

Company Profile

Hebei Senhai Pipeline Co., Ltd. is one professional manufacturer of ERW, SAW, SMLS steel pipes, as per standards of ASTM, API5L, API 5CT, EN, BS, DIN, GOST, etc. Senhai Pipeline is located in Cangzhou City, which is the famous "Wn of Pipes and Fittings" in China, about 120km away from Tianjin Seaport and Airport, and 180km from Beijing. Senhai especially produces large dia. thick wall steel pipes by ERW and SSAW, LSAW procedures, as well as various anti-corrosion pipes. Main products that Senhai manufactures and supplies as followings:

Seamless Steel pipes:

OD: ϕ 21.3mm~ ϕ 660mm(1/2" ~26"); WT: 2.5mm~60mm; Length: 5.8m~12m;

LSAW (JOCE), ERW Steel pipes:

OD: ϕ 168mm~ ϕ 1422.4mm(6" ~ 56"); WT: 8mm~80mm; Length: 5.8m~12m;

SSAW Steel Tube:

OD: ϕ 219mm ~ ϕ 3620mm(8"-144"); WT: 6mm~25mm; Length: 5.8m~12m.

Anti-corrosion steel pipes: with layers of 3LPE, 3PP, FBE, Hot Dip Galvanized, Anti-drag coating, polyurethane, epoxy lining, and cement-mortar layer, etc.

SHS, RHS tubes: OD 20X20mm ~ 600x600mm; WT: 0.8~50mm.

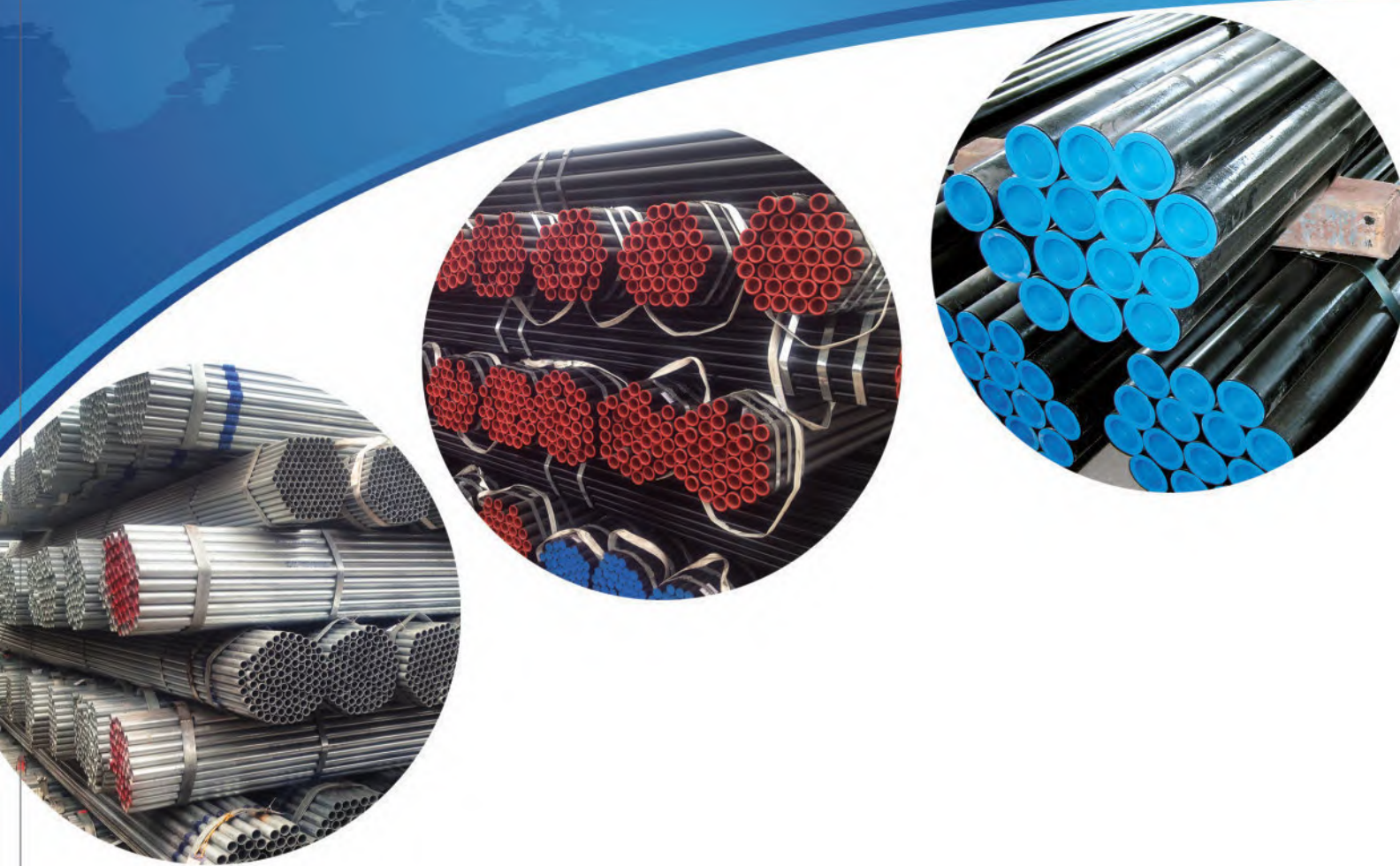
BW fittings in CS, SS, AS, Duplex SS, with size 1/2" ~ 72", WT SCH10 ~XXS; and SW&THD fittings with size 1/2"~4".

Flanges including WN, SO, SW, BL, THRD, lap-joint, spectacle, orifice, etc. with size 1/2"~48", various thickness. Materials include A106 Gr.B, A53 Gr.B, API 5L PSL1 PSL2 X42~X70 L245 L290 L360, Q235A, Q235B, Q235C, Q345B~F, 10#, 20#, 45# steel, A105, WPB, etc., all of which meet the standards of ASTM, API, BS, DIN, JIS, EN, GOST, GB, etc. following standards including ISO9002, ASTM A234 GR WPB ASME/ANSI B16.9, DIN2605-1/2 2615 2617, JIS B2311 2312, EN10253-1/2/3, GOST 17375 17376 17378 17379 GOST 30753, etc.

Occupying total area of 33,000 square meters, Senhai possesses four hot rolling production lines, two cold drawing production lines, four welded pipe production lines as well as personnel building. The major production equipments owned by Senhai cover the hot-rolling puncher, interactive double core bar cold drawing machine, automatically rotary head rolling machine, tube straightening machine, annealing furnace without water cooling system and auxiliary equipment of surface scouring and coating. Equipped with eddy current flaw detector and ultrasonic flaw detection equipment suitable for seamless steel tubes of various pressures, the physical and chemical laboratory of Senhai is qualified to undertake different types of testing and inspecting of steel tubes with its advanced inspection measures, the inspection procedures meet all professional requirements.

