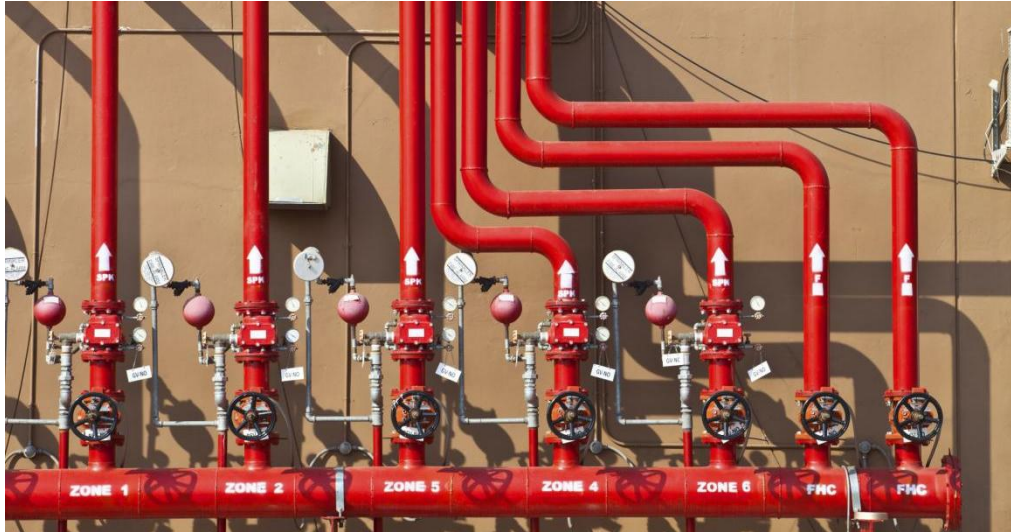


BAOLAI FIRE SPRINKLER PIPES



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 finishing.

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	2.18	✓	
	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	0.168	4.78	5.40	8.04	✓	
	3"	88.9	0.168	4.78	6.65	9.92	✓	
	3 1/2"	101.6	0.168	4.78	7.65	11.41	✓	
	4"	114.3	0.168	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	0.276	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	✓	

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** Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
- **ASTM A795** Standard Specification for Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Fire Protection Use
- **ASTM A135** 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
- **EN10217-1** Non-alloy steel tubes with specified room temperature properties
- **EN10217-2** Electric welded non-alloy and alloy steel tubes with specified elevated temperature properties

ASTM A53 ERW steel pipe

ASTM A53 ERW steel pipe is formed by rolling strip and welding the seam, with precise dimension and light weight. It is largely used to convey fluids at low/ medium pressures such as oil, gas, steam, water, air and also for mechanical applications.



- **Standard:** UL Listed/ FM Approved
- **Certificate:** 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/ BSPT as ISO 7-1
- **Surface:** Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.

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	35.98	4.1	P0114(ISO)
14"	350	355.6	6.35	54.69	5.2	P0115(ISO)
16"	400	406.4	6.35	62.65	4.6	P0116(ISO)
18"	450	457.0	6.35	70.57	4.0	P0117(ISO)
20"	500	508.0	6.35	78.56	3.6	P0118(ISO)
24"	600	610.0	6.35	94.53	3.0	P0119(ISO)

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)
16"	400	406.4	12.70	123.31	9.0	P0136(ISO)
18"	450	457.0	14.27	155.81	9.0	P0137(ISO)
20"	500	508.0	15.09	183.43	8.6	P0138(ISO)
24"	600	610.0	17.48	255.43	8.3	P0139(ISO)

*For each reduction of 0.01% below the specified carbon max, an increase of 0.06 % manganese will be permitted up to a max of 1.65%.

*The total composition of five elements for Cu, Ni, Cr, Mo and V (Copper, Nickel, Chromium, Molybdenum, and Vanadium) shall not exceed 1%.

Chemical compositions(%)

C	Mn	P	S	Cu	Ni	Cr	Mo	V
≤0.30	≤ 1.20	≤0.05	≤0.045	≤0.40	≤0.40	≤0.40	≤0.15	≤0.08

Mechanical properties

Tensile strength / psi(MPa)	Yield strength / psi(MPa)	Longitudinal elongation(%)
≥60000 (415)	≥ 35000 (240)	≥ 19

*The elongation value conforms to TABLE 2 and TABLE X4.1/ X4.2, and BAOLAI refers to normal min value of 19%.

