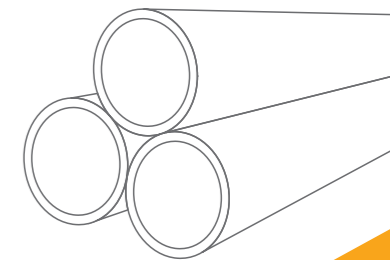




湖南格润德管业有限公司  
HUNAN GREAT STEEL PIPE CO.,LTD



HUNAN GREAT STEEL PIPE CO.,LTD  
HUNAN SHINESTAR STEEL INDUSTRIES CORPORATION







湖南格润德管业有限公司  
HUNAN GREAT STEEL PIPE CO.,LTD



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# A Introduction



## Company Profile

Hunan Great Steel Pipe Co.,Ltd, which is as the largest subsidiary of Hunan Shinestar Steel Industries Corporation located in Hunan, China. with its primary operation in steel products manufacturing, steel products stocking with the world's most modern and technically iron and steel advanced equipment for mining, coking, steel-making, iron-making, rolling and supporting auxiliary facilities, and professional research and technical staff.

Hunan Great Steel Pipe Co.,Ltd has a capacity to produce full range and a wide variety of quality seamless steel pipes including struture tubes, liquid pipes, boiler tubes, hydraulic pillar tubes, casing, line pipe, drill pipes, petroleum cracking tubes, and welded steel pipes including erw steel pipe, ssaw steel pipe, lsaw steel pipe. The steel products are widely used in aviation, aerospace, national defense equipment, oil exploration, engineering machinery, automobiles, railway rolling stock, new energy and other industries and fields. Its exporting markets cover over 100 global main regions and countries with ten million tons Iron and steel capability.

So far, Hunan Great Steel Pipe Co.,Ltd is the predecessor of branch of China's oil pipeline and gas pipeline science research institute, as the most authoritative pipeline engineering research institute, consists of eight backbone institute and line pipe bureau postdoctoral research stations, oil and gas pipe is "safe" the main body of the national engineering laboratory on units, is China technology center and plumbing contractor as well as steel products supplier branch of China welding association director branch pipe welding unit, and a large number of sophisticated equipment and high-end talent in pipeline engineering materials, pipe welding technology, piping, special tools and pipeline construction technology, pipeline corrosion protection technology, piping nondestructive testing technology, pipeline safety evaluation, pipe information standard eight fields a leading domestic level, undertake and fulfill the country and provincial key technology research projects more than 200 items, has a number of national patent results at home and abroad, and key pipeline engineering application widely.





## Factory & Production Line

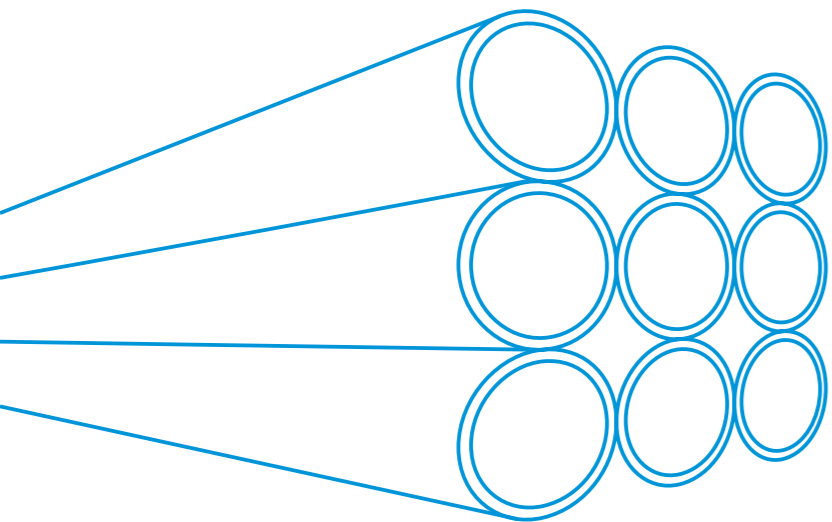
As a professional manufacturer of steel products, Hunan Great Steel Pipe Co.,Ltd current yearly production capacity of the company is 240,000 metric tons of steel pipes, that are produced by 11 production lines for seamless steel pipe and welded steel pipe, with sizes ranging from (3/4 - 64) inches, with 4 hot rolling production lines, 12 cold drawing production lines, 30-ton electric arc furnaces and 3-strand horizontal continuous casting production lines, two sets of billets producing Two sets of seamless steel tube processing systems. From foundation until now, we have built many of the production line for different steel products:

- ◎ 4 production lines for seamless pipe: OD: 1/4 inch-36 inch, wall thickness:1.25mm to 50mm.
- ◎ 2 production lines for erw steel pipe: OD:1/8 inch to 24 inch, wall thickness: max 26.5mm
- ◎ 3 production lines for ssaw steel pipe: OD:219mm to 3520mm,wall thickness: 3mm to 25mm
- ◎ 2 production lines for lsaw steel pipe: OD:219mm to 720mm(UOE),406mm to 1625.6mm(JCOE) wall thickness:max 65mm

## Quality Assurance

Nowadays, Hunan Great Steel Pipe Co.,Ltd has been granted a number of acceptance certificates issued by several international and domestic institutions. Such as:

- Official API Monogram(API)
- Quality Management System (ISO 9001)
- Det Norske Veritas (DNV)
- Bureav Veritas (BV)
- Societe Generale de Surveillance S.A. (SGS)
- Certificate Of Quality ( CIQ)







### Inspection

Hunan Great Steel Pipe have quality inspection center to provide testing services to the production process and finished products. The laboratory has 14 sets of test equipment, including Flaw test units, Hydraulic test unit and the Ultrasonic flaw detection units used in the production workshop at the scene. It could detect 31 kinds of projects, including the metal material and coating materials physical and chemical properties. A total of 8 kinds of standard to be used and standard software. Inspection and Quarantine has become a technology center in Liaoning Anshan Branch of metallic materials under the testing room.

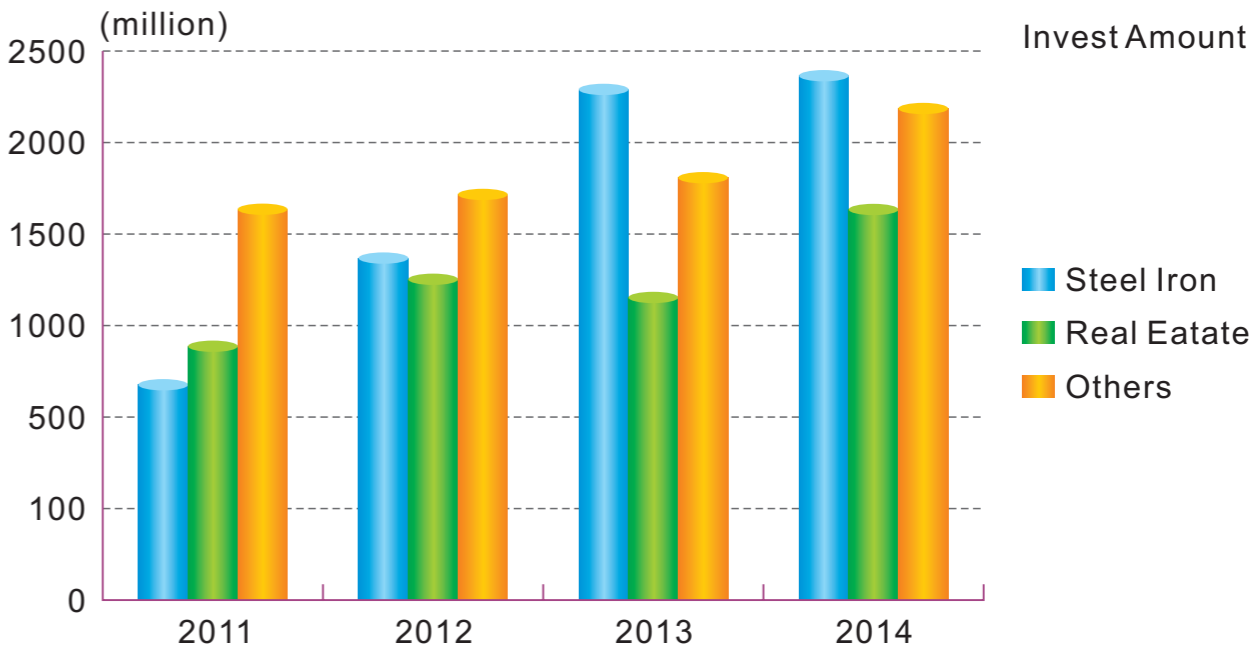


### Development Vision

Become the world's largest, most complete specifications, service priority, the lowest price, the most influential steel pipe suppliers of resources.

