options (please contact with us for details)
- Inside weld bead is removed upon request
- Consistent roundness, straightness
- Superior pipe end finishing
- Tight tolerances
- CE certified



- Compliant to main Project Requirements
- Protects from atmospheric rust
- Easy to weld & install
- Perfect product tolerances with Lean 6 Sigma production technique
- Well established sales organization and excellent service (Voice of Customer)
- Saves labor, time & cost



BAOLAI GALVANIZED FIRE PROTECTION PIPES

With superior zinc coated BAOLAI Galvanized Steel Pipes; you will maintain corrosion resistance and prevent rusting. Installation of Galvanized Pipe is allowed in wet and dry sprinkler systems.



- Widest range of UL and FM approval
- Wide production range between ½" – 6"
- Production availability acc. to ASTM and EN standards
- Reliable in easy flow light walls (min. 2 mm thickness), light series, medium series and heavy series
- Superior zinc coating (50-55 micron)
- Pressure ratings exceeding 300 psi (depending per size)
- Roll Grooved, Threaded & Coupled or Beveled options
- Custom length options (please contact with us for details)
- Inside weld bead is removed upon request
- Consistent roundness, consistent straightness
- Superior pipe end finishing
- Tight tolerances
- CE certified

- Compliant to main Project Requirements
- Maintains corrosion resistance
- Prevents rusting
- Long-lasting performance
- Easy to weld & install
- Perfect product tolerances with Lean 6 Sigma production technique
- Well established sales organization and excellent service (Voice of Customer)
- Compatible for use in wet, dry, preaction and deluge sprinkler systems
- Saves labor, time & cost



Welded steel pipe

Welded steel pipe is formed by rolling plate and welding the seam. There are ERW, LSAW and SSAW production processes. And we mainly supply HFW (High frequency welding) of ERW pipe. ERW steel pipe is cost-effective pipe with precise dimension and light weight. It is mainly used to convey fluid at low and medium pressures ambient, such as water line (cold & hot), firefighting pipeline, HVAC line, etc.

Baolai provides ERW steel pipe for fire fighting as standard:

- ▶ **ASTM A53 / A53M - 20** Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- ▶ **ASTM A795 / A795M - 21** Standard Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use
- ▶ **ASTM A135 / A135M - 16** Standard Specification for Electric-Resistance-Welded Steel Pipe
- ▶ **BS 1387:1985** Specification for Screwed and socketed steel tubes and tubulars and for plain end steel tubes suitable for welding or for screwing to BS 21 pipe threads
- ▶ **EN 10255:2004** Non-alloy steel tubes suitable for welding and threading
- ▶ **EN 10224:2002** Non-alloy steel tubes and fittings for the conveyance of water and other aqueous liquids - Technical delivery conditions
- ▶ **ASTM A312 / A312M - 17** Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic stainless Steel Pipes

ASTM A53 ERW steel pipe

ERW steel pipe is formed by rolling strip and welding the seam, with tighter dimensional tolerances and less weight. The weld seam is heat treated after welding that no untempered martensite remains, and the weld flash can be removed from both inner and outer surfaces.

ASTM A53 ERW steel pipe is a typical carbon steel pipe. It is largely used to convey fluids at low / medium pressures such as oil, gas, steam, water, air and also for mechanical applications.



- Certificate: UL Listed / FM Approved
- Standard: ASTM A53, Type E, Grade B / UL 852
- Length: 6m / 5.8m / 11.8m / 12m, customized
- End: Plain (square cut) / Beveled to 30° / Roll groove as AWWA C606 / NPT thread as ANSI B1.20.1
- Surface: Black paint to RAL 9005 / Red paint to RAL 3000 / Varnish paint / FBE to RAL3000 / Hot dip galvanized

Available size for Sch10 pipe

Size			Thickness	Mass	Test pressure	Ref. No.
NPS	DN	OD (mm)	T (mm)	kg/m	MPa	
1/2"	15	21.3	2.11	1.00	4.8	P0101 (ISO)
3/4"	20	26.7	2.11	1.28	4.8	P0102 (ISO)
1"	25	33.4	2.77	2.09	4.8	P0103 (ISO)
1-1/4"	32	42.2	2.77	2.69	9.0	P0104 (ISO)
1-1/2"	40	48.3	2.77	3.11	9.0	P0105 (ISO)
2"	50	60.3	2.77	3.93	13.2	P0106 (ISO)
2-1/2"	65	73.0	3.05	5.26	12.0	P0107 (ISO)
3"	80	88.9	3.05	6.46	9.9	P0108 (ISO)
4"	100	114.3	3.05	8.37	7.7	P0109 (ISO)
5"	125	141.3	3.40	11.56	6.9	P0110 (ISO)
6"	150	168.3	3.40	13.83	5.8	P0111 (ISO)
8"	200	219.1	3.76	19.97	4.9	P0112 (ISO)
10"	250	273.0	4.19	27.78	4.4	P0113 (ISO)
12"	300	323.8	4.57	35.96	4.1	P0114 (ISO)
14"	350	355.6	6.35	54.69	5.2	P0115 (ISO)