The company is equipped with complete sets of pipe fitting production lines and advanced processes of cold forming, hot extrusion, mechanical processing, as well as heat treatment, which is capable to manufacture various sizes pipe fittings in materials like carbon-steel, alloy steel and stainless steel. With such inspection equipment and technologies as chemical and metallographic analysis, physical test and nondestructive test, Senhai enjoys a highly strong technological power. Senhai services industries like oil and petroleum, power, chemical, petrochemical, pharmaceutical, boiler, heating, ship building and construction, in domestic and abroad. Senhai has achieved great sales achievement with the talented leadership and constantly hard-working team. Senhai's products are popular in many countries and districts like Southeast Asia, Mid-East, Europe, America, Australia, South America, Africa, etc. "Customer's satisfaction and highly-qualified products and outstanding services" are treasured by Senhai as the business principle.

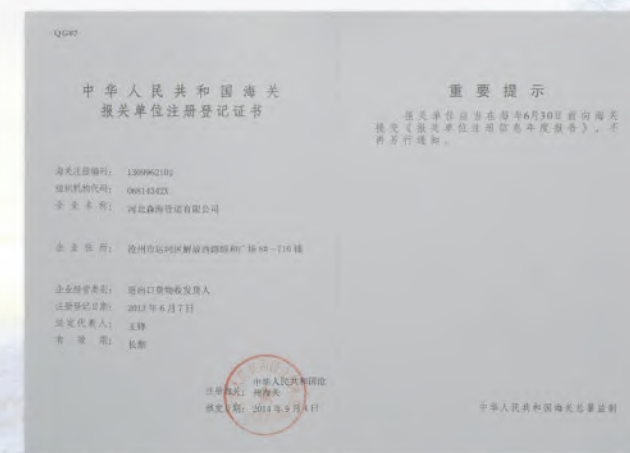
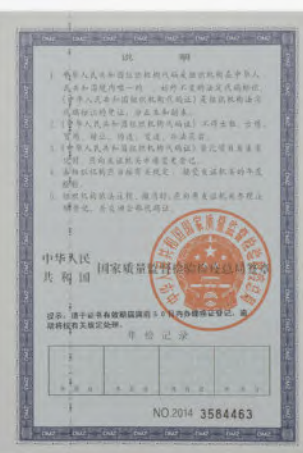
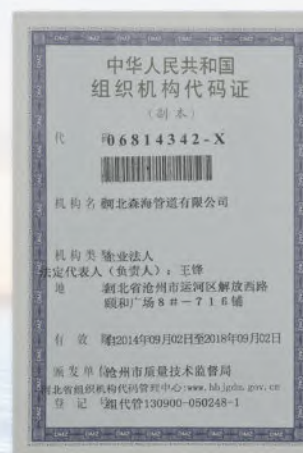
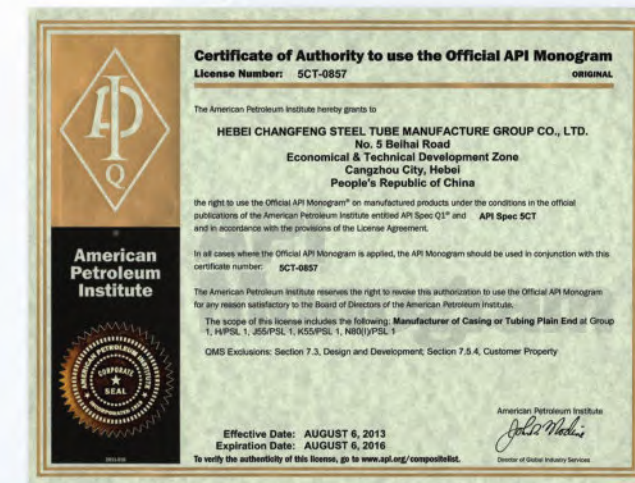
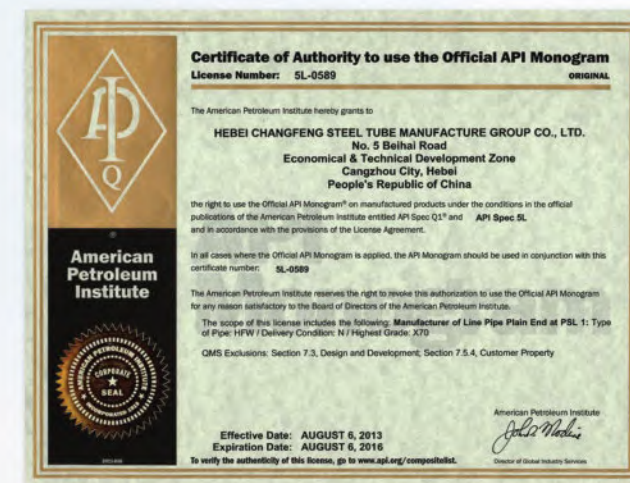
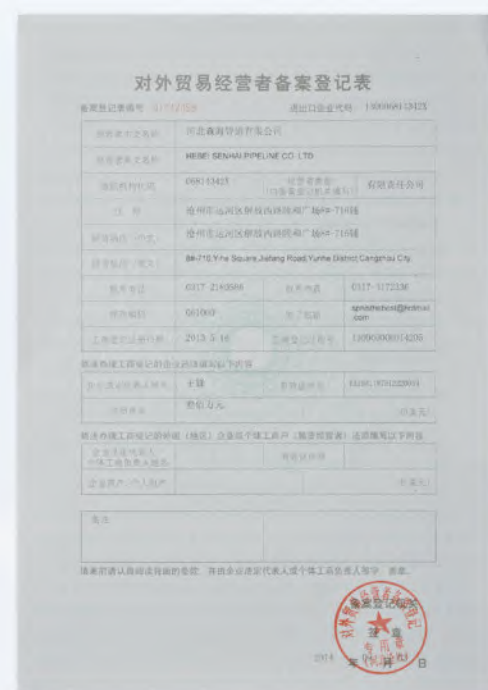
We sincerely expect customers both domestic and abroad to contact us and work together to build a brighter future!





QUALIFICATION PAPER

Over the years, we have attached great importance to product innovation, from research and development to production, according to new market trends, the introduction of many products in line with market demand. In our continuous efforts, we obtained many honors, but we do not be complacent, but as boarded a higher goal ladder



COMPANY WORKSHOP PRODUCTION



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

COMPANY TESTING EQUIPMENT



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

SEAMLESS STEEL PIPES



- OD: 21.3mm~660mm (1/2"~ 26");
- WT: 2.5mm~60m; Length: 5.8m~12m;
- Material:
- CARBON STEEL (CS):
- ASTM A106, ASTM A53 API 5L GR B, X42, X52-X60-X70, PSL1&PLS2, ASME A192, A210, A252, 20G, DIN 17175, S275JR, P235, SS400, STPG370, SGP, STK400, St37, St42, ETC.
- LOW TEMPERATURE CARBON STEEL (LTCS):
- ASTM A333, ASTM A335 GR P1, P5, P9, P11, P22, P91, ASTM A691, SA213, Q345, Q235, 16Mn, L245~L555; JIS STPG42, G3454, G3456; St45, St52, ETC.
- Standard: ASTM/ASME 36.10M, API 5L, API 5CT, JIS, DIN 17175, DIN 17100, DIN 1626, BS 1387, BS 6323, BS 10210, BS 3602, EN 10217, EN 10219, AS 1163, AS 1074, GOST 8696-74, GOST 8731-74, GOST 8732-78, GB/T etc.