ASTM A795 ERW steel pipe

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/ UL852
- Length:** 6m/ 5.8m/ 11.8m/ 12m, customized
- End:** Plain (square cut)/ beveled to 30°/ roll groove as AWWA C606/ NPT thread as ANSIB1.20.1/ BSPT as ISO 7-1
- Surface:** Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.

Available size for Sch10 pipe (Light-weight pipe)

Size			Thickness	Mass	Test pressure	Ref. No.
NPS	DN	OD (mm)	T (mm)	kg/m	MPa	
3/4"	20	26.7	2.11	1.28	4.8	P0202(UL/FM)
1"	25	33.4	2.77	2.09	4.8	P0203(UL/FM)
1-1/4"	32	42.2	2.77	2.69	6.9	P0204(UL/FM)
1-1/2"	40	48.3	2.77	3.11	6.9	P0205(UL/FM)
2"	50	60.3	2.77	3.93	6.9	P0206(UL/FM)
2-1/2"	65	73.0	3.05	5.26	6.9	P0207(UL/FM)
3"	80	88.9	3.05	6.46	6.9	P0208(UL/FM)
4"	100	114.3	3.05	8.37	8.3	P0209(UL/FM)
5"	125	141.3	3.40	11.56	8.3	P0210(UL/FM)
6"	150	168.3	3.40	13.83	6.9	P0211(UL/FM)
8"	200	219.1	4.78	25.26	5.5	P0212(UL/FM)
10"	250	273.1	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).

ASTM A795 ERW steel pipe

Available size for Sch40 pipe (Standard-weight 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	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).

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	/	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 BAOLAI 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.

ASTM A135 ERW steel pipe

ASTM A135 ERW pipe is intended for conveying gas, vapor, water or other liquid. And it is also used in water based fire protection systems for water distribution or valve trim application, such as wet, dry, preaction, or deluge sprinkler systems.



- Certificate: FM Approved
- Standard: ASTM A135, 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/ BSPT as ISO 7-1
- Surface: Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.

Available size for Light wall steel pipe (Sch10 pipe)

Size			Thickness	Mass	Test pressure	Ref. No.
NPS	DN	OD (mm)	T (mm)	kg/m	MPa	
3/4"	20	26.7	2.11	1.28	17.2	P0302(FM)
1"	25	33.4	2.77	2.09	17.2	P0303(FM)
1-1/4"	32	42.2	2.77	2.69	17.2	P0304(FM)
1-1/2"	40	48.3	2.77	3.11	16.5	P0305(FM)
2"	50	60.3	2.77	3.93	13.1	P0306(FM)
2-1/2"	65	73.0	3.05	5.26	11.7	P0307(FM)
3"	80	88.9	3.05	6.46	9.6	P0308 (FM)
4"	100	114.3	3.05	8.37	7.6	P0309(FM)
5"	125	141.3	3.40	11.56	6.9	P0310(FM)

Note: Pipe furnished to Sch10 shall be plain end only. All inside and outside cutting burrs are removed.

ASTM A135 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	17.2	P0321
3/4"	20	26.7	2.87	1.69	17.2	P0322
1"	25	33.4	3.38	2.50	17.2	P0323
1-1/4"	32	42.2	3.56	3.39	17.2	P0324
1-1/2"	40	48.3	3.68	4.05	17.2	P0325
2"	50	60.3	3.91	5.44	17.2	P0326
2-1/2"	65	73.0	5.16	8.63	17.2	P0327
3"	80	88.9	5.49	11.29	17.2	P0328
4"	100	114.3	6.02	16.08	15.2	P0329
5"	125	141.3	6.55	21.77	13.4	P0330
6"	150	168.3	7.11	28.26	12.2	P0331
8"	200	219.1	8.18	42.55	10.8	P0332
10"	250	273.0	9.27	60.29	9.8	P0333
12"	300	323.8	10.31	79.71	9.2	P0334
14"	350	355.6	11.13	94.55	9.0	P0335
16"	400	406.4	12.70	123.31	9.0	P0336
18"	450	457.0	12.70	139.16	8.0	P0337
20"	500	508.0	12.70	155.13	7.2	P0338
24"	600	610.0	12.70	187.07	6.0	P0339

Note:
1. The form of Sch40 pipe is not listed in ASTM A135, and BAOLAI refers to ASME B36.10M.
2. The wall thickness is up to 0.5" (12.70 mm) as ASTM A135. For size 18", 20" and 24", the thickness follows XS, not Sch40.