* Baolai refer to ASME B36.10M for listing Sch10 pipe. And the manufacturing method is HFW (high frequency electric resistance welding).

ASTM A53 ERW steel pipe

Available size for Sch40 pipe

Size			Thickness	Mass	Test pressure	Ref. No.
NPS	DN	OD (mm)	T (mm)	kg/m	MPa	
1/2"	15	21.3	2.77	1.27	4.8	P0121 (UL/FM)
3/4"	20	26.7	2.87	1.69	4.8	P0122 (UL/FM)
1"	25	33.4	3.38	2.50	4.8	P0123 (UL/FM)
1-1/4"	32	42.2	3.56	3.39	9.0	P0124 (UL/FM)
1-1/2"	40	48.3	3.68	4.05	9.0	P0125 (UL/FM)
2"	50	60.3	3.91	5.44	17.2	P0126 (UL/FM)
2-1/2"	65	73.0	5.16	8.63	17.2	P0127 (UL/FM)
3"	80	88.9	5.49	11.29	17.2	P0128 (UL/FM)
4"	100	114.3	6.02	16.08	15.2	P0129 (UL/FM)
5"	125	141.3	6.55	21.77	13.4	P0130 (UL/FM)
6"	150	168.3	7.11	28.26	12.3	P0131 (UL/FM)
8"	200	219.1	8.18	42.55	10.8	P0132 (UL/FM)
10"	250	273.0	9.27	60.29	9.9	P0133 (UL)
12"	300	323.8	10.31	79.71	9.2	P0134 (UL)
14"	350	355.6	11.13	94.55	9.0	P0135 (ISO)

* The manufacturing method is HFW (high frequency electric resistance welding), and available UOE/JCOE of LSAW for large size.

Permissible variations

Size			OD tolerance	THK tolerance		Remark
NPS	DN	OD (mm)	mm	Sch10 (mm)	Sch40 (mm)	
1/2"	15	21.3	20.9 ~ 21.7	1.85 ~ 2.53	2.42 ~ 3.32	1. For pipe ≤ NPS 1-1/2", OD tolerance is ± 0.40mm. 2. For pipe ≥ NPS 2", OD tolerance is ± 1%. 3. The min THK at any point is not more than 12.5%. 4. The max THK is not defined in ASTM A53, and TPMC refers to ASTM A530 with 20%, 22.5% or 15% as tD ratio.
3/4"	20	26.7	26.3 ~ 27.1	1.85 ~ 2.53	2.51 ~ 3.44	
1"	25	33.4	33.0 ~ 33.8	2.42 ~ 3.32	2.96 ~ 4.06	
1-1/4"	32	42.2	41.8 ~ 42.6	2.42 ~ 3.32	3.12 ~ 4.27	
1-1/2"	40	48.3	47.9 ~ 48.7	2.42 ~ 3.32	3.22 ~ 4.42	
2"	50	60.3	59.7 ~ 60.9	2.42 ~ 3.32	3.42 ~ 4.69	
2-1/2"	65	73.0	72.3 ~ 73.7	2.67 ~ 3.66	4.52 ~ 6.19	
3"	80	88.9	88.0 ~ 89.8	2.67 ~ 3.74	4.80 ~ 6.31	
4"	100	114.3	113.2 ~ 115.4	2.67 ~ 3.74	5.27 ~ 7.37	
5"	125	141.3	139.9 ~ 142.7	2.98 ~ 4.17	5.73 ~ 8.02	
6"	150	168.3	166.6 ~ 170.0	2.98 ~ 4.17	6.22 ~ 8.71	
8"	200	219.1	216.9 ~ 221.3	3.29 ~ 4.61	7.16 ~ 10.02	
10"	250	273.0	270.3 ~ 275.7	3.67 ~ 5.13	8.11 ~ 11.36	
12"	300	323.8	320.6 ~ 327.0	4.00 ~ 5.60	9.02 ~ 12.63	
14"	350	355.6	352.0 ~ 359.2	5.56 ~ 7.78	9.74 ~ 13.63	

Note:

1. For exact length (cut length), length tolerance is -0.0mm / +6.0mm, as ASTM A530.
2. The weight (mass) tolerance of unit pipe is ±10%.
3. For pipe ≤ NPS 4", weight is measured as per bundle. For pipe > NPS 4", measured as per individual length.