The Vision describes describes the blueprint of Hunan Great Steel Pipe Co.,Ltd to be "a world-leading and professional manufacturer of steel pipes". In order to realize such a blueprint, we firstly must possess a strong capability for innovation and requires us to invest more in research and technology development; secondly, we shall strive to integrate the upstream and downstream of the manufacturing supply chain. We will do this by investing in upstream and downstream manufacturing processes from raw materials, manufacturing of coils and plates and pipe manufacturing., This is done through our technologies and management, building on corporate culture in order to develop into a world-leading enterprise that focuses on steel pipe manufacturing.

- Creat value for customers
- Establish a sustainable development
- Build worldwide famous steel pipe supplier



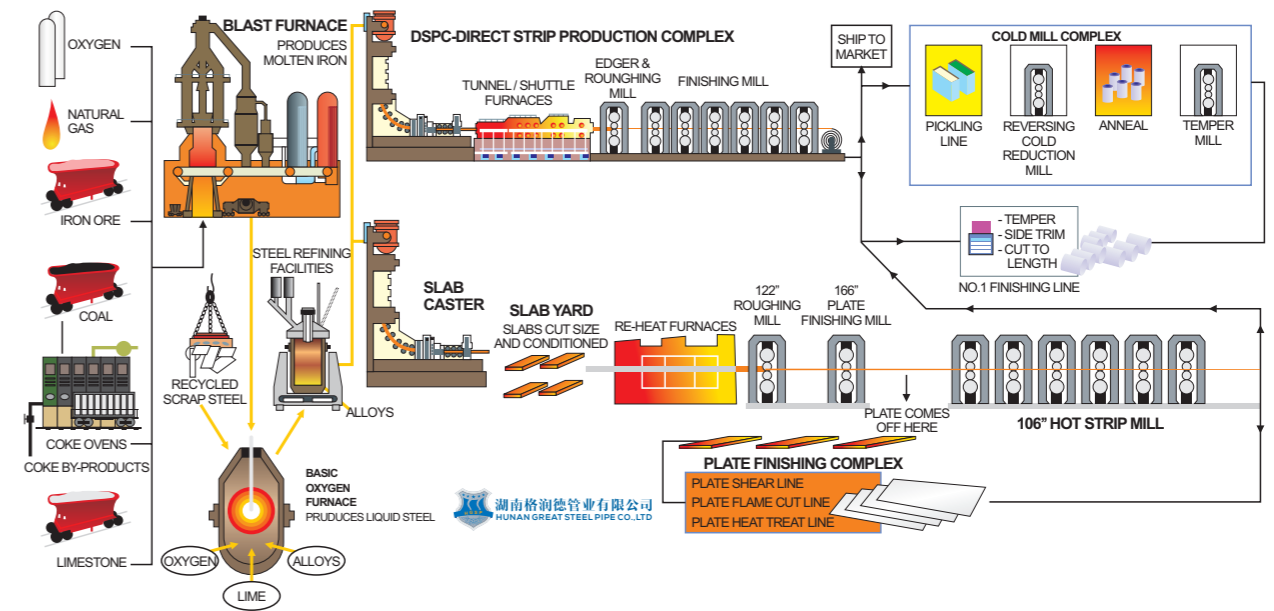


# B Production

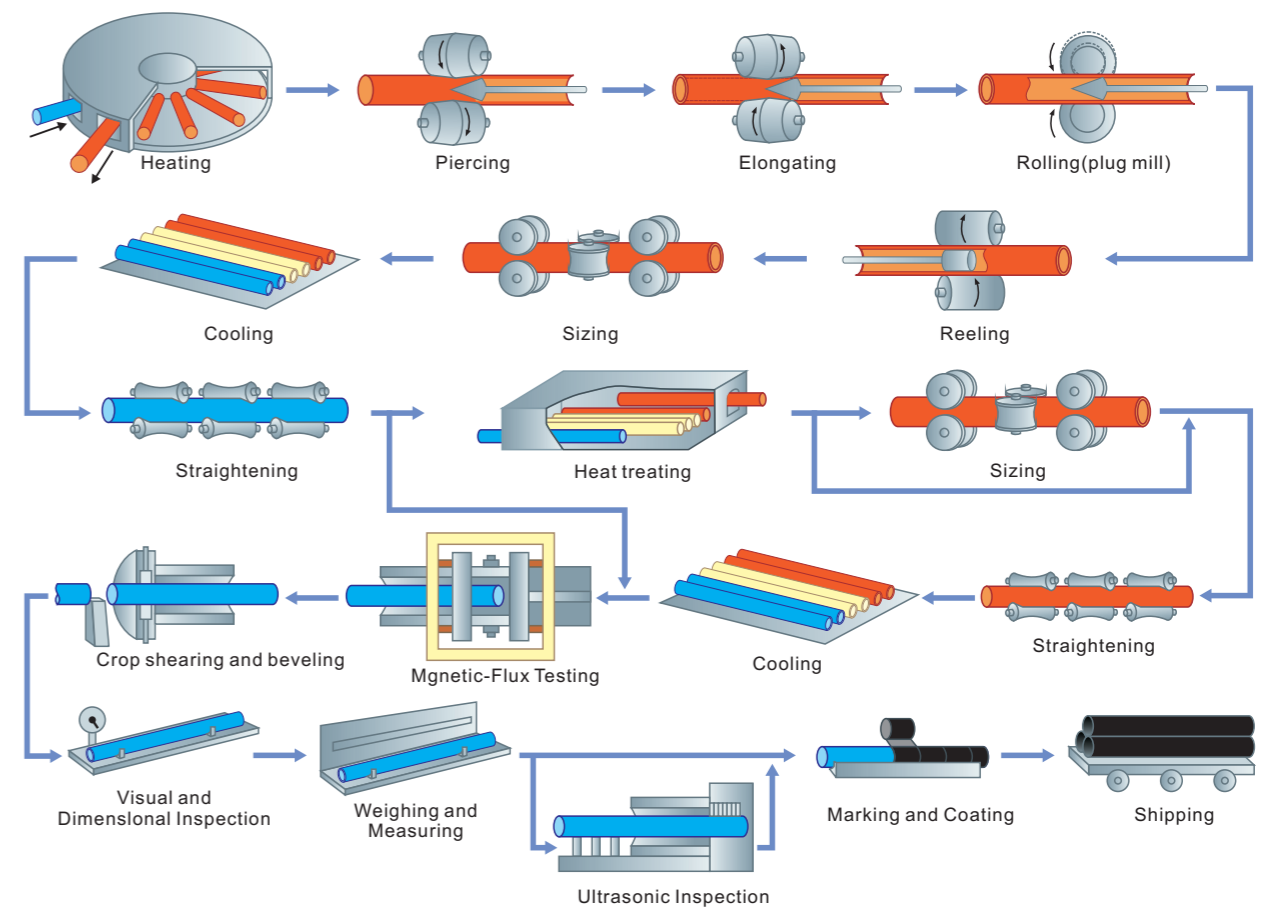


## Production Process Flow Chart

### Steel Making Process



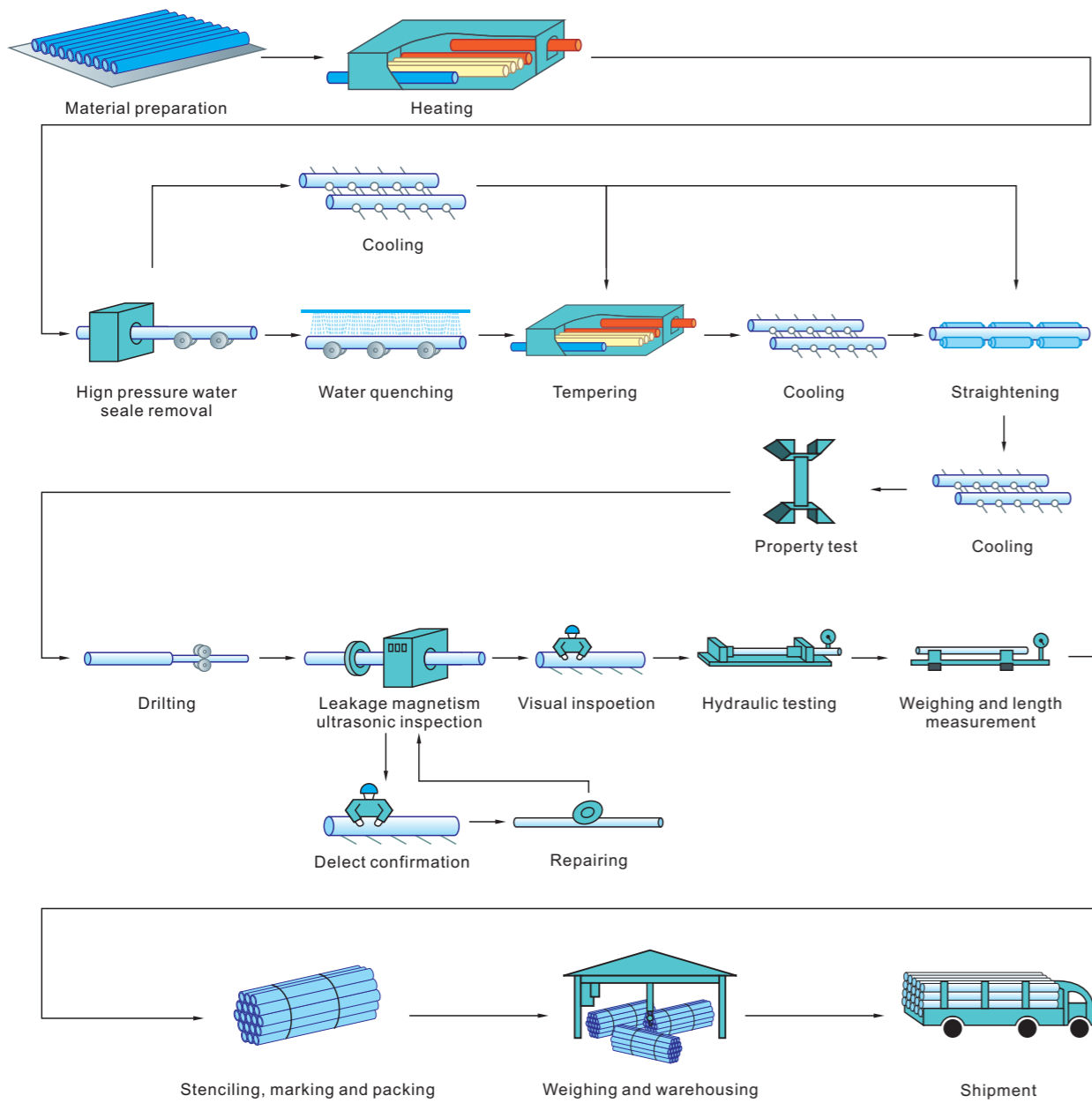
### Tube Manufacturing Process



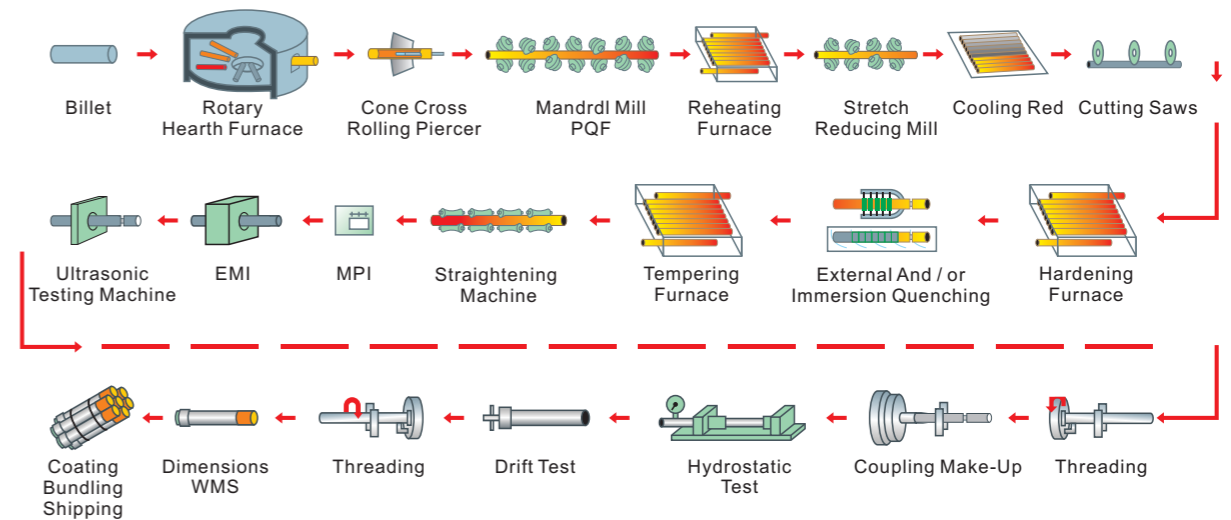




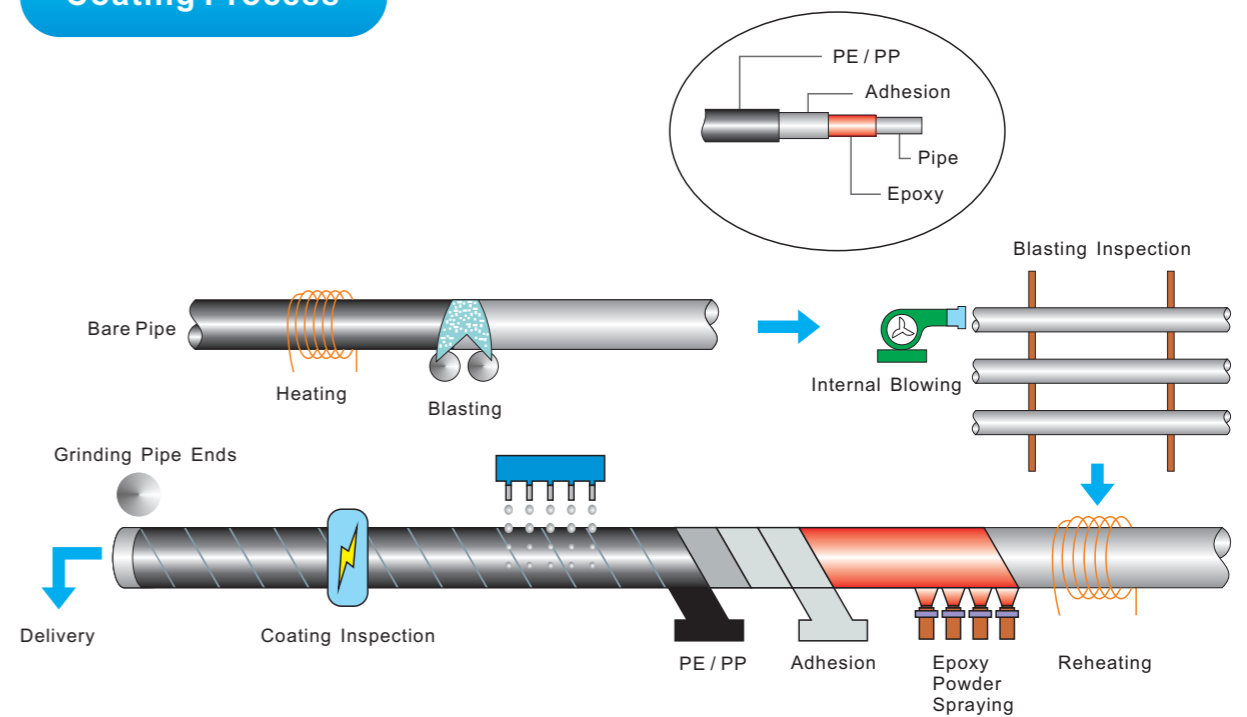
## Heat Treatment Process



## Tube Finishing Process



## Coating Process







## Production Equipment

### Seamless Steel Pipe Production workshop

Hunan Great Steel Pipe Co.,Ltd owns 3 sets of hot -rolled seamless steel pipe production line and 2 sets of cold drawn seamless steel pipe production line with annual production capacity of 200,000 tons, the size range is from 73mm to 630mm.