EN10217 ERW steel tube



EN10217-1 is specification of non-alloy steel tube for pressure purposes. The tube is suitable for water lines (Cold & Hot), firefighting pipeline, HVAC lines, etc.

EN10217-2 is specification of non-alloy steel tube with specified elevated temperature properties for pressure purposes. The tube is suitable for water lines (Cold & Hot), firefighting pipeline, HVAC lines, etc.

EN10217-1	
•Certificate :	ISO
•Standard:	EN10217-1, electric welded, P195TR1, P235TR1, P265TR1, P195TR2, P235TR2, P265TR2
•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/ NPT thread as ANSI B1.20.1
•Surface:	Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.

EN10217-2	
•Certificate:	ISO
•Standard:	EN10217-2, electric welded, P195GH, P235GH, P265GH, 16Mo3
•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/ NPT thread as ANSI B1.20.1
•Surface:	Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.

Available size

Size			Thickness(mm)														
Inch	DN	OD (mm)															
1/2"	15	21.3	2.6	2.9	3.2	3.6	4.0	4.5	/	/	/	/	/	/	/	/	/
3/4"	20	26.9	2.6	2.9	3.2	3.6	4.0	4.5	5.0	/	/	/	/	/	/	/	/
1"	25	33.7	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	/	/	/	/
1-1/4"	32	42.4	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	/	/	/
1-1/2"	40	48.3	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	/	/	/
2"	50	60.3	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	/	/
2-1/2"	65	76.1	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	/	/
3"	80	88.9	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	/	/
4"	100	114.3	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	11.0	/
5"	125	139.7	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	11.0	/
6"	150	168.3	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	11.0	/
8"	200	219.1	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	11.0	/
10"	250	273.0	2.6	2.9	3.2	3.6	4.0	4.5	5.0	5.6	6.3	7.1	8.0	8.8	10.0	11.0	/

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 fire fighting 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** Non-alloy steel tubes with specified room temperature properties
- **ASTM A312/A312M** Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes

ASTM A106 seamless steel pipe

ASTM A106 is seamless steel pipe specification for high-temperature service. The pipe is commonly used in the construction of power plant, boiler, firefighting pipeline and ship where the piping must transport fluids and gases in higher temperatures and pressure levels.

- **Certificate:** ISO
- **Standard:** ASTM A106, Grade B
- **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/ BSPT as ISO 7-1
- **Surface:** Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.



Available size

Size			Sch40 pipe		Sch80 pipe	
NPS	DN	OD (mm)	Thickness(mm)	Mass(kg/m)	Thickness(mm)	Mass(kg/m)
1/2"	15	21.3	2.77	1.27	3.73	1.62
3/4"	20	26.7	2.87	1.69	3.91	2.20
1"	25	33.4	3.38	2.50	4.55	3.24
1-1/4"	32	42.2	3.56	3.39	4.85	4.47
1-1/2"	40	48.3	3.68	4.05	5.08	5.41
2"	50	60.3	3.91	5.44	5.54	7.48
2-1/2"	65	73.0	5.16	8.63	7.01	11.41
3"	80	88.9	5.49	11.29	7.62	15.27
4"	100	114.3	6.02	16.08	8.56	22.32
5"	125	141.3	6.55	21.77	9.53	30.97
6"	150	168.3	7.11	28.26	10.97	42.56
8"	200	219.1	8.18	42.55	12.70	64.64
10"	250	273.0	9.27	60.29	15.09	95.98
12"	300	323.8	10.31	79.71	17.48	132.05
14"	350	355.6	11.13	94.55	19.05	158.11
16"	400	406.4	12.70	123.31	21.44	203.54
18"	450	457.0	14.27	155.81	23.83	254.57
20"	500	508.0	15.09	183.43	26.19	311.19
24"	600	610.0	17.48	255.43	30.96	442.11

ASTM A53 seamless steel pipe

ASTM A53 specification also covers seamless steel pipe. The pipe is intended for pressure and mechanical applications and is also acceptable for ordinary uses in oil, gas, steam, water and air lines. It is suitable for welding, bending and flanging.