ASTM A795 ERW steel pipe

ERW steel pipe is formed by rolling strip and welding the seam, with tighter dimensional tolerances and less weight. The weld seam is heat treated after welding that no untempered martensite remains, and the weld flash can be removed from both inner and outer surfaces.

ASTM A795 ERW pipe is intended for use in water-based fire protection systems for water distribution or valve trim application, such as wet, dry, preaction, or deluge sprinkler systems.



- Certificate: UL Listed / FM Approved
- Standard: ASTM A795, Type E, Grade B / UL 852
- Length: 6m / 5.8m / 11.8m / 12m, customized
- End: Plain (square cut) / Beveled to 30° / Roll groove as AWWA C606 / NPT thread as ANSI B1.20.1
- Surface: Black paint to RAL 9005 / Red paint to RAL 3000 / Varnish paint / FBE to RAL3000 / Hot dip galvanized

Available size for Sch10 pipe

Size		Thickness	Mass	Test pressure	Ref. No.
NPS	DN				
3/4"	20	2.11	1.28	4.8	P0202 (UL/FM)
1"	25	2.77	2.09	4.8	P0203 (UL/FM)
1-1/4"	32	2.77	2.69	6.9	P0204 (UL/FM)
1-1/2"	40	2.77	3.11	6.9	P0205 (UL/FM)
2"	50	2.77	3.93	6.9	P0206 (UL/FM)
2-1/2"	65	3.05	5.26	6.9	P0207 (UL/FM)
3"	80	3.05	6.46	6.9	P0208 (UL/FM)
4"	100	3.05	8.37	8.3	P0209 (UL/FM)
5"	125	3.40	11.56	8.3	P0210 (UL/FM)
6"	150	3.40	13.83	6.9	P0211 (UL/FM)
8"	200	4.78	25.26	5.5	P0212 (UL/FM)
10"	250	4.78	31.63	4.8	P0213 (UL)

- Note:**
- For pipe NPS 8" and NPS 10", the thickness follows ASTM A795, not Sch10 of ASME B36.10M (8"/3.76mm, 10"/4.19mm).
 - The manufacturing method is HFW (high frequency electric resistance welding).

ASTM A795 ERW steel pipe

Available size for Sch40 pipe

Size			Thickness	Mass	Test pressure	Ref. No.
NPS	DN	OD (mm)				
1/2"	15	21.3	2.77	1.27	4.8	P0221 (ISO)
3/4"	20	26.7	2.87	1.69	4.8	P0222 (ISO)
1"	25	33.4	3.38	2.50	4.8	P0223 (UL)
1-1/4"	32	42.2	3.56	3.39	6.9	P0224 (UL)
1-1/2"	40	48.3	3.68	4.05	6.9	P0225 (UL)
2"	50	60.3	3.91	5.44	6.9	P0226 (UL)
2-1/2"	65	73.0	5.16	8.63	6.9	P0227 (UL)
3"	80	88.9	5.49	11.29	6.9	P0228 (UL)
4"	100	114.3	6.02	16.08	8.3	P0229 (UL)
5"	125	141.3	6.55	21.77	8.3	P0230 (UL)
6"	150	168.3	7.11	28.26	8.3	P0231 (UL)
8"	200	219.1	7.04	36.82	8.3	P0232 (ISO)
10"	250	273.1	7.80	51.03	6.9	P0233 (ISO)

Note:

- For pipe NPS 8" and NPS 10", the thickness follows Sch30 of ASME B36.10M, not Sch40 of ASME B36.10M (8"/8.18mm, 10"/9.27mm).
- The manufacturing method is HFW (high frequency electric resistance welding), and available UOE/JCOE of LSAW for large size.