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

SMLS STEEL PIPES



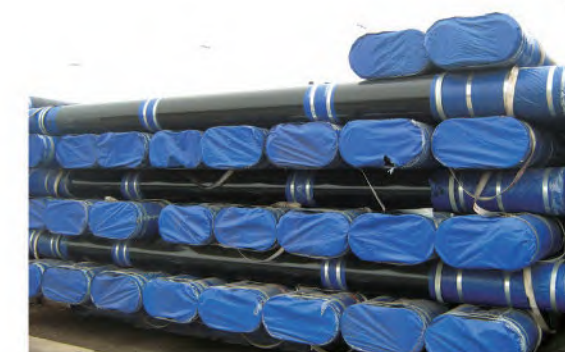
- SMLS steel pipes as API 5L PSL1 for conveying water, gas and petroleum of both oil and natural gas industries.

Chemical composition %

TYPE	Steel grade	C.	Si	Mn.	P	S
AP15L PSL1	B	≤0.28	-	≤1.20	≤0.03	≤0.03
AP15L PSL1	X42	≤0.28	-	≤1.3	≤0.03	≤0.03
AP15L PSL1	X46	≤0.28	-	≤1.4	≤0.03	≤0.03
AP15L PSL1	X52	≤0.28	-	≤1.4	≤0.03	≤0.03
AP15L PSL1	X56	≤0.28	-	≤1.4	≤0.03	≤0.03
AP15L PSL1	X60	≤0.28	-	≤1.4	≤0.03	≤0.03
AP15L PSL1	X70	≤0.28	-	≤1.4	≤0.03	≤0.03

Mechanical properties

TYPE	Steel grade	Tensile strength(Mpa)	Yield strength(Mpa)	Elongation		
API 5L PSL1	B	≥415	≥245	As per API 5L		
API 5L PSL1	X42	≥415	≥290	As per API 5L		
API 5L PSL1	X46	≥435	≥320	As per API 5L		
API 5L PSL1	X52	≥460	≥360	As per API 5L		
API 5L PSL1	X56	≥490	≥390	As per API 5L		
API 5L PSL1	X60	≥520	≥415	As per API 5L		
API 5L PSL1	X70	≥565	≥483	As per API 5L		



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

SEAMLESS STEEL PIPES



- SMLS steel pipes as API 5L PSL2 for conveying water, gas and petroleum of both oil and natural gas industries.

● Chemical composition %

Level	Steel grade	C.	Si	Mn.	P	S
AIP 5L PSL2	B	≤0.24	-	≤1.20	≤0.03	≤0.03
AIP 5L PSL2	X42	≤0.24	-	≤1.3	≤0.03	≤0.03
AIP 5L PSL2	X46	≤0.24	-	≤1.4	≤0.03	≤0.03
AIP 5L PSL2	X52	≤0.24	-	≤1.4	≤0.03	≤0.03
AIP 5L PSL2	X56	≤0.24	-	≤1.4	≤0.03	≤0.03
AIP 5L PSL2	X60	≤0.24	-	≤1.4	≤0.03	≤0.03
AIP 5L PSL2	X65	≤0.24	-	≤1.4	≤0.03	≤0.03
AIP 5L PSL2	X70	≤0.24	-	≤1.4	≤0.03	≤0.03

● Mechanical properties

Level	Steel grade	Tensile strength(Mpa)	Yield strength(Mpa)	Elongation		
AP15L PSL2	B	415-760	245-450	As per API 5L		
AP15L PSL2	X42	415-760	290-495	As per API 5L		
AP15L PSL2	X46	435-760	320-525	As per API 5L		
AP15L PSL2	X52	460-760	360-530	As per API 5L		
AP15L PSL2	X56	490-760	390-545	As per API 5L		
AP15L PSL2	X60	520-760	415-565	As per API 5L		
AP15L PSL2	X65	535-760	450-600	As per API 5L		
AP15L PSL2	X70	565-758	483-621	As per API 5L		

SMLS STEEL PIPES, API 5CT OIL TUBING



- SMLS Steel Pipe as per API 5CT for Oil Casing and Tubing Pipes
- The API 5CT tubing pipes we provide are with:
 - OD: 2-3/8", 2 7/8", 3 1/2", 4", 4 1/2"
 - Grade: N80, L80 P110, H40, J55
 - End Type: NUE, EUE,
 - Thread: 8RD, 10RD
 - Length: R1, R2, R3

Oil Tubing Pipe					
Length	R1	6,100	7,320	Meter	22ft
	R2	8,530	9,750	Meter	30ft
	R3	11,580	12,800	Meter	40ft
Outer Diameter		Wall thickness		External Upset ends	Plain ends
mm	inch	mm	inch	Grade	
60.32	2 3/8	4.24	0.167	X	H40, J55, N80
60.32	2 3/8	4.83	0.190	H40, J55, N80, P110	H40, J55, N80, P110
60.32	2 3/8	6.45	0.254	N80, P110	N80, P110
73.02	2 7/8	5.51	0.217	H40, J55, N80, P110	H40, J55, N80, P110
73.02	2 7/8	7.01	0.276	N80, P110	N80, P110
73.02	2 7/8	7.82	0.308	N80, P110	N80, P110
88.90	3 1/2	5.49	0.216	X	H40, J55, N80
88.90	3 1/2	6.45	0.254	H40, J55, N80, P110	H40, J55, N80, P110
88.90	3 1/2	7.34	0.289	X	H40, J55, N80
88.90	3 1/2	9.52	0.375	N80, P110	N80, P110
101.60	4	5.74	0.226	X	H40, J55, N80
101.60	4	6.65	0.262	H40, J55, N80	X
114.30	4 1/2	6.88	0.271	H40, J55, N80	H40, J55, N80

ERW & SAW STEEL PIPES



- Welded pipes
- OD: ERW 21.3~168mm (1/2"~6"); LSAW: 219-1422.4mm (8"~56")
- WT: 6mm~50mm;
- Used for the transportation of gas, water and oil in petroleum and natural gas industries. Both onshore and offshore line pipes are available.

Material: ASTM A106 GR A/B/C, ASTM A53 GR A/B, A252, A333; API 5L PSL1 PSL2 X42, X46, X52, X60, X65, X70; Q235, Q345, 16Mn, L245~L555; JIS STPG42, STPY400, SS400, G3454, G3456; St37, St42, St45, St52, DIN 1626, DIN 17175 etc.

Standard: ASTM/ASME B36.10M, API 5L, ASME SA178, JIS3454, JIS3457, DIN 17175, DIN17100, DIN1626, BS1387, BS6323, BS10210, BS3602, EN10217, EN10219, AS1163, As1074, GOST 10704-91, GOST 10705-80, GOST 10706-76, GB/T etc.



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

WELDED STEEL PIPES



- LSAW/JCOE steel pipes
- OD: 406.4~1422mm (16"~56")
- WT: 8~50mm
- Length: 5.8~12.3m
- Material: Q235, Q345, A25, API 5L GR. B, X42, X46, X52, X56, X60, X65, X70, X80, etc.
- Standard: API 5L (PLS1, PLS2), ASTM A252, ASTM A672, ISO 3183, GB/T 3091, GB/T 9711.1, etc.
- Usage: long distance transportation for oil, gas, liquid, coal, etc. on land and offshore. Also used as construction pipes on offshore platform, power station, petrochemical and civil construction, etc.