The continuous mandrel rolling process and the push bench process in the size range from approx. 21 to 178 mm outside diameter. The multi-stand plug mill (MPM) with controlled (constrained) floating mandrel bar and the plug mill process in the size range from approx. 140 to 406 mm outside diameter. The cross roll piercing and pilger rolling process in the size range from approx. 250 to 660 mm outside diameter.

#### ● Hot Rolled Production

#### ● Cold Drawn Production







### Welded Steel Pipe Production workshop

It rolls the strip or plate then welds the tube to steel pipes by HF welding or submerged arc welding. Welded pipe making machine is composed of uncoiler, leveling machine, butt welder, loop, straightening machine and high frequency equipment. Our innovative production line and each single unit of the production line are not only economical but also practical. The complete production line adopts ZTF technology when producing round pipe, the customer shall reduce 60% expense on tooling and improve production efficiency and gain maximum economic benefit.

### Coating Production workshop

PE coating extrusion system of big bore steel pipe is one of JINHU mainly equipments. Two types include coating type and wrapping type, wrapping type divided into upper wrapping type and side wrapping type. As per customer's requirement, equipment can be fixed put, drop put or several extruders combine together for use. Coating type steel pipe get through the die tooling and then coating, mainly fit for 600mm below steel pipe coating, have the merits of convenient use, coating well-distributed, surface smooth and bright and low cost. Straight line transportation and wrap coating, different size steel pipe coating with different type of die tooling. Side wrapping type with die tooling beneath steel pipe, PE and adhesive rollers nether, adhesive and PE extruder are set up vertically.