Permissible variations

Size			OD tolerance	THK tolerance		Remark
NPS	DN	OD (mm)		Sch10 (mm)	Sch40 (mm)	
1/2"	15	21.3	20.9 ~ 21.7	/	2.42 ~ 3.32	1. For pipe ≤ NPS 1-1/2", OD tolerance is ±0.4mm. 2. For pipe ≥ NPS 2", OD tolerance is ±1%. 3. The min THK at any point is not more than 12.5%. 4. The max THK is not defined in ASTM A795, and TPMC refers to ASTM A530 with 20%, 22.5% or 15% as t/D ratio.
3/4"	20	26.7	26.3 ~ 27.1	1.85 ~ 2.53	2.51 ~ 3.44	
1"	25	33.4	33.0 ~ 33.8	2.42 ~ 3.32	2.96 ~ 4.06	
1-1/4"	32	42.2	41.8 ~ 42.6	2.42 ~ 3.32	3.12 ~ 4.27	
1-1/2"	40	48.3	47.9 ~ 48.7	2.42 ~ 3.32	3.22 ~ 4.42	
2"	50	60.3	59.7 ~ 60.9	2.42 ~ 3.32	3.42 ~ 4.69	
2-1/2"	65	73.0	72.3 ~ 73.7	2.67 ~ 3.66	4.52 ~ 6.19	
3"	80	88.9	88.0 ~ 89.8	2.67 ~ 3.74	4.80 ~ 6.31	
4"	100	114.3	113.2 ~ 115.4	2.67 ~ 3.74	5.27 ~ 7.37	
5"	125	141.3	139.9 ~ 142.7	2.98 ~ 4.17	5.73 ~ 8.02	
6"	150	168.3	166.6 ~ 170.0	2.98 ~ 4.17	6.22 ~ 8.71	
8"	200	219.1	216.9 ~ 221.3	4.18 ~ 5.86	6.16 ~ 8.62	
10"	250	273.1	270.4 ~ 275.8	4.18 ~ 5.86	6.83 ~ 9.56	

Note:

- For exact length (cut length), length tolerance is -0.0mm / +6.0mm, as ASTM A530.
- The weight (mass) tolerance of unit pipe is ±5%.
- For pipe ≤ NPS 4", weight is measured as per bundle. For pipe > NPS 4", measured as per individual length.

EN10255 ERW steel tube

ERW steel tube is formed by rolling strip and welding the seam, with tighter dimensional tolerances and less weight. The weld seam is heat treated after welding that no untempered martensite remains, and the weld flash can be removed from both inner and outer surfaces.

EN10255 is a non-alloy steel tubes specification suitable for welding and threading with Medium, Heavy, and three Light types of designated thickness. It is suitable for water lines (Cold & Hot), firefighting pipeline, HVAC lines, etc.

- Certificate: FM Approved
 - Standard: EN10255 S 195T, Type W
 - Length: 6m / 5.8m / 11.8m / 12m, customized
 - End: Plain (square cut) / Beveled to 30° / Roll groove as ISO 6182-12 / BSPT thread as ISO 7-1
- Surface: Black paint to RAL 9005 / Red paint to RAL 3000 / Varnish paint / FBE to RAL3000 / Hot dip galvanized



Seamless steel pipe

Seamless steel pipe is formed by drawing a solid billet without welding or seam, and the advantage is the ability of withstanding higher pressure. It is mainly used in power plant, boiler, or firefighting pipeline where the piping must transport fluid and gas in high temperature and pressure level.

BAOLAI provides seamless steel pipe for firefighting as standard:

- ▶ **ASTM A106 / A106M - 18** Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service
- ▶ **ASTM A53 / A53M - 20** Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- ▶ **ASTM A795 / A795M - 21** Standard Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use
- ▶ **EN 10255:2004** Non-alloy steel tubes suitable for welding and threading
- ▶ **EN 10216-1:2013** Seamless steel tubes for pressure purposes Part 1: Non-alloy steel tubes with specified room temperature properties
- ▶ **ASTM A312 / A312M - 17** Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes

API 5CT Tubing (OCTG : Oil Country Tubular Goods)