JCOE直缝埋弧焊管工艺流程



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

SSAW, DSAW STEEL PIPES

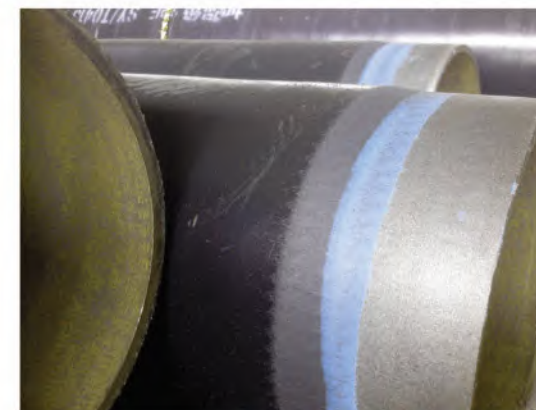


- SSAW, DSAW steel pipes
- OD: 219~3620mm (8"~142")
- WT: 5~26mm
- Length: 2~12m
- Standard: API 5LGr.B, API 5L PSL 1 PSL 2 X42, X46, X52, X60, X65, X70, X80, ASTM A252 Gr.2, Gr.3, ASTM A53 Gr. B, SY/T 5037-2000; SY/T 5040-2000; GB/T 3091-2008: Q235B, Q345B, 16Mn; GB/T 9711.1-1997; GB/T 9711.2-1999: L245~L555; EN10217-1, EN10219-1, EN10224 L235, L275, L355; En10025 etc.



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

ANTI-CORROSION STEEL PIPES



- 3PE (PP) ANTI-CORROSION LAYERS
- First layer is epoxy powder, mid layer is adhesive and third layer is polythene (polypropylene).



POLYURETHANE INSULATION PIPES

- DN7-0~DN1500
- Mainly used as thermal insulation pipelines and with the plastic pipe pieces of various specification according to customers' requirements, and meet the requirements of the standard of CJ/T114-2000 of Preformed Directly Buried Insulating Pipes for Polyurethane [PUR] Foamed Plastics and High Density Polyethylene [PE] Protect Pipes.



CEMENT LINED STEEL PIPES

- First layer is epoxy powder, mid layer is adhesive and third layer is polythene (polypropylene).
- OD range: DN325-2220.
- The internal surface of water transmission pipeline is coated with 8-16mm cement thick layer by the centrifuge or pipeline spray painting machine, aiming to protect the water quality.



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

GALVANIZED STEEL PIPES



Hot Dip Galvanized Steel Pipes
Standard: ASTM A53, BS1387, DIN2440, EN, JIS, GB, ETC.
Grade: A53 GR.A, B, A369, Q195-Q345, 10#, 20#, etc.
WT: 0.5mm to 20mm
OD: DN20-DN600 (1/2" ~ 24")
Technique: ERW, SMLS, SAW
Ends Finish: Plain ends, beveled, grooved, threaded
Application: Structural, fire fighting, gas, steam, water supply and drainage, etc.

Except hot dipped galvanized pipes, we also supply galvanized steel pipes produced by galv. steel strip, with zinc coating weight is around 120g/mm² (16 μm) and blow galvanized pipes with zinc coating around 280g/mm² (40 μm).

Costs are different by hot dip galvanizing, bolow galvanizing and being welded by galv. steel strip.

Customer can choose the most proper for project to save cost.



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

HOLLOW SECTIONS & FITTINGS



■ SHS, RHS, CHS HOLLOW SECTIONS
■ OD: 20x20mm ~ 600x600mm
■ WT: 0.8~50mm
■ STANDARD: ASTM A500, DIN, JIS G3466, JIS G3101, Bs1387, Bs6323, EN10210, EN10296, En10025, En10297, EN10219, En10217, GB/T6728-2002, GB/T 6725-2002, GB/T 3094-200, GB/T13793-1992, GB/T14291-2006, GB/T3091-1993, GB/T3092-1993, GB3640-88, GOST 8639-82, GOST 8645-68, GOST 8644-68 etc.



■ BW FITTINGS
■ Including elbows, reducers, tees, bends, caps, etc.
■ OD: 1/2"~72"
■ WT: SCH5S~XXS
■ Material: ASTM A234-WPB WPC, A420-WPL6/L3 St35.8I, P235, P265, St37.0, ASTM A234- WP12, Wp11, WP15, WP22, WP1, WP5, WP9, WP91, JIS B2311 PY400, GB/T12459, Q235, 20#,



■ FORGED SW&THREADED FITTINGS
■ Including elbows, reducers, tees, caps, -olets, crosses, unions, nipples, plugs, couplings, swages, inserts, bushings, etc.
■ OD: 1/2"~4" or 1-24" for weldolets.
■ Class: 150, 300, 600, 900, 1500, 2000, 3000, 6000, 9000, 15000, SCH STD~SCH160
■ Material: A105, A694 F42~70, ASTM A350, ASTM A182 F5/F9/F11/F22/F91, ASTM A182 F304, 304L, 304H, 316, 316L, 317, 317L, 321, 310, 347, 904L, A

PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

FLANGES, GASKETS, BOLTS ■ ■ ■ ■ ■



- FORGED FLANGES:
- Type: WN, SW, BL, SO, Threaded, spectacle, orifice, plate flange, long weld neck, tube flange, and other non-standard flanges and so on.
- OD: 21.3~3000mm (1/2"~120")
- Material: A105, ST37.2, S235, A350LF2, C22.8, S400, Sq235, A694, 304, 304L, 316, 316L etc.
- Pressure: 150LB- 2500LB, PN6-PN40



Type: Metallic and Nonmetallic gaskets for pipe flanges
Plain, flat, octagonal, ring joint, spiral-wound, jacketed, FF, RF, RJT, etc.
Material: CS, SS, AS, PTFE, glass filled PTFE, EPDM, non-asbestos, rubber, glass fiber, ceramic, etc.
Standard: ASME B16.20, B16.21



Bolts, studs, nuts and washers:
Size: M14~M72, 1/2"~3/4"
Material: ASTM A193 B7/A194 2H, F436, ASTM 325M/A563M/F436M, A490, B8, HV100, JIS II 09, S10T, JIS B1186, F10T
Standard: ASTM A193, A194, A325M, A563, A490, ASTM B16.5/16.47, BS1560 BS3293, Is4032, JIS II 09, JIS B1186, etc.
Finish: Black, galvanized, paint coated, etc.

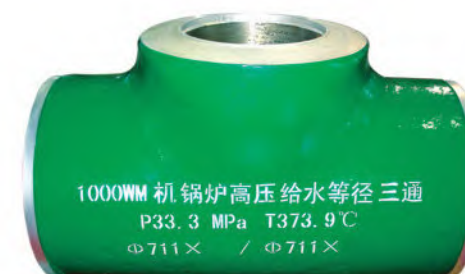
PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

SPECIAL PRODUCTS ■ ■ ■ ■ ■



High pressure alloy steel pipe fittings, barred tees, lateral tees, bends with 2D, 3D, 4D, 5D...etc. anchor flanges, various non-standard fittings and flanges can be produced as your drawing or requirements.