# G Products



## > Seamless Steel Pipe

Structural Tube	Liquid Pipe	Boiler Tube	Line Pipe
Tubing & Casing	Drill Pipe	Petroleum Cracking Tube	

## > Welded Steel Pipe

ERW Steel Pipe	LSAW Steel Pipe	SSAW Steel Pipe
----------------	-----------------	-----------------

## > Standard

ASTM A53	ASTM A106	API 5L	API 5CT	ASTM A192	ASTM A179
BS 1387	DIN 17175	EN 10204	JIS G3441	EN 10216-1	

## > Surface finish

3LPE	3LPP	FBE	Bare pipes	Black pipes
Bitumen	Galvanized	Oiled	Varnish	

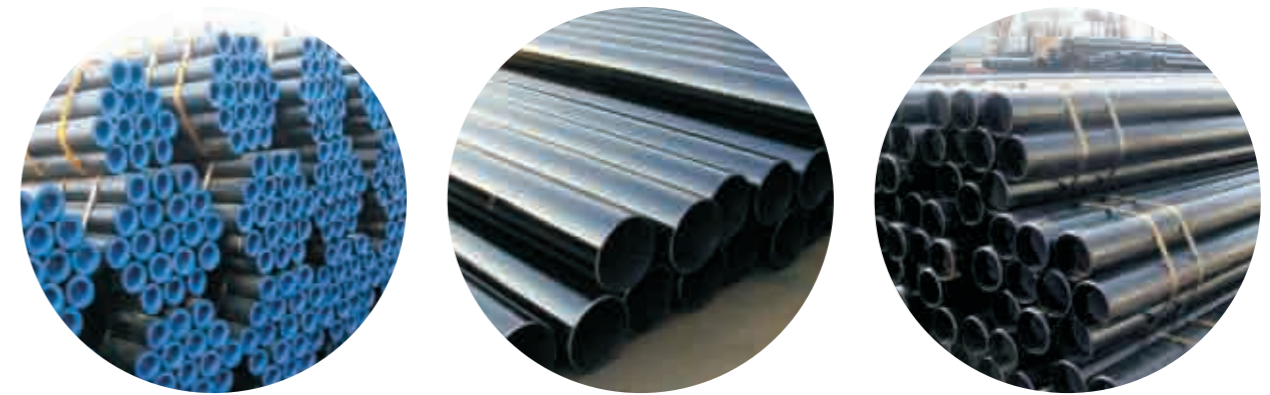




## SEAMLESS STEEL PIPE

### Types of Seamless Steel Pipe

Types	Uses
Structure Purposes	General structure and mechanical
Liquid Services	Petroleum, gas and other fluids conveying
Low and Medium Pressure	Steam and boiler manufacturing
Hydraulic Pillar Service	Hydraulic support
Auto Semi-shaft Casing	Auto sem-shaft casing
Line Pipe	Oil and gas conveying
Tubing and Casing	Oil and gas conveying
Drill Pipes	Well drilling
Geological Drilling Pipes	Geological drilling
Petroleum Cracking Tubes	Furnace tubes, heat exchangers



### Standard of Seamless Steel Pipe

Standard	Grade		Chemical Composition(%)													
	Steel Name	Steel Number	c	Si	Mn	P	S	Cr	Mo	Ni	Al	Cu	Nb	Ti	V	Cr+Cu+Mo+Ni
EN 10216-1	P195TR1	1.0107	≤ 0.13	≤ 0.35	≤ 0.70	≤ 0.025	≤ 0.020	≤ 0.30	≤ 0.08	≤ 0.30	-	≤ 0.30	≤ 0.010	≤ 0.04	≤ 0.02	≤ 0.70
	P195TR2	1.0108	≤ 0.13	≤ 0.35	≤ 0.70	≤ 0.025	≤ 0.020	≤ 0.30	≤ 0.08	≤ 0.30	0.02	≤ 0.30	≤ 0.010	≤ 0.04	≤ 0.02	≤ 0.70
	P235TR1	1.0254	≤ 0.16	≤ 0.35	≤ 1.20	≤ 0.025	≤ 0.020	≤ 0.30	≤ 0.08	≤ 0.30	-	≤ 0.30	≤ 0.010	≤ 0.04	≤ 0.02	≤ 0.70
	P235TR2	1.0255	≤ 0.16	≤ 0.35	≤ 1.20	≤ 0.025	≤ 0.020	≤ 0.30	≤ 0.08	≤ 0.30	≥ 0.02	≤ 0.30	≤ 0.010	≤ 0.04	≤ 0.02	≤ 0.70
	P265TR1	1.0258	≤ 0.20	≤ 0.40	≤ 1.40	≤ 0.025	≤ 0.020	≤ 0.30	≤ 0.08	≤ 0.30	-	≤ 0.30	≤ 0.010	≤ 0.04	≤ 0.02	≤ 0.70
	P265TR2	1.0259	≤ 0.20	≤ 0.40	≤ 1.40	≤ 0.025	≤ 0.020	≤ 0.30	≤ 0.08	≤ 0.30	≥ 0.02	≤ 0.30	≤ 0.010	≤ 0.04	≤ 0.02	≤ 0.70

Standard	Grade		Yield Strength( Mpa)			Tensile Strength (Mpa)	Elongation(%)		Impact Properties(KV J)		
	Steel Name	Steel Number	Wt ≤ 16	16<WT≤40	40<WT≤60		Longitudinal	transverse	Longitudinal		transverse
									0°C	-10°C	0°C
EN 10216-1	P195TR1	1.0107	≥ 195	≥ 185	≥ 175	320-440	≥ 27	≥ 25	-	-	-
	P195TR2	1.0108	≥ 195	≥ 185	≥ 175	320-440	≥ 27	≥ 25	≥ 40	≥ 28	≥ 27
	P235TR1	1.0254	≥ 235	≥ 225	≥ 215	360-550	≥ 25	≥ 23	-	-	-
	P235TR2	1.0255	≥ 235	≥ 225	≥ 215	360-550	≥ 25	≥ 23	≥ 40	≥ 28	≥ 27
	P265TR1	1.0258	≥ 265	≥ 255	≥ 245	410-570	≥ 21	≥ 19	-	-	-
	P265TR2	1.0259	≥ 265	≥ 255	≥ 245	410-570	≥ 21	≥ 19	≥ 40	≥ 28	≥ 27

Standard	Grade	Chemical Components (%)								Mechanical Properties		
		c	Si	Mn	P	S	Mo	Cr	V	Tensile SStrength(Mpa)	Yield SStrength(Mpa)	Elongation(%)
ASTM A53	A	≤ 0.25	/	≤ 0.95	≤ 0.05	≤ 0.06	≤ 0.15	≤ 0.40	≤ 0.08	≥ 330	≥ 205	≥ 29.5
	B	≤ 0.30	/	≤ 1.2	≤ 0.05	≤ 0.06	≤ 0.15	≤ 0.40	≤ 0.08	≥ 415	≥ 240	≥ 29.5

Standard	Grade	Chemical Components (%)								Mechanical Properties		
		c	Si	Mn	P	S	Mo	Cr	V	Tensile SStrength(Mpa)	Yield SStrength(Mpa)	Elongation(%)
ASTM A106	A	≤ 0.30	≤ 0.10	0.29-1.06	≤ 0.035	≤ 0.035	≤ 0.15	≤ 0.40	≤ 0.08	≥ 415	≥ 240	≥ 30
A106	B	≤ 0.35	≤ 0.10	0.29-1.06	≤ 0.035	≤ 0.035	≤ 0.15	≤ 0.40	≤ 0.08	≥ 485	≥ 275	≥ 30

Standard	Grade	Chemical Components (%)								Mechanical Properties		
		c	Si	Mn	P	S	Mo	Cr	V	Tensile SStrength(Mpa)	Yield SStrength(Mpa)	Elongation(%)
ASTM A179	A179	0.06-0.18	/	0.27-0.63	≤ 0.035	≤ 0.035	/	/	/	≥ 325	≥ 180	≥ 35

Standard	Grade	Chemical Components (%)								Mechanical Properties		
		c	Si	Mn	P	S	Mo	Cr	V	Tensile SStrength(Mpa)	Yield SStrength(Mpa)	Elongation(%)
ASTM A192	A192	0.06-0.18	≤ 0.25	0.27-0.63	≤ 0.035	≤ 0.035	/	/	/	≥ 325	≥ 180	≥ 35





### Dimension Tolerances of Seamless Steel Pipe

Pipe types	Pipe Size(mm)		Tolerances
	OD	WT	
Hot rolled	OD	< 50	±0.50mm
		≥ 50	±1%
	WT	< 4	±12.5%
		≥ 4~20	+15%, -12.5%
Cold drawn	OD	> 20	±12.5%
		6~10	±0.20mm
		10~30	±0.40mm
		30~50	±0.45
	WT	> 50	±1%
		≤ 1	±0.15mm
		> 1~3	+15%, -10%
	> 3	+12.5%, -10%	