- **Certificate:** ISO
- **Standard:** ASTM A53, Type S, Grade B/ UL 852
- **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/ NPT thread as ANSI B1.20.1
- **Surface:** Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.

Available size

Size			Sch40 pipe		Sch80 pipe	
NPS	DN	OD (mm)	Thickness(mm)	Mass(kg/m)	Thickness(mm)	Mass(kg/m)
1/2"	15	21.3	2.77	1.27	3.73	1.62
3/4"	20	26.7	2.87	1.69	3.91	2.20
1"	25	33.4	3.38	2.50	4.55	3.24
1-1/4"	32	42.2	3.56	3.39	4.85	4.47
1-1/2"	40	48.3	3.68	4.05	5.08	5.41
2"	50	60.3	3.91	5.44	5.54	7.48
2-1/2"	65	73.0	5.16	8.63	7.01	11.41
3"	80	88.9	5.49	11.29	7.62	15.27
4"	100	114.3	6.02	16.08	8.56	22.32
5"	125	141.3	6.55	21.77	9.53	30.97
6"	150	168.3	7.11	28.26	10.97	42.56
8"	200	219.1	8.18	42.55	12.70	64.64
10"	250	273.0	9.27	60.29	15.09	95.98
12"	300	323.8	10.31	79.71	17.48	132.05
14"	350	355.6	11.13	94.55	19.05	158.11
16"	400	406.4	12.70	123.31	21.44	203.54
18"	450	457.0	14.27	155.81	23.83	254.57
20"	500	508.0	15.09	183.43	26.19	311.19
24"	600	610.0	17.48	255.43	30.96	442.11

ASTM A795 seamless steel pipe

ASTM A795 specification also covers seamless steel pipe, which 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:** ISO
- **Standard:** ASTM A795, Type S, Grade B
- **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/ BSPT as ISO 7-1
- **Surface:** Red paint/ red epoxy resin or polyester/ hot dip galvanized/ black paint, etc.

Available size for Sch10 pipe (Standard-weight pipe)

Size			Thickness	Mass
NPS	DN	OD(mm)	T (mm)	kg/m
3/4"	20	26.7	2.11	1.28
1"	25	33.4	2.77	2.09
1-1/4"	32	42.2	2.77	2.69
1-1/2"	40	48.3	2.77	3.11
2"	50	60.3	2.77	3.93
2-1/2"	65	73.0	3.05	5.26
3"	80	88.9	3.05	6.46
4"	100	114.3	3.05	8.37
5"	125	141.3	3.40	11.56
6"	150	168.3	3.40	13.83
8"	200	219.1	4.78	25.26
10"	250	273.1	4.78	31.63

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).

ASTM A795 Seamless steel pipe

Available size for Sch40 pipe (Standard-weight pipe)

Size			Thickness	Mass
NPS	DN	OD(mm)	T (mm)	kg/m
1/2"	15	21.3	2.77	1.27
3/4"	20	26.7	2.87	1.69
1"	25	33.4	3.38	2.50
1-1/4"	32	42.2	3.56	3.39
1-1/2"	40	48.3	3.68	4.05
2"	50	60.3	3.91	5.44
2-1/2"	65	73.0	5.16	8.63
3"	80	88.9	5.49	11.29
4"	100	114.3	6.02	16.08
5"	125	141.3	6.55	21.77
6"	150	168.3	7.11	28.26
8"	200	219.1	7.04	36.82
10"	250	273.1	7.80	51.03

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).

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	/	2.42~3.32	1.For pipe ≤ NPS 1-1/2", OD tolerance is ±0.4mm.
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.For pipe ≥ NPS 2", OD tolerance is ±1%.
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. The min THK at any point is not more than 12.5%.
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	4. The max THK is not defined in ASTM A795, and BAOLAI refers to ASTM A530 with 20%, 22.5% or 15% as t/ D ratio.
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:

- 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 ±5%.
- 3.For pipe ≤ NPS 4", weight is measured as per bundle. For pipe >NPS 4", measured as per individual length.

DUCTILE IRON GROOVED FITTINGS AND COUPLINGS



Rigid Coupling



Flexible Coupling



90° Elbow



45° Elbow



22.5° Elbow



11.5° Elbow



Equal Tee



Reducing Tee



THD Reducing Tee



THD Reducing Cross



Reducing Cross



Equal Cross