Material can be CS, AS, SS as GB, ANSI, DIN, BS, GOST standards, etc.



PROFESSIONAL MANUFACTURE AND SUPPLIER FOR STEEL PIPES AND PIPE FITTINGS

MM UNITS

ANSI PIPE SCHEDULE

SI-Units(metric)

OD=MM,WALL THICKNESS=MM

WEIGHT=Kg/M

VOL/M=M³

Nominal pipe size inches	OD mm	10	20	30	STD	40	60	XS	80	100	120	140	160	XXS	5S	10S	40S	80S	Vol/m m³
1/8	10.30				1.73 0.37	1.73 0.37		2.41 0.47	2.41 0.47							1.24 0.28	1.73 0.36	2.41 0.48	0.0001
1/4	13.70				2.24 0.63	2.24 0.63		3.02 0.80	3.02 0.80							1.65 0.51	2.24 0.64	3.02 0.82	0.0001
3/8	17.10				2.31 0.84	2.31 0.84		3.20 1.10	3.20 1.10							1.65 0.64	2.31 0.86	3.20 1.12	0.0003
1/2	21.30	2.11 1.00		2.41 1.12	2.77 1.27	2.77 1.27		3.73 1.62	3.73 1.62				4.78 1.95	7.47 2.55	1.65 0.82	2.11 1.01	2.77 1.30	3.73 1.65	0.0004
3/4	26.70	2.11 1.28		2.41 1.44	2.87 1.69	2.87 1.69		3.91 2.20	3.91 2.20				5.56 2.90	7.82 3.64	1.65 1.04	2.11 1.31	2.87 1.71	3.91 2.24	0.0007
1	33.40	2.77 2.09		2.90 2.18	3.38 2.50	3.38 2.50		4.55 3.24	4.55 3.24				6.35 4.24	9.09 5.45	1.65 1.33	2.77 2.13	3.38 2.55	4.55 3.29	0.0011
1 1/4	42.20	2.77 2.69		2.97 2.87	3.56 3.39	3.56 3.39		4.85 4.47	4.85 4.47				6.35 5.61	9.70 7.77	1.65 1.68	2.77 2.76	3.56 3.46	4.85 4.56	0.0018
1 1/2	48.30	2.77 3.11		3.18 3.54	3.68 4.05	3.68 4.05		5.08 5.41	5.08 5.41				7.14 7.25	10.15 9.56	1.65 1.95	2.77 3.17	3.68 4.13	5.08 5.51	0.0023
2	60.30	2.77 3.93		3.18 4.48	3.91 5.44	3.91 5.44		5.54 7.48	5.54 7.48				8.74 11.11	11.07 13.44	1.65 2.44	2.77 4.01	3.91 5.54	5.54 7.63	0.0036
2 1/2	73.00	3.05 5.26		4.78 8.04	5.16 8.63	5.16 8.63		7.01 11.41	7.01 11.41				9.53 14.92	14.02 20.39	2.11 3.77	3.05 5.36	5.16 8.81	7.01 11.64	0.0053
3	88.90	3.05 6.46		4.78 9.92	5.49 11.29	5.49 11.29		7.62 15.27	7.62 15.27				11.13 21.35	15.24 27.68	2.11 4.60	3.05 6.59	5.49 11.52	7.62 15.59	0.0079
3 1/2	101.60	3.05 7.41		4.78 11.41	5.74 13.57	5.74 13.57		8.08 18.63	8.08 18.63				0.00	0.00	5.29	2.11 7.55	3.05 13.84	5.74 19.01	0.0103
4	114.30	3.05 8.37		4.78 12.91	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	2.11 5.96	3.05 8.52	6.02 16.40	8.56 22.77	0.0130
5	141.30	3.40 11.56			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	2.77 9.67	3.40 11.82	6.55 22.20	9.53 31.59	0.0199
6	168.30	3.40 13.83	4.50 18.18		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	2.77 11.55	3.40 14.13	7.11 28.83	10.97 43.42	0.0280
8	219.10	3.76 19.97	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	2.77 15.09	3.76 20.37	8.18 43.39	12.70 65.59	0.0480
10	273.10	4.19 27.79	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	3.40 23.08	4.19 28.34	9.27 62.52	12.70 83.19	0.0740
12	323.90	4.57 35.99	6.35 49.73	8.38 65.20	9.53 73.88	9.53 73.88	12.70 108.96	12.70 108.96	17.48 97.46	21.44 132.08	25.40 159.91	28.58 186.97	33.32 208.14	25.40 186.97	3.96 31.89	4.57 36.73	9.52 75.52	12.70 99.43	0.1040
14	355.60	6.35 54.69	7.92 67.90	9.53 81.33	11.13 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	35.71 281.70	3.96 35.06	4.78 42.14			0.1260
16	406.40	6.35 62.64	7.92 77.83	9.53 93.27	12.70 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	40.49 365.35	4.19 42.41	4.78 48.26			0.1650
18	457.00	6.35 70.57	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	45.24 459.37	4.19 47.77	7.78 60.46			0.2080
20	508.00	6.35 78.55	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	50.01 564.81	4.78 60.46	5.54 70.00			0.2580
22	559.00	6.35 86.54	9.53 129.13	12.70 171.09	9.53 129.13	15.09 222.23	20.62 294.25	12.70 171.09	28.58 373.83	34.93 451.42	41.28 527.02	47.63 600.63	53.98 672.26	53.98 672.26	4.78 66.57	5.54 77.06			0.3120
24	610.00	6.35 94.53	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	59.54 808.22	5.54 84.16	6.35 96.37			0.3720
26	660.00	7.92 127.36	12.70 202.72		9.53 152.87			12.70 202.72											0.4350
28	711.00	7.92 137.32	12.70 218.69	15.88 271.21	9.53 164.85			12.70 218.69											0.5050
30	762.00	7.92 147.28	12.70 234.67	15.88 292.18	9.53 176.84			12.70 234.67							6.35 120.72	7.92 150.36			0.5800
32	813.00	7.92 157.24	12.70 250.64	15.88 312.15	9.53 188.82	17.48 342.91		12.70 250.64											0.6600
34	864.00	7.92 167.20	12.70 266.61	15.88 332.12	9.53 200.31	17.48 364.90		12.70 266.61											0.7460
36	914.00	7.92 176.96	12.70 282.27	15.88 351.70	9.53 212.56	19.05 420.42		12.70 282.27											0.8350
38	965.00				9.53 224.54			12.70 298.24											0.9310
40	1016.00				9.53 236.53			12.70 314.22											1.0320
42	1067.00				9.53 248.52			12.70 330.19											1.1380
44	1118.00				9.53 260.50			12.70 346.16											1.2490
46	1168.00				9.53 272.25			12.70 351.82											1.3640
48	1219.00				9.53 284.24			12.70 377.79											1.4850