Standard	Grade	Chemical Components				Tensile Strength(min)	Yield Strength(min)
		C	Mn	P	S	Mpa	Mpa
API 5L PSL2	B	0.24	1.20	0.025	0.015	414	241
	X42	0.24	1.30	0.025	0.015	414	290
	X46	0.24	1.40	0.025	0.015	434	317
	X52	0.24	1.40	0.025	0.015	455	359
	X56	0.24	1.40	0.025	0.015	490	386
	X60	0.24	1.40	0.025	0.015	517	414
	X65	0.24	1.40	0.025	0.015	531	448
	X70	0.24	1.40	0.025	0.015	565	483
	X80	0.24	1.40	0.025	0.015	621	552

### Specifications of Seamless Steel Pipe

Out Diameter	Wall Thickness (mm)																													
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	35				
mm																														
73																														
76.1																														
82.5																														
88.9																														
101.6																														
114.3																														
127																														
139.7																														
152.4																														
159																														
168.3																														
177.8																														
193.7																														
203																														
219.1																														
244.5																														
273																														
298.5																														
323.8																														
339.7																														
355.6																														
406.4																														
457.2																														
473.1																														
508																														
530																														
558.8																														
609.6																														
630																														

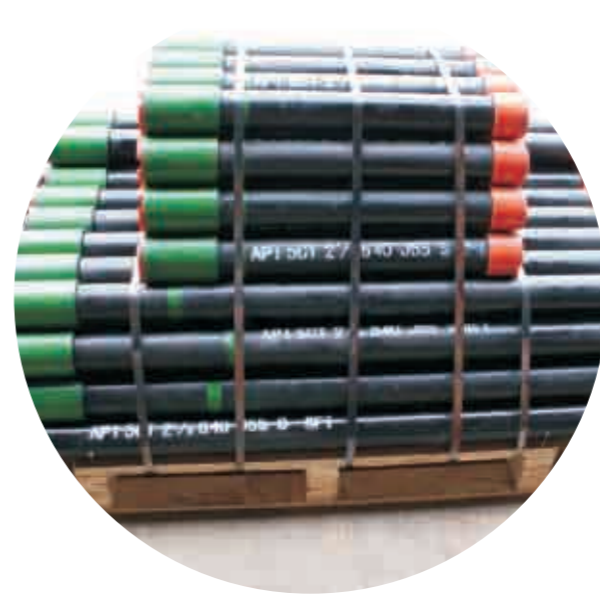
Standard	Grade	Chemical Components				Tensile Strength(min)	Yield Strength(min)
		C	Mn	P	S	Mpa	Mpa
API 5L PSL1	A	0.22	0.90	0.030	0.030	331	207
	B	0.28	1.20	0.030	0.030	414	241
	X42	0.28	1.30	0.030	0.030	414	290
	X46	0.28	1.40	0.030	0.030	434	317
	X52	0.28	1.40	0.030	0.030	455	359
	X56	0.28	1.40	0.030	0.030	490	386
	X60	0.28	1.40	0.030	0.030	517	414
	X65	0.28	1.40	0.030	0.030	531	448
	X70	0.28	1.40	0.030	0.030	565	483





## CASING & TUBING

### API 5CT TUBING



### Dimension

Label				D Outside diameter mm	Wall thickness t mm	C Type of end-finish						
1	2					H40	J55	L80	N80 1? Q?	C90	T95	P110
	NU T&C	EU T&C	IJ									
1	2	3	4	5	9	10	11	12	13	14	15	16
1.9	2.75	2.9	2.76	48.26	3.68	PNUI	PNUI	PNUI	PNUI	PNUI	PNUI	-
1.9	3.65	3.73	-	48.26	5.08	PU	PU	PU	PU	PU	PU	PU
1.9	4.42	-	-	48.26	6.35	-	-	P	-	P	P	-
2 3/8	4	-	-	60.32	4.24	PU	PN	PN	PN	PN	PN	-
2 3/8	4.6	4.7	-	60.32	4.83	PNU	PNU	PNU	PNU	PNU	PNU	PNU
2 3/8	5.8	5.95	-	60.32	6.45	-	-	PNU	PNU	PNU	PNU	PNU
2 3/8	6.6	-	-	60.32	7.49	-	-	P	-	P	P	-
2 3/8	7.35	7.45	-	60.32	8.53	-	-	PU	-	PU	PU	-
2 7/8	6.4	6.5	-	73.02	5.51	PNU	PNU	PNU	PNU	PNU	PNU	PNU
2 7/8	7.8	7.9	-	73.02	7.01	-	-	PNU	PNU	PNU	PNU	PNU
2 7/8	8.6	8.7	-	73.02	7.82	-	-	PNU	PNU	PNU	PNU	PNU
2 7/8	9.35	9.45	-	73.02	8.64	-	-	PU	-	PU	PU	-
2 7/8	10.5	-	-	73.02	9.96	-	-	P	-	P	P	-
3 1/2	7.7	-	-	88.9	5.49	PN	PN	PN	PN	PN	PN	-
3 1/2	9.2	9.3	-	88.9	6.45	PNU	PNU	PNU	PNU	PNU	PNU	PNU
3 1/2	10.2	-	-	88.9	7.34	PN	PN	PN	PN	PN	PN	-
3 1/2	12.7	12.95	-	88.9	9.52	-	-	PNU	PNU	PNU	PNU	PNU
3 1/2	14.3	-	-	88.9	10.92	-	-	P	-	P	P	-
3 1/2	15.5	-	-	88.9	12.09	-	-	P	-	P	P	-
4	9.5	-	-	101.6	5.74	PN	PN	PN	PN	PN	PN	-
4	10.7	11	-	101.6	6.65	PU	PU	PU	PU	PU	PU	-
4	13.2	-	-	101.6	8.38	-	-	P	-	P	P	-
4	16.1	-	-	101.6	10.54	-	-	P	-	P	P	-
4 1/2	2.6	12.75	-	114.3	6.88	PNU	PNU	PNU	PNU	PNU	PNU	-
4 1/2	15.2	-	-	114.3	8.56	-	-	P	-	P	P	-

### Mechanical Properties

Group	Grade	Type	Total elongation under load %	Yield strength Mpa		Tensile strength min Mpa	Hardness max	
				min	max		HRC	HBW
1	2	3	4	5	6	7	8	9
1	J55	-	0.5	379	552	517	-	-
	K55	-	0.5	379	552	655	-	-
	N80	1	0.5	552	758	689	-	-
	N80	Q	0.5	552	758	689	-	-
2	L80	1	0.5	552	655	655	23	241
	L80	9Cr	0.5	552	655	655	23	241
	L80	13Cr	0.5	552	655	655	23	241
	C90	1?2	0.5	621	724	689	25.4	255
	C95	-	0.5	655	758	724	-	-
3	T95	1?2	0.5	655	758	724	25.4	255
	P110	-	0.6	758	965	862	-	-
4	Q125	All	0.65	862	1034	931	-	-