Size	Outside Diameter(D)		Wall Thickness(t)		Weight(Wpe)		Hydrostatic test Pressure(psi)				
	in	mm	in	mm	lb/ft	kg/m		H40	J55	N80	L80
3/4	1.050	26.7	0.113	2.9	1.13	1.70	Std	3000	3000	3000	3000
							Alt	6900	9500	--	--
			0.154	3.9	1.48	2.19	Std	3000	3000	3000	3000
							Alt	9400	10000	--	--
1	1.315	33.4	0.133	3.4	1.68	2.52	Std	3000	3000	3000	3000
							Alt	6500	8900	--	--
			0.179	4.5	2.17	3.21	Std	3000	3000	3000	3000
							Alt	8700	10000	--	--
1 1/4	1.660	42.2	0.125	3.2	2.05	3.08	Std	3000	3000	3000	3000
							Alt	4800	6600	--	--
			0.140	3.6	2.27	3.43	Std	3000	3000	--	--
							Alt	5400	7400	--	--
			0.191	4.9	3.00	4.51	Std	3000	3000	3000	3000
							Alt	7400	10000	--	--
1 1/2	1.900	48.3	0.125	3.2	2.37	3.56	Std	3000	3000	3000	3000
							Alt	4200	5800	--	--
			0.145	3.7	2.72	4.07	Std	3000	3000	3000	3000
							Alt	4900	6700	--	--
			0.200	5.1	3.63	5.43	Std	3000	3000	3000	3000
							Alt	6700	9300	--	--
0.250	6.4	4.41	6.60	Std	--	--	--	3000			
				Alt	--	--	--	--			
2 3/8	2.375	60.3	0.167	4.2	3.94	5.81	Std	3000	3000	3000	3000
							Alt	4500	6200	--	--
			0.190	4.8	4.44	6.57	Std	3000	3000	3000	3000
							Alt	5100	7000	--	--
			0.254	6.5	5.76	8.62	Std	--	--	--	3000
							Alt	--	--	--	--
0.295	7.5	6.56	9.77	Std	--	--	--	3000			
				Alt	--	--	--	--			
2 7/8	2.875	73.0	0.217	5.5	6.17	9.16	Std	3000	3000	3000	3000
							Alt	4800	6600	--	--
			0.276	7.0	7.32	11.39	Std	--	--	3000	3000
							Alt	--	--	--	--
			0.308	7.8	8.45	12.54	Std	--	--	3000	3000
							Alt	--	--	--	--
0.340	8.6	9.21	13.66	Std	--	--	--	3000			
				Alt	--	--	--	--			
0.392	10.0	10.40	15.54	Std	--	--	--	3000			
				Alt	--	--	--	--			
0.440	11.2	11.45	17.07	Std	--	--	--	3000			
				Alt	--	--	--	--			

API 5CT Tubing (OCTG : Oil Country Tubular Goods)

Size	Outside Diameter(D)		Wall Thickness(t)		Weight(Wpe)		Hydrostatic test Pressure(psi)				
	in	mm	in	mm	lb/ft	kg/m		H40	J55	N80	L80
3 1/2	3.500	88.9	0.216	5.5	7.58	11.31	Std	3000	3000	3000	3000
							Alt	3900	5400	--	--
			0.254	6.5	8.81	13.21	Std	3000	3000	3000	3000
							Alt	4600	6400	--	--
			0.289	7.3	9.92	14.69	Std	3000	3000	3000	3000
							Alt	5300	7300	--	--
			0.375	9.5	12.53	18.60	Std	--	--	--	3000
							Alt	--	--	--	--
			0.430	10.9	14.11	20.97	Std	--	--	--	3000
							Alt	--	--	--	--
			0.476	12.1	15.39	22.92	Std	--	--	--	--
							Alt	--	--	--	--
0.530	13.5	16.83	25.10	Std	--	--	--	3000			
				Alt	--	--	--	--			
4	4.000	101.6	0.226	5.7	9.12	13.48	Std	3000	3000	3000	3000
							Alt	3600	5000	--	--
			0.262	6.7	10.47	15.68	Std	3000	3000	3000	3000
							Alt	4200	5800	--	--
			0.330	8.4	12.95	19.31	Std	--	--	--	3000
							Alt	--	--	--	--
			0.415	10.5	15.90	23.59	Std	--	--	--	3000
							Alt	--	--	--	--
			0.500	12.7	18.71	27.84	Std	--	--	--	3000
							Alt	--	--	--	--
			0.610	15.5	22.11	32.91	Std	--	--	--	3000
							Alt	--	--	--	--
4 1/2	4.500	114.3	0.271	6.9	12.25	18.27	Std	3000	3000	3000	3000
							Alt	3900	5300	--	--
			0.337	8.6	15.00	22.42	Std	--	--	--	3000
							Alt	--	--	--	--
			0.380	9.7	16.77	25.02	Std	--	--	--	3000
							Alt	--	--	--	--
			0.430	10.9	18.71	27.79	Std	--	--	--	3000
							Alt	--	--	--	--
			0.500	12.7	21.38	31.82	Std	--	--	--	3000
							Alt	--	--	--	--
			0.560	14.2	23.59	35.05	Std	--	--	--	3000
							Alt	--	--	--	--
0.630	16.0	26.06	38.79	Std	--	--	--	3000			
				Alt	--	--	--	--			