BS 1387-1985

TUBE			OD of Black/Galvanized Tube						Weight of Black/Galvanized Tube				
	SIZE		Minimum		Maximum		Wall Thickness		Plain Ends		Screwed&Socketed		Pieces
	INCH	NB(mm)	Inches	mm	Inches	mm	Inches	mm	Kg./ft.	Kg./mtr.	Kg./ft.	Kg./mtr.	per bundle
Light	1/2"	15	0.825	21	0.841	21.4	0.079	2	0.289	0.947	0.291	0.956	153
	3/4"	20	1.041	26.4	1.059	26.9	0.091	2.3	0.421	1.38	0.424	1.39	127
	1"	25	1.309	33.2	1.328	33.8	0.102	2.6	0.603	1.98	0.61	2	91
	1 1/4"	32	1.65	41.9	1.67	42.5	0.102	2.6	0.774	2.54	0.783	2.57	61
	1 1/2"	40	1.882	47.8	1.903	48.4	0.114	2.9	0.985	3.23	0.997	4.15	61
	2"	50	2.347	59.6	2.37	60.2	0.114	2.9	1.24	4.08	1.26	5.83	37
	2 1/2"	65	2.96	75.2	2.991	76	0.126	3.2	1.74	5.71	1.78	6.89	37
	3"	80	3.46	87.9	3.491	88.7	0.126	3.2	2.05	6.72	2.1	10	19
	4"	100	4.45	113	4.481	113.9	0.142	3.6	2.97	9.75	3.05		19
Medium	1/2"	15	0.831	21.1	0.856	21.7	0.102	2.6	0.369	1.21	0.372	1.22	127
	3/4"	20	1.047	26.6	1.072	27.2	0.102	2.6	0.475	1.56	0.479	1.57	101
	1"	25	1.316	33.4	1.346	34.2	0.126	3.2	0.735	2.41	0.741	2.43	61
	1 1/4"	32	1.657	42.1	1.687	42.9	0.126	3.2	0.945	3.1	0.954	3.13	51
	1 1/2"	40	1.889	48	1.919	48.8	0.126	3.2	1.09	3.57	1.1	3.61	44
	2"	50	2.354	59.8	2.394	60.8	0.142	3.6	1.53	5.03	1.55	5.1	29
	2 1/2"	65	2.969	75.4	3.014	76.8	0.142	3.6	1.96	6.43	1.99	6.55	24
	3"	80	3.469	88.1	3.524	89.5	0.157	4	2.55	8.37	2.6	8.54	19
	4"	100	4.459	113.3	4.524	114.9	0.177	4.5	3.72	12.2	3.81	12.5	14
	5"	125	5.461	138.7	5.535	140.6	0.197	5	5.06	16.6	5.21	17.1	10
	6"	150	6.46	164.1	6.539	166.1	0.197	5	6	19.7	6.19	20.3	7
Heavy	1/2"	15	0.831	21.1	0.856	21.7	0.126	3.2	0.439	1.44	0.442	1.45	127
	3/4"	20	1.047	26.6	1.072	27.2	0.126	3.2	0.57	1.87	0.573	1.88	101
	1"	25	1.316	33.4	1.346	34.2	0.157	4	0.896	2.94	0.902	2.96	61
	1 1/4"	32	1.657	42.1	1.687	42.9	0.157	4	1.16	3.8	1.17	3.83	51
	1 1/2"	40	1.889	48	1.919	48.8	0.157	4	1.33	4.38	1.35	4.42	44
	2"	50	2.354	59.8	2.394	60.8	0.177	4.5	1.89	6.19	1.91	6.26	29
	2 1/2"	65	2.969	75.4	3.014	76.6	0.177	4.5	2.42	7.93	2.45	8.05	24
	3"	80	3.469	88.1	3.524	89.5	0.197	5	3.14	10.3	3.2	10.5	19
	4"	100	4.459	113.3	4.524	114.9	0.212	5.4	4.42	14.5	4.51	14.8	14
	5"	125	5.461	138.7	5.535	140.6	0.212	5.4	5.46	17.9	5.61	18.4	10
	6"	150	6.46	164.1	6.539	166.1	0.212	5.4	6.49	21.3	6.67	21.9	7

ASTM A53/M-02

Size		OD		Nominal WT		Nominal Weight (Mass), plain end,		Weight Class	SCH	Test Pressure Mpa	
NPS	DN	in	mm	in	mm	lb/ft	kg/m			Grade A	Grade B
'1/8	6	0.405	10.3	0.068	1.73	0.24	0.37	STD	40	4.8	4.8
				0.095	2.41	0.31	0.47	XS	80	5.9	5.9
'1/4	8	0.54	13.7	0.088	2.24	0.43	0.63	STD	40	4.8	4.8
				0.119	3.02	0.54	0.8	XS	80	5.9	5.9
3/8	10	0.675	17.1	0.091	2.31	0.57	0.84	STD	40	4.8	4.8
				0.126	3.2	0.74	1.1	XS	80	5.9	5.9
'1/2	15	0.84	21.3	0.109	2.77	0.85	1.27	STD	40	4.8	4.8
				0.147	3.73	1.09	1.62	XS	80	5.9	5.9
				0.188	4.78	1.31	1.95	...	160	6.2	6.2
				0.294	7.47	1.72	2.55	XXS	...	6.9	6.9
'3/4	20	1.05	26.7	0.113	2.87	1.13	1.69	STD	40	4.8	4.8
				0.154	3.91	1.48	2.2	XS	80	5.9	5.9
				0.219	5.56	1.95	2.9	...	160	6.5	6.5
				0.308	7.82	2.44	3.64	XXS	...	6.9	6.9
1	25	1.315	33.4	0.133	3.38	1.68	2.5	STD	40	4.8	4.8
				0.179	4.55	2.17	3.24	XS	80	5.9	5.9
				0.25	6.35	2.85	4.24	...	160	6.5	6.5
				0.358	9.09	3.66	5.45	XXS	...	6.9	6.9
1 1/4	32	1.66	42.2	0.14	3.56	2.27	3.39	STD	40	8.3	9
				0.191	4.85	3	4.47	XS	80	2.4	13.1
				0.25	6.35	3.77	5.61	...	160	3.1	13.8
				0.382	9.7	5.22	7.77	XXS	...	15.2	15.9
1 1/2	40	1.9	48.3	0.145	3.68	2.72	4.05	STD	40	8.3	9
				0.2	5.08	3.63	5.41	XS	80	2.4	13.1
				0.281	7.14	4.86	7.25	...	160	13.4	14.1
				0.4	10.16	6.41	9.56	XXS	...	15.2	15.9
2	50	2.375	60.3	0.154	3.91	3.66	5.44	STD	40	15.9	17.2
				0.218	5.54	5.03	7.48	XS	80	17.2	17.2
				0.344	8.74	7.47	11.11	...	160	17.2	17.2
				0.436	11.07	9.04	13.44	XXS	...	17.2	17.2
2 1/2	65	2.875	70	0.203	5.16	5.8	8.63	STD	40	17.2	17.2
				0.276	7.01	7.67	11.41	XS	80	17.2	17.2
				0.375	9.52	10.02	14.9	...	160	17.2	17.2
				0.552	14.02	13.71	20.39	XXS	...	17.2	17.2
				0.216	5.49	7.58	11.29	STD	40	15.3	17.2
				0.3	7.62	10.26	15.27	XS	80	17.2	17.2
				0.438	11.13	14.34	21.35	...	160	17.2	17.2
				0.6	15.24	18.6	27.68	XXS	...	17.2	17.2
3 1/2	90	4	101.6	0.226	5.74	9.12	13.57	STD	40	14	16.3
				0.318	8.08	12.52	18.63	XS	80	19.3	19.3