API 5CT CASING

Dimension

Labels		Outside diameter D	Nominal linear mass T&C	Wall thickness t	J55	N80	L80	C90	P110	Q125
		mm	kg/m	mm	K55	1?Q?		T95		
1	2	3	4	5	6	7	8	9	10	11
4 1/2	9.5	114.3	14.14	5.21	PS	-	-	-	-	-
4 1/2	10.5	114.3	15.63	5.69	PSB	-	-	-	-	-
4 1/2	11.6	114.3	17.26	6.35	PSLB	PLB	PLB	PLB	PLB	-
4 1/2	13.5	114.3	20.09	7.37	-	PLB	PLB	PLB	PLB	-
4 1/2	15.1	114.3	22.47	8.56	-	-	-	-	PLB	PLB
5	11.5	127	17.11	5.59	PS	-	-	-	-	-
5	13	127	19.35	6.43	PSLB	-	-	-	-	-
5	15	127	22.32	7.52	PSLBE	PLBE	PLBE	PLBE	PLBE	-
5	18	127	26.79	9.19	-	PLBE	PLBE	PLBE	PLBE	PLBE
5	21.4	127	31.85	11.1	-	PLB	PLB	PLB	PLB	PLB
5	23.2	127	34.53	12.14	-	PLB	PLB	PLB	PLB	PLB
5	24.1	127	35.86	12.7	-	PLB	PLB	PLB	PLB	PLB
5 1/2	14	139.7	20.83	6.2	PS	-	-	-	-	-
5 1/2	15.5	139.7	23.07	6.98	PSLBE	-	-	-	-	-
5 1/2	17	139.7	25.3	7.72	PSLBE	PLBE	PLBE	PLBE	PLBE	-
5 1/2	20	139.7	29.76	9.17	-	PLBE	PLBE	PLBE	PLBE	-
5 1/2	23	139.7	34.23	10.54	-	PLBE	PLBE	PLBE	PLBE	PLBE
5 1/2	26.8	139.7	39.88	12.7	-	-	-	P	-	-
5 1/2	29.7	139.7	44.2	14.27	-	-	-	P	-	-
5 1/2	32.6	139.7	48.51	15.88	-	-	-	P	-	-
5 1/2	35.3	139.7	52.53	17.45	-	-	-	P	-	-
5 1/2	38	139.7	56.55	19.05	-	-	-	P	-	-
5 1/2	40.5	139.7	60.27	20.62	-	-	-	P	-	-
5 1/2	43.1	139.7	64.14	22.22	-	-	-	P	-	-
6 5/8	20	168.28	29.76	7.32	PSLB	-	-	-	-	-
6 5/8	24	168.28	35.72	8.94	PSLBE	PLBE	PLBE	PLBE	PLBE	-
6 5/8	28	168.28	41.67	10.59	-	PLBE	PLBE	PLBE	PLBE	-
6 5/8	32	168.28	47.62	12.06	-	PLBE	PLBE	PLBE	PLBE	PLBE
7	17	177.8	25.3	5.87	-	-	-	-	-	-
7	20	177.8	29.76	6.91	PS	-	-	-	-	-
7	23	177.8	34.23	8.05	PSLBE	PLBE	PLBE	PLBE	-	-
7	26	177.8	38.69	9.19	PSLBE	PLBE	PLBE	PLBE	PLBE	-
7	29	177.8	43.16	10.36	-	PLBE	PLBE	PLBE	PLBE	-
7	32	177.8	47.62	11.51	-	PLBE	PLBE	PLBE	PLBE	-
7	35	177.8	52.09	12.65	-	PLBE	PLBE	PLBE	PLBE	PLBE
7	38	177.8	56.55	13.72	-	PLBE	PLBE	PLBE	PLBE	PLBE
7	42.7	177.8	63.54	15.88	-	-	-	P	-	-
7	46.4	177.8	69.05	17.45	-	-	-	P	-	-
7	50	177.8	74.56	19.05	-	-	-	P	-	-
7	53.6	177.8	79.77	20.62	-	-	-	P	-	-
7	57.1	177.8	84.97	22.22	-	-	-	P	-	-
7 5/8	24	193.68	35.72	7.62	-	-	-	-	-	-
7 5/8	26.4	193.68	39.29	8.33	PSLBE	PLBE	PLBE	PLBE	-	-
7 5/8	29.7	193.68	44.2	9.52	-	PLBE	PLBE	PLBE	PLBE	-
7 5/8	33.7	193.68	50.15	10.92	-	PLBE	PLBE	PLBE	PLBE	-
7 5/8	39	193.68	58.04	12.7	-	PLBE	PLBE	PLBE	PLBE	PLBE
7 5/8	42.8	193.68	63.69	14.27	-	PLB	PLB	PLB	PLB	PLB
7 5/8	45.3	193.68	67.41	15.11	-	PLB	PLB	PLB	PLB	PLB
7 5/8	47.1	193.68	70.09	15.88	-	PLB	PLB	PLB	PLB	PLB
7 5/8	51	193.68	76.19	17.45	-	-	-	P	-	-
7 5/8	55.3	193.68	82.3	19.05	-	-	-	P	-	-

Labels		Outside diameter D	Nominal linear mass T&C	Wall thickness t	J55	N80	L80	C90	P110	Q125
		mm	kg/m	mm	K55	1?Q?		T95		
1	2	3	4	5	6	7	8	9	10	11
8 5/8	24	219.08	35.72	6.71	PS	-	-	-	-	-
8 5/8	28	219.08	41.67	7.72	-	-	-	-	-	-
8 5/8	32	219.08	47.62	8.94	PSLBE	-	-	-	-	-
8 5/8	36	219.08	53.57	10.16	PSLBE	PLBE	PLBE	PLBE	-	-
8 5/8	40	219.08	59.53	11.43	-	PLBE	PLBE	PLBE	PLBE	-
8 5/8	44	219.08	65.48	12.7	-	PLBE	PLBE	PLBE	PLBE	-
8 5/8	49	219.08	72.92	14.15	-	PLBE	PLBE	PLBE	PLBE	PLBE
9 5/8	32	244.48	48.07	7.92	-	-	-	-	-	-
9 5/8	36	244.48	53.57	8.94	PSLB	-	-	-	-	-
9 5/8	40	244.48	59.53	10.03	PSLBE	PLBE	PLBE	PLBE	-	-
9 5/8	43.5	244.48	64.73	11.05	-	PLBE	PLBE	PLBE	PLBE	-
9 5/8	47	244.48	69.94	11.99	-	PLBE	PLBE	PLBE	PLBE	PLBE
9 5/8	53.5	244.48	79.62	13.84	-	PLBE	PLBE	PLBE	PLBE	PLBE
9 5/8	58.4	244.48	86.91	15.11	-	PLB	PLB	PLB	PLB	PLB
9 5/8	59	244.48	88.4	15.47	-	-	-	P	-	-
9 5/8	64.9	244.48	96.58	17.07	-	-	-	P	-	-
9 5/8	70.3	244.48	104.62	18.64	-	-	-	P	-	-
9 5/8	75.6	244.48	112.5	20.24	-	-	-	P	-	-
10 3/4	32.75	273.05	48.74	7.09	-	-	-	-	-	-
10 3/4	40.5	273.05	60.27	8.89	PSB	-	-	-	-	-
10 3/4	45.5	273.05	67.71	10.16	PSBE	-	-	-	-	-
10 3/4	51	273.05	75.9	11.43	PSBE	PSBE	PSBE	PSBE	PSBE	-
10 3/4	55	273.05	82.59	12.57	-	PSBE	PSBE	PSBE	PSBE	-
10 3/4	60.7	273.05	90.33	13.84	-	-	-	PSBE	PSBE	PSBE
10 3/4	65.7	273.05	97.77	15.11	-	-	-	PSB	PSB	PSB
10 3/4	73.2	273.05	108.93	17.07	-	-	-	P	-	-
10 3/4	79.2	273.05	117.86	18.64	-	-	-	P	-	-
10 3/4	85.3	273.05	126.94	20.24	-	-	-	P	-	-
11 3/4	42	298.45	62.5	8.46	-	-	-	-	-	-
11 3/4	47	298.45	69.94	9.53	PSB	-	-	-	-	-
11 3/4	54	298.45	80.36	11.05	PSB	-	-	-	-	-
11 3/4	60	298.45	89.29	12.42	PSB	PSB	PSB	PSB	PSB	PSB
11 3/4	65	298.45	96.73	13.56	-	P	P	P	P	P
11 3/4	71	298.45	105.66	14.78	-	P	P	P	P	P
13 3/8	48	339.72	71.43	8.38	-	-	-	-	-	-
13 3/8	54.5	339.72	81.1	9.65	PSB	-	-	-	-	-
13 3/8	61	339.72	90.78	10.92	PSB	-	-	-	-	-
13 3/8	68	339.72	101.19	12.19	PSB	PSB	PSB	PSB	PSB	-
13 3/8	72	339.72	107.15	13.06	-	PSB	PSB	PSB	PSB	PSB
16	65	406.4	96.73	9.53	-	-	-	-	-	-
16	75	406.4	111.61	11.13	PSB	-	-	-	-	-
16	84	406.4	125.01	12.57	PSB	-	-	-	-	-
16	109	406.4	162.21	16.66	P	P	P	-	P	P
18 5/8	87.5	473.08	130.21	11.05	PSB	-	-	-	-	-
20	94	508	139.89	11.13	PSLB	-	-	-	-	-
20	106.5	508	158.49	12.7	PSLB	-	-	-	-	-
20	133	508	197.93	16.13	PSLB	-	-	-	-	-

P—Plain end; S—Short round thread; L—Long round thread; B—Buttress thread; E—Extreme line.