API 5CT Tubing (OCTG : Oil Country Tubular Goods)

API 5L Line Pipe

Note 1. 1psi=0.07031 kg/cm² 2.1lb/ft=0.45359 kg/ft

Size	Outside Diameter(D)		Wall Thickness(t)		Weight(Wpe)		Hydrostatic test Pressure(psi)					
	in	mm	in	mm	lb/ft	kg/m		H40	J55/K55	M65	N80	L80
4 1/2	4.500	114.3	0.205	5.2	9.41	13.99	Std	2900	3000	3000	--	--
			Alt	--	4000	--	--	--	--	--	--	--
			0.224	5.7	10.24	15.27	Std	--	3000	3000	--	--
			Alt	--	4400	--	--	--	--	--	--	--
			0.250	6.4	11.36	17.03	Std	--	3000	3000	3000	3000
			Alt	--	4900	--	--	--	--	--	--	--
6 5/8	6.625	168.3	0.290	7.4	13.05	19.51	Std	--	--	3000	3000	3000
			Alt	--	--	--	--	--	--	--	--	--
			0.337	8.6	15.00	22.42	Std	--	--	--	--	--
			Alt	--	--	--	--	--	--	--	--	--
			0.288	7.3	19.51	28.98	Std	2800	2700	3000	--	--
			Alt	--	--	--	--	--	--	--	--	--
8 5/8	8.625	219.1	0.417	10.6	27.67	41.22	Std	--	3000	3000	--	--
			Alt	--	3600	--	--	--	--	--	--	--
			0.415	12.1	31.23	46.61	Std	--	3000	3000	3000	3000
			Alt	--	4100	--	--	--	--	--	--	--
			0.264	6.7	23.60	35.09	Std	--	--	3000	3000	3000
			Alt	--	--	--	--	--	--	--	--	--
10 3/4	10.750	273.1	0.304	7.7	27.04	40.14	Std	2300	--	3000	3000	3000
			Alt	--	--	--	--	--	--	--	--	--
			0.352	8.9	31.13	46.13	Std	2600	--	--	3000	3000
			Alt	--	--	--	--	--	--	--	--	--
			0.400	10.2	35.17	52.55	Std	--	--	--	--	--
			Alt	--	--	--	--	--	--	--	--	--
16	16.000	406.4	0.450	11.4	39.33	58.39	Std	--	--	--	--	--
			Alt	--	--	--	--	--	--	--	--	--
			0.500	12.7	43.43	64.64	Std	--	--	--	--	--
			Alt	--	--	--	--	--	--	--	--	--
			0.375	9.5	62.64	92.98	Std	1100	--	--	--	--
			Alt	--	--	--	--	--	--	--	--	--
20	20.000	508.0	0.438	11.1	91.59	136.01	Std	1100	1400	2300	--	--
			Alt	--	--	--	--	--	--	--	--	--
			0.500	12.7	104.23	155.12	Std	--	1600	2600	--	3000
			Alt	--	--	--	--	--	--	--	--	--
			0.635	16.1	131.45	195.30	Std	--	2100	--	--	--
			Alt	--	--	--	--	--	--	--	--	--

Nominal Size	Outside Diameter(D)		Wall Thickness(t)		Weight (Wpe)		Calculated Inside Diameter(d)		Hydrostatic test Pressure(psi)				
	in	mm	in	mm	lb/ft	kg/m	in	mm	Grade A25 (Std)	Grade A (L 210)		Grade B (L 245)	
										Std	Alt	Std	Alt
1/2	0.840	21.3	0.109	2.8	0.85	1.28	0.622	15.7	700	700	--	700	--
			0.147	3.7	1.09	1.61	0.546	13.9	850	850	--	850	--
			0.294	7.5	1.72	2.55	0.252	6.3	1000	1000	--	1000	--
3/4	1.050	26.7	0.113	2.9	1.13	1.70	0.824	20.9	700	700	--	700	--
			0.154	3.9	1.48	2.19	0.742	18.9	820	820	--	850	--
			0.308	7.8	2.44	3.64	0.434	11.1	1000	1000	--	1000	--
1	1.315	33.4	0.133	3.4	1.68	2.52	1.049	26.6	700	700	--	700	--
			0.179	4.5	2.17	3.21	0.957	24.4	850	850	--	850	--
			0.358	9.1	3.66	5.45	0.599	15.2	1000	1000	--	1000	--
1 1/4	1.660	42.2	0.140	3.6	2.27	3.43	1.380	35.0	1000	1200	--	1300	--
			0.191	4.9	3.00	4.51	1.278	32.4	1300	1800	--	1900	--
			0.382	9.7	5.22	7.77	0.896	22.8	1400	2200	--	2300	--
1 1/2	1.900	48.3	0.145	3.7	2.72	4.07	1.610	40.9	1000	1200	--	1300	--
			0.200	5.1	3.63	5.43	1.500	38.1	1300	1800	--	1900	--
			0.400	10.2	6.41	9.58	1.100	27.9	1400	2200	--	2300	--