4	100	4.5	114.3	0.237	6.02	10.8	16.07	STD	40	13.1	15.2
				0.337	8.56	15	22.32	XS	80	18.6	19.3
				0.438	11.13	19.02	28.32	...	120	19.3	19.3
				0.531	13.49	22.53	33.54	...	160	19.3	19.3
				0.674	17.12	27.57	41.03	XXS	...	19.3	19.3
5	125	5.563	141.3	0.258	6.55	14.63	21.77	STD	40	11.5	13.4
				0.375	9.52	20.8	30.94	XS	80	16.8	19.3
				0.5	12.7	27.06	40.28	...	120	19.3	19.3
				0.625	15.88	32.99	49.11	...	160	19.3	19.3
				0.75	19.05	38.59	57.43	XXS	...	19.3	19.3
6	150	6.625	168.3	0.28	7.11	18.99	28.26	STD	40	10.5	12.3
				0.432	10.97	28.6	42.56	XS	80	16.3	18.9
				0.562	14.27	36.43	54.2	...	120	19.3	19.3
				0.719	18.26	45.39	67.56	...	160	19.3	19.3
				0.864	21.95	53.21	79.22	XXS	...	19.3	19.3
8	200	8.625	219.1	0.25	6.35	22.38	33.31	...	20	7.2	8.4
				0.277	7.04	24.72	36.31	...	30	7.8	9.3
				0.322	8.18	28.58	42.55	STD	40	9.2	10.8
				0.406	10.31	35.67	53.08	...	60	11.7	13.8
				0.5	12.7	43.43	64.64	XS	80	14.4	16.8
				0.594	15.09	51	75.92	...	100	17.2	19.3
				0.719	18.26	60.77	90.44	...	120	19.3	19.3
				0.812	20.62	67.82	100.92	...	140	19.3	19.3
				0.875	22.22	72.49	107.88	XXS	...	19.3	19.3
10	250	10.75	273	0.906	23.01	74.76	111.27	...	160	19.3	19.3
				0.25	6.35	28.06	41.75	...	20	5.8	6.8
				0.307	7.8	34.27	51.01	...	30	7.1	8.3
				0.365	9.27	40.52	60.29	STD	40	8.4	9.9
				0.5	12.7	54.79	81.52	XS	60	11.5	13.4
				0.594	15.09	64.49	95.97	...	80	13.7	16
				0.719	18.26	77.1	114.7	...	100	16.6	19.3
				0.844	21.44	79.38	133	...	120	19.3	19.3
				1	25.4	104.23	155.09	XXS	140	19.3	19.3
12	300	12.75	323.8	1.125	28.57	115.75	172.21	...	160	19.3	19.3
				0.25	3.35	33.41	49.71	...	20	4.9	5.7
				0.33	8.38	43.81	65.18	...	30	6.4	7.5
				0.375	9.52	49.61	73.78	STD		7.3	8.5
				0.406	10.31	53.57	79.7		40	7.9	9.2
				0.5	12.7	65.48	97.43	XS		9.7	11.4
				0.562	14.27	73.22	108.92		60	11	12.8
				0.688	17.48	88.71	132.04		80	13.4	15.7
				0.844	21.44	107.42	159.86		100	16.5	19.2
				1	25.4	125.61	186.91	XXS	120	19.3	19.3
				1.125	28.57	139.81	208		140	19.3	19.3
				1.312	33.32	160.42	238.68		160	19.3	19.3

WT TOLERANCE: ± 12.5%; ZINC COATING THICKNESS: AVERAGE AT LEAST 70 MICRION, OR 500KG/M2

TABLE 1 TOTAL THICKNESS OF POLYETHYLENE COATING SYSTEM

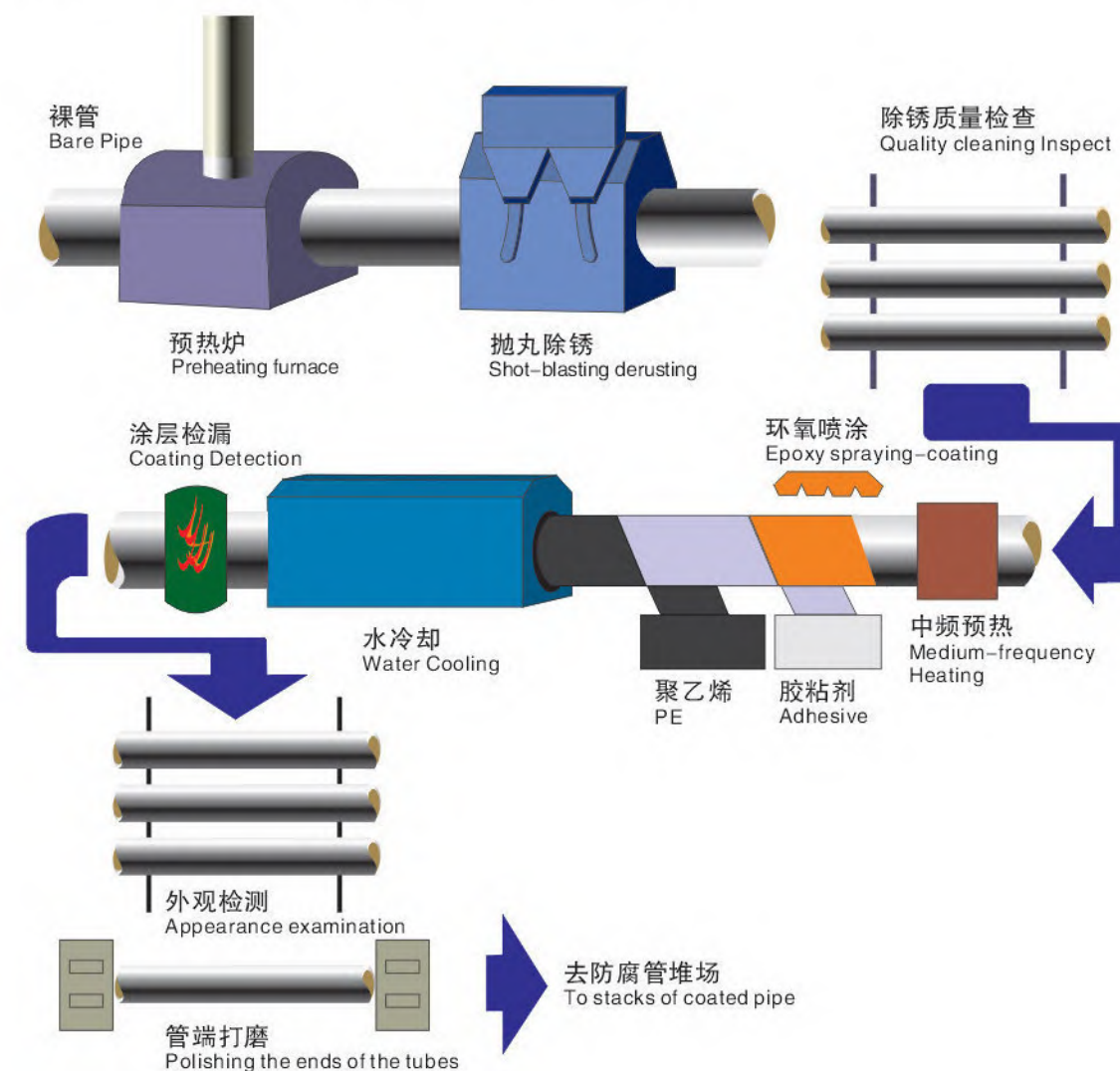
Pipe Size DN	Epoxy layer μm	Adhesive Layer μm	Min total thickness of 3LPE mm	
			Normal (G)	Increased (S)
Dn $\leq$ 100	≥ 120	≥ 170	1.8	2.5
100 < Dn $\leq$ 250			2	2.7
250 < Dn $\leq$ 500			2.2	2.9
500 < Dn $\leq$ 800			2.5	3.2
Dn $\geq$ 800			3	3.7