### Mechanical Properties

Group	Grade	Type	Total elongation under load %	Yield strength Mpa		Tensile strength min Mpa	Hardness max	
				min	max		HRC	HBW
1	2	3	4	5	6	7	8	9
1	J55	-	0.5	379	552	517	-	-
	K55	-	0.5	379	552	655	-	-
	N80	1	0.5	552	758	689	-	-
	N80	Q	0.5	552	758	689	-	-
2	L80	1	0.5	552	655	655	23	241
	L80	9Cr	0.5	552	655	655	23	241
	L80	13Cr	0.5	552	655	655	23	241
	C90	1?2	0.5	621	724	689	25.4	255
	C95	-	0.5	655	758	724	-	-
	T95	1?2	0.5	655	758	724	25.4	255
3	P110	-	0.6	758	965	862	-	-
4	Q125	All	0.65	862	1034	931	-	-

### Lengths

Item	R1 (Range)	R2 (Range)	R3(Range)
Tubing	6.10-7.32m	8.53-9.75m	11.58-12.80m

### Chemical Composition

Grade	Chemical Composition(%)								
	C(max)	Mn(max)	Mo(max)	Cr(max)	Ni(max)	Cu(max)	P(max)	S(max)	Si(max)
J55	-	-	-	-	-	-	0.030	0.030	-
K55	-	-	-	-	-	-	0.030	0.030	-
N80	-	-	-	-	-	-	0.030	0.030	-
L80-1	0.43	1.90	-	-	0.25	0.35	0.030	0.030	0.45
C90-1	0.35	1.00	0.75	1.20	0.99	-	0.020	0.010	-
C90-2	0.50	1.90	N.L	N.L	0.99	-	0.030	0.010	-
C95	0.45	1.90	-	-	-	-	0.030	0.030	0.045
T95-1	0.35	1.20	0.85	1.50	0.99	-	0.020	0.010	-
T95-2	0.50	1.90	-	-	-	-	0.030	0.010	-
P110	-	-	-	-	-	-	0.030	0.030	-
M65	-	-	-	-	-	-	0.020	0.010	-
BG80S	-	-	-	-	-	-	0.020	0.010	-
BG80T	-	-	-	-	-	-	0.030	0.030	-
BG110T	-	-	-	-	-	-	0.030	0.030	-



### Dimension and Tolerances

Item		Tolerance	
Out Diameter	Pipe Body	OD ≤ 101.60mm ± 0.79mm	
		OD ≥ 114.30mm	1.0%OD
			-0.5%OD
	Coupling	± 1%OD	
Wall Thickness		-12.5\$t	
Weight	Single Lengths	+6.5%	
		-3.5%	
	Carload Lots	-1.75%	

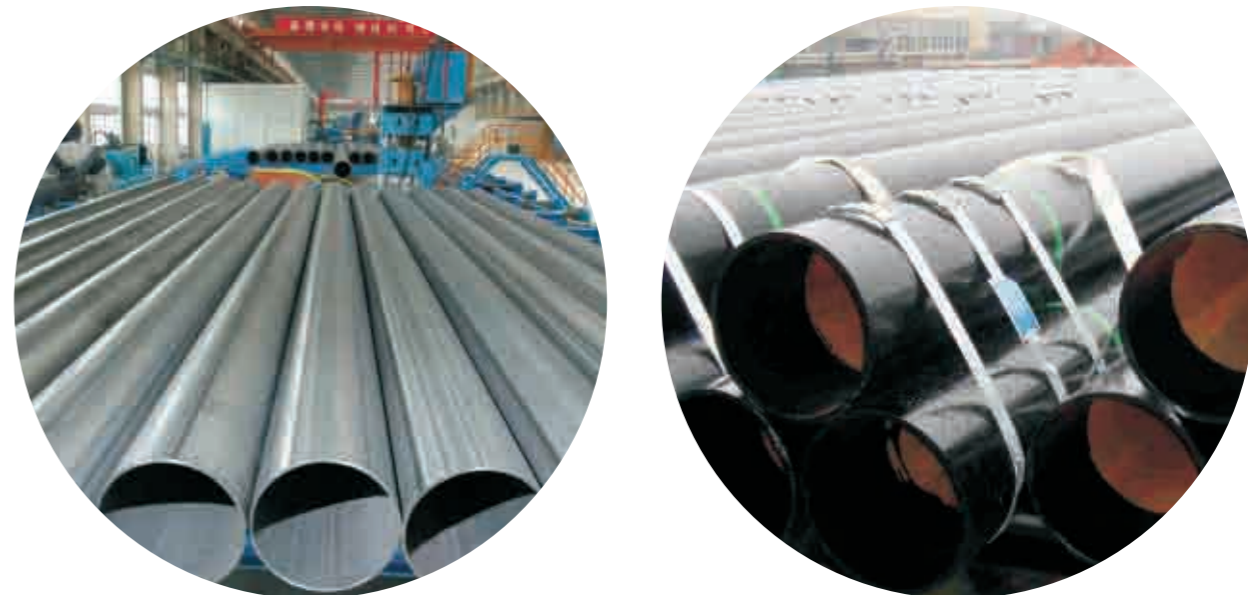
### Mechanical Properties

Grade	Yield Strength				Tensile Strength		Hardness		Allowable Hardness
	Min		Max		Min		Max		
	Psi	Mpa	Psi	Mpa	Psi	Mpa	HRC	HBW	
J55	55.000	379	80.000	552	75.000	517	-	-	-
K55	55.000	379	80.000	552	95.000	655	-	-	-
N80	80.000	552	110.000	758	100.000	689	-	-	-
L80-1	80.000	552	95.000	655	95.000	655	23	241	-
C90	90.000	621	105.000	724	100.000	689	25.4	255	3.0
C95	95.000	655	110.000	758	105.000	724	-	-	-
T95	95.000	655	110.000	758	125.000	724	25.4	255	3.0
P110	110.000	758	140.000	965	100.000	862	-	-	-
M65	65.000	448	85.000	586	85.000	586	22	235	-
BG80S	83.000	570	99.000	680	100.000	689	23	241	-
BG80T	80.000	552	110.000	758	100.000	689	-	-	-
BG110T	110.000	758	140.000	965	125.000	862	-	-	-





**ERW STEEL PIPE**



**Specifications of ERW Steel Pipe**

Wall Thickness	Out Diameter		Inch		mm		Inch		mm		Inch		mm		Inch		mm		
Inch	mm	8 5/8	219.1	10 3/4	273.1	12 3/4	323.9	14	355.6	16	406	18	457	20	508	22	559	24	610
0.157	4																		
0.173	4.4																		
0.205	5.2																		
0.22	5.6																		
0.25	6.4																		
0.28	7.1																		
0.312	7.9																		
0.344	8.7																		
0.375	9.5																		
0.406	10.3																		
0.5	12.7																		
0.562	14.3																		
0.625	15.9																		
0.688	17.5																		
0.75	19.1																		

**Tolerance of Wall Thickness**

Standard	Grade	Out Diameter	atll Thickness
API 5L	/	219.1~457	+15%, -12.5%
	B	508~610	+17.5%, -12.5%
	X42-X80	508~610	+19.5%, -8%

**Tolerance of Outside Diameter**

Standard	Out Diameter	Tolerance of Pipe End	Tolerance of Pipe Body
API 5L	219.1~273.1	+1.6mm, -0.4mm	±0.75%
	274.0~320	+2.4mm, -0.8mm	±0.75%
	323.9~457	+2.4mm, -0.8mm	±0.75%
	508	+2.4mm, -0.8mm	±0.75%
	559~610	+2.4mm, -0.8mm	±0.75%

**Chemical Analysis and Mechanical Properties**

Standard	Class	Grade	Chemical Analysis(%)				Mechanical Properties	
			C	Mn	P	S	Tensile Strength (min)(Mpa)	Yield Strength (min)(Mpa)
API 5L	PSL1	B	0.26	1.20	0.030	0.030	414	241
		X42	0.26	1.30	0.030	0.030	414	290
		X46	0.26	1.40	0.030	0.030	434	317
		X52	0.26	1.40	0.030	0.030	455	359
		X56	0.26	1.40	0.030	0.030	490	386
		X60	0.26	1.40	0.030	0.030	517	414
		X65	0.26	1.45	0.030	0.030	531	448
		X70	0.26	1.65	0.030	0.030	565	483
	PSL2	B	0.22	1.20	0.025	0.015	414	241
		X42	0.22	1.30	0.025	0.015	414	290
		X46	0.22	1.40	0.025	0.015	434	317
		X52	0.22	1.40	0.025	0.015	455	359
		X56	0.22	1.40	0.025	0.015	490	386
		X60	0.22	1.40	0.025	0.015	517	414
		X65	0.22	1.45	0.025	0.015	531	448
		X70	0.22	1.65	0.025	0.015	565	483
X80	0.22	1.85	0.025	0.015	621	552		





## LSAW STEEL PIPE



### Specifications of LSAW Steel Pipe

Out Diameter		Wall Thickness(mm)															
Inch	mm	6.4	7.1	7.9	9.53	12.7	14.3	15.9	19.1	22.2	25.4	28.6	31.8	34.9	38.1	41.3	44.5
16	406.4																
18	457																
20	508																
22	559																
24	610																
26	660																
28	711																
30	762																
32	813																
34	864																
36	914																
38	965																
40	1016																
42	1067																
44	1118																
46	1168																
48	1219																
52	1321																
56	1422																

### Tolerance of Outside Diameter and Wall Thickness

Types	Standard					
	SY/T5040-2000	SY/T5037-2000	SY/T9711.1-1977	ASTMA252	AWWA C200-97	API 5L PSL1
Tube end OD deviation	± 0.5%D	± 0.5%D	-0.79mm~+2.38mm	< ± 0.1%T	< ± 0.1%T	± 1.6mm
Wall thickness	± 10.0%T	D<508mm, ±12.5%T	-8%T~+19.5%T	<-12.5%T	-8%T~+19.5%T	5.0mm<T<15.0mm, ±0.11
		D>508mm, ±10.0%T				T ≥ 15.0mm, ±1.5mm