API 5L Line Pipe

Note 1. 1psi=0.07031 kg/cm² 2.1lb/ft=0.45359 kg/ft

Nominal Size	Outside Diameter(D)		Wall Thickness(t)		Weight (Wpe)		Calculated Inside Diameter(d)		Hydrostatic test Pressure(psi)														
	in	mm	in	mm	lb/ft	kg/m	in	mm	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade			
									A (L175)	B (L210)	X 42 (L245)	X 46 (L290)	X 52 (L360)	X 56 (L390)	X 60 (L415)	X 65 (L450)	X 70 (L485)	X 80 (L555)					
8	8 5/8	219.1	0.125	3.2	11.36	17.04	8.375	212.7	Std	520	610	910	1000	1130	1220	1300	1410	1520	1740				
									Alt	650	760	910	1000	1130	1220	1300	1410	1520	1740				
			0.156	4.0	14.12	21.22	8.313	211.1	Std	650	760	1140	1250	1410	1520	1630	1760	1900	2170				
									Alt	810	950	1140	1250	1410	1520	1630	1760	1900	2170				
			0.188	4.8	16.96	25.37	8.249	209.5	Std	780	920	1370	1500	1700	1830	1960	2130	2290	2620				
									Alt	980	1140	1370	1500	1700	1830	1960	2130	2290	2620				
			0.203	5.2	18.28	27.43	8.219	208.7	Std	850	990	1480	1620	1840	1980	2120	2290	2470	2820				
									Alt	1060	1240	1480	1620	1840	1980	2120	2290	2470	2820				
			0.219	5.6	19.68	29.48	8.187	207.9	Std	910	1070	1600	1750	1980	2130	2290	2480	2670	3000				
									Alt	1140	1330	1600	1750	1980	2130	2290	2480	2670	3050				
			0.250	6.4	22.38	33.57	8.125	206.3	Std	1040	1220	1830	2000	2260	2430	2610	2830	3000	3000				
									Alt	1300	1520	1830	2000	2260	2430	2610	2830	3040	3480				
			0.277	7.0	24.72	36.61	8.071	205.1	Std	1160	1350	2020	2220	2510	2700	2890	3000	3000	3000				
									Alt	1450	1690	2020	2220	2510	2700	2890	3130	3370	3850				
			0.312	7.9	27.73	41.14	8.001	203.3	Std	1300	1520	2280	2500	2820	3000	3000	3000	3000	3000				
									Alt	1630	1900	2280	2500	2820	3040	3260	3530	3800	4340				
			0.322	8.2	28.58	42.65	7.981	202.7	Std	1340	1570	2350	2580	2910	3000	3000	3000	3000	3000				
									Alt	1680	1960	2350	2580	2910	3140	3360	3640	3920	4480				
			0.344	8.7	30.45	45.14	7.937	201.7	Std	1440	1680	2510	2750	3000	3000	3000	3000	3000	3000				
									Alt	1790	2090	2510	2750	3110	3350	3590	3890	4190	4790				
0.375	9.5	33.07	49.10	7.875	200.1	Std	1570	1830	2740	3000	3000	3000	3000	3000	3000	3000							
						Alt	1960	2280	2740	3000	3390	3650	3910	4240	4570	5220							
0.438	11.1	38.33	56.94	7.749	196.9	Std	1830	2130	3000	3000	3000	3000	3000	3000	3000	3000							
						Alt	2290	2670	3200	3500	3960	4270	4570	4950	5330	6090							
0.500	12.7	43.43	64.64	7.625	193.7	Std	2090	2430	3000	3000	3000	3000	3000	3000	3000	3000							
						Alt	2610	2800	3650	4000	4520	4870	5220	5650	6090	6960							