PROPERTIES OF 3LPE

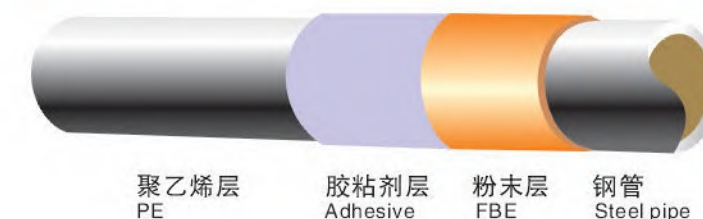
STANDARD AS GB/T23257-2009: Polyethylene coating for buried steel pipeline

Number	Items		Performance	Remark
1	Thickness (mm)		1.80~40.0	two types: normal and increased
2	Peel Strength (N/cm)	20 $\pm$ 5° C	≥ 60	Tested as SY/T 4013-2002
		50 $\pm$ 5° C	≥ 40	Tested as SY/T 4013-2002
3	Cathodic Disbondment (mm) (65° C, 48H)		≤ 10	Tested as SY/T 4013-2002
4	Impact Resistance (J/mm)		≥ 5	Tested as SY/T 4013-2002
5	Flexibility (25°)		No Crack	Tested as SY/T 4013-2002
6	Tensile Strength	Longitudinal (Mpa)	≥ 20	Tested as GB/T1040
		Circumferential (Mpa)	≥ 20	Tested as GB/T1040
		Deviation (%)	≤ 15	
7	Elongation at Break (%)		≥ 600	Tested as GB/T1040
8	Environmental Stress Cracking Resistance (F50) (H)		≥ 1000	Tested as GB/T1842
9	Indentation Resistance (mm)	30 $\pm$ 2° C	≤ 0.2	
		50 $\pm$ 2° C	≤ 0.3	

Process Diagram of Three-Layer PE/PP Coating



三层PE (结构图) Structure of Three-layer PE



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pipes, supplier of pipe
fittings, flanges, HRS, SHS

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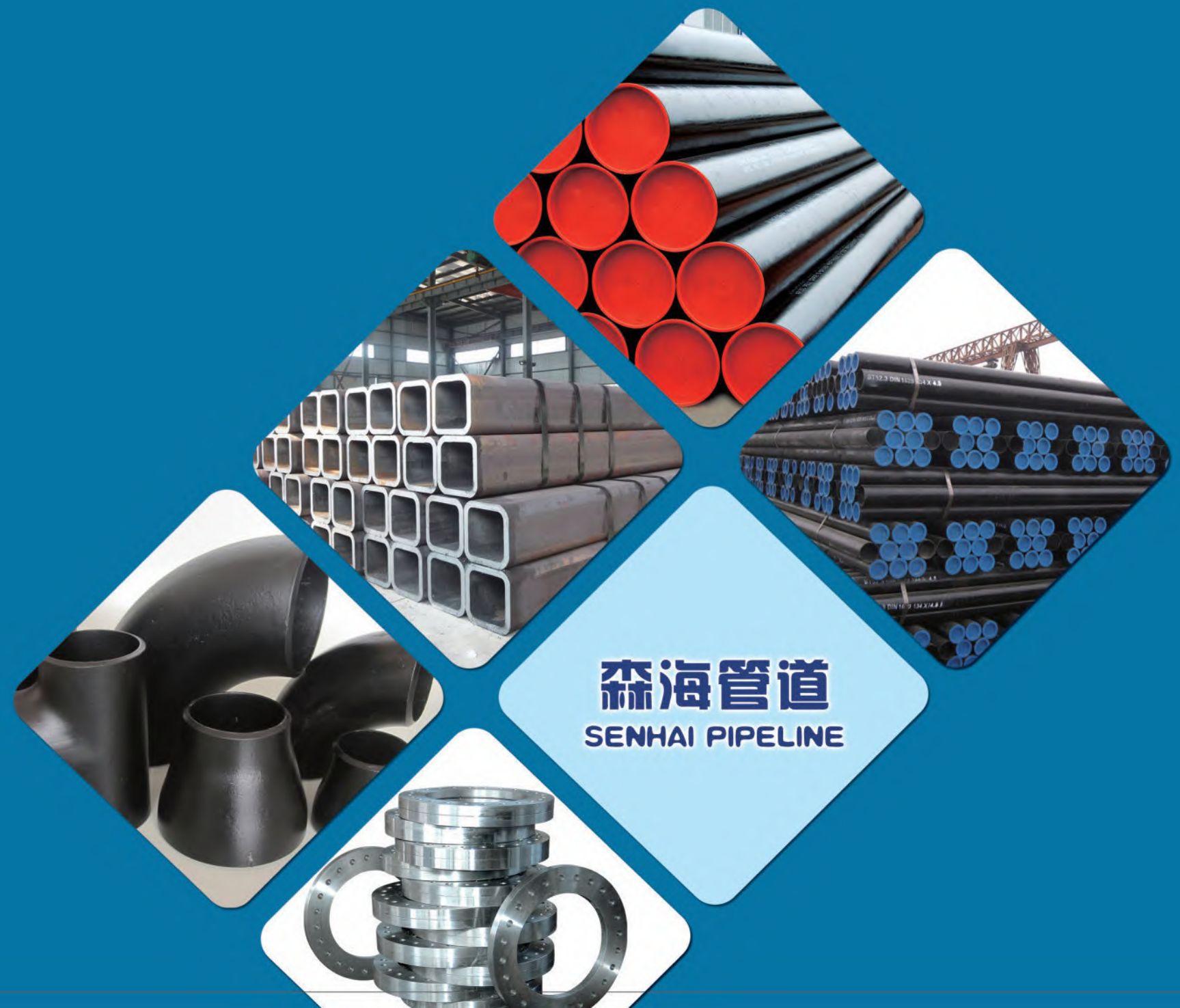
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