API 5L Line Pipe

Note 1. 1psi=0.07031 kg/cm² 2.1lb/ft=0.45359 kg/ft

Nominal Size	Outside Diameter(D)		Wall Thickness(t)		Weight (Wpe)		Calculated Inside Diameter(d)		Hydrostatic test Pressure(psi)												
	in	mm	in	mm	lb/ft	kg/m	in	mm	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	Grade	
									A (L175)	B (L210)	X 42 (L245)	X 46 (L290)	X 52 (L360)	X 56 (L390)	X 60 (L415)	X 65 (L450)	X 70 (L485)	X 80 (L555)			
10	10 3/4	273.1	0.156	4.0	17.67	26.54	10.438	265.1	Std	520	610	1040	1130	1280	1380	1480	1600	1730	1970		
									Alt	650	760	1040	1130	1280	1380	1480	1600	1730	1970		
			0.188	4.8	21.23	31.76	10.374	263.5	Std	630	730	1250	1370	1550	1660	1780	1930	2080	2380		
									Alt	790	920	1250	1370	1550	1660	1780	1930	2080	2380		
			0.203	5.2	22.89	34.35	10.344	262.7	Std	680	790	1350	1480	1670	1800	1930	2090	2250	2570		
									Alt	850	990	1350	1480	1670	1800	1930	2090	2250	2570		
			0.219	5.6	24.65	36.94	10.312	261.9	Std	730	860	1450	1590	1800	1940	2080	2250	2420	2770		
									Alt	920	1070	1450	1590	1800	1940	2080	2250	2420	2770		
			0.250	6.4	28.06	42.09	10.250	260.3	Std	840	980	1660	1820	2060	2210	2370	2570	2770	3000		
									Alt	1050	1220	1660	1820	2060	2210	2370	2570	2770	3160		
			0.279	7.1	31.23	46.57	10.192	258.9	Std	930	1090	1850	2030	2290	2470	2650	2870	3000	3000		
									Alt	1170	1360	1850	2030	2290	2470	2650	2870	3090	3530		
			0.307	7.8	34.27	51.03	10.136	257.5	Std	1030	1200	2040	2230	2520	2720	2910	3000	3000	3000		
									Alt	1290	1500	2040	2230	2520	2720	2910	3160	3400	3880		
			0.344	8.7	38.27	56.72	10.062	255.7	Std	1150	1340	2280	2500	2830	3000	3000	3000	3000	3000		
									Alt	1440	1680	2280	2500	2830	3050	3260	3540	3810	4350		
			0.365	9.3	40.52	60.50	10.020	254.5	Std	1220	1430	2420	2660	3000	3000	3000	3000	3000	3000		
									Alt	1530	1780	2420	2660	3000	3230	3460	3750	4040	4620		
			0.438	11.1	48.28	71.72	9.874	250.9	Std	1470	1710	2910	3000	3000	3000	3000	3000	3000	3000		
									Alt	1830	2140	2910	3190	3600	3880	4160	4500	4850	5540		
0.500	12.7	54.79	81.55	9.750	247.7	Std	1670	1950	3000	3000	3000	3000	3000	3000	3000	3000					
						Alt	2090	2440	3320	3640	4110	4430	4740	5140	5530	6330					
0.172	4.4	23.13	34.67	12.406	315.1	Std	490	570	960	1050	1190	1280	1380	1490	1610	1830					
						Alt	610	710	960	1050	1190	1280	1380	1490	1610	1830					
0.188	4.8	25.25	37.77	12.374	314.3	Std	530	620	1050	1150	1300	1400	1500	1630	1750	2010					
						Alt	660	770	1050	1150	1300	1400	1500	1630	1750	2010					
0.203	5.2	27.23	40.87	12.344	313.5	Std	570	670	1140	1250	1410	1520	1620	1760	1890	2170					
						Alt	720	840	1140	1250	1410	1520	1620	1760	1890	2170					
0.219	5.6	29.34	43.96	12.312	312.7	Std	620	720	1230	1340	1520	1640	1750	1900	2040	2340					
						Alt	770	900	1230	1340	1520	1640	1750	1900	2040	2340					
0.250	6.4	33.41	50.11	12.250	311.1	Std	710	820	1400	1530	1730	1870	2000	2170	2330	2670					
						Alt	880	1030	1400	1530	1730	1870	2000	2170	2330	2670					