### Chemical Composition and Mechanical Properties

Standard	Grade	Chemical Composition(max)%					Mechanical Properties(min)	
		C	Mn	Si	S	P	Yield Strength(Mpa)	Tensile Strength(Mpa)
GB/T 700-2006	A	0.22	1.4	0.35	0.050	0.045	235	370
	B	0.2	1.4	0.35	0.045	0.045	235	370
	C	0.17	1.4	0.35	0.040	0.040	235	370
	D	0.17	1.4	0.35	0.035	0.035	235	370
GB/T 1591-2009	A	0.2	1.7	0.5	0.035	0.035	345	470
	B	0.2	1.7	0.5	0.030	0.030	345	470
	C	0.2	1.7	0.5	0.030	0.030	345	470
BS En10025	S235JR	0.17	1.4	-	0.035	0.035	235	360
	S275JR	0.21	1.5	-	0.035	0.035	275	410
	S355JR	0.24	1.6	-	0.035	0.035	355	470
DIN 17100	ST37-2	0.2	-	-	0.050	0.050	225	340
	ST44-2	0.21	-	-	0.050	0.050	265	410
	ST52-3	0.2	1.6	0.55	0.040	0.040	345	490
JIS G3101	SS400	-	-	-	0.050	0.050	235	400
	SS490	-	-	-	0.050	0.050	275	490
API 5L PSL1	A	0.22	0.9	-	0.03	0.03	210	335
	B	0.26	1.2	-	0.03	0.03	245	415
	X42	0.26	1.3	-	0.03	0.03	290	415
	X46	0.26	1.4	-	0.03	0.03	320	435
	X52	0.26	1.4	-	0.03	0.03	360	460
	X56	0.26	1.1	-	0.03	0.03	390	490
	X60	0.26	1.4	-	0.03	0.03	415	520
	X65	0.26	1.45	-	0.03	0.03	450	535
	X70	0.26	1.65	-	0.03	0.03	585	570





## SSAW STEEL PIPE



### Specifications of SSAW Steel Pipe

Out Diameter	Wall Thickness (mm)																			
	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
mm																				
219.1																				
273																				
323.9																				
325																				
355.6																				
377																				
406.4																				
426																				
457																				
478																				
508																				
529																				
630																				
711																				
720																				
813																				
820																				
920																				
1020																				
1220																				
1420																				
1620																				
1820																				
2020																				
2220																				
2500																				
2540																				
3500																				

### Standard and Classification

Classification	Standard	Main Products
Steel Pipe for Fluid Service	GB/T 14291	Welded pipe for mine fluid service
	GB/T 3091	Welded pipe for low pressure fluid service
	SY/T 5037	Spirally submerged arc welded steel pipe for pipelines for low pressure fluid service
	ASTMA53	Black and hot-hipped galvanized welded and seamless steel pipe
	BS EN10217-2	Welded steel tybes for pressure purposes - delivery technical conditions - part2: Electric welded non- alloy and alloy steel tubes with specified elevated temperature properties
	BS EN10217-5	Welded steel tybes for pressure purposes - delivery technical conditions - part5: submerged arc welded non-alloy and alloy steel tubes with specified elevated temperature properties
Steel Pipe for Ordinary Structure	GB/T 13793	Longitudinally electric resistance welded steel pipe
	SY/T 5040	Spirally submerged arc welded steel pipe piles
	ASTMA252	Welded and seamless steel pipe piles
	BS EN10219-1	Cold formed welded structural hollow sections of non-alloy and fine grain steels - part1: Technical delivert conditions
BS EN10219-2	Cold formed welded structural hollow sections of non-alloy and fine grain steels - part2: tolerances dimmsions and sectional properties	
Line Pipe	GB/T 9711.1	Steel pipe for pipeline transportation system of petroleum and natural gas industries(Class A steel pipe)
	GB/T 9711.2	Steel pipe for pipeline transportation system of petroleum and natural gas industries(Class B steel pipe)
	API 5L PSL1/2	Line pipe
Casing	API 5CT/ ISO 11960 PSL1	Steel pipe for use as casing or tubing for wells of petroleum and natural gas industries





### Tolerance of Outside Diameter and Wall Thickness

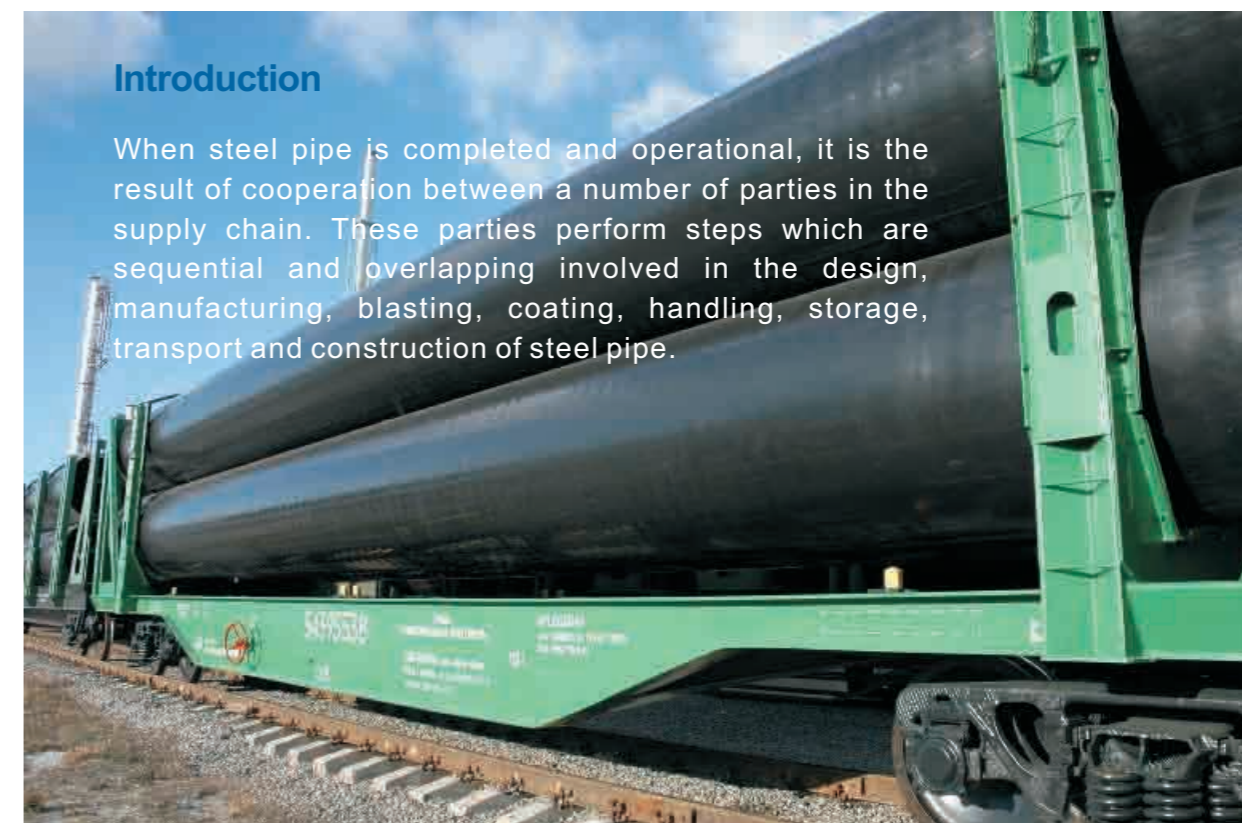
Standard	Tolerance of Pipe Body		Tolerance of Pipe End		Tolerance of Wall Thickness	
	Out Diameter	Tolerance	Out Diameter	Tolerance		
GB/T3091	OD ≤ 48.3mm	≤ ±0.5	OD ≤ 48.3mm	-	≤ ±10%	
	48.3<OD ≤ 273.1mm	≤ ±1.0%	48.3<OD ≤ 273.1mm	-		
	273.1<OD ≤ 508mm	≤ ±0.75%	273.1<OD ≤ 508mm	-0.8~+2.4		
	OD>508mm	≤ ±1.0%	OD>508mm	-0.8~+3.2		
GB/T9711.1	OD ≤ 48.3mm	-0.79~+0.41	-	-	Od ≤ 73	-12.5%~+20%
	60.3<OD ≤ 457mm	≤ ±0.75%	OD ≤ 273.1mm	-0.4~+1.59	88.9 ≤ OD ≤ 457	-12.5%~+15%
	508<OD ≤ 941mm	≤ ±1.0%	OD ≥ 323.9	-0.79~+2.38	OD ≥ 508	-10.0%~+17.5%
	OD>941mm	≤ ±1.0%	-	-	-	-
GB/T9711.2	60<OD ≤ 610mm	±0.75%D~±3mm	60<OD ≤ 610mm	±0.5%D~±1.6mm	4mm<WT<25mm	±12.5%T~±15.0%T
	610<OD ≤ 1430mm	±0.5%D~±4mm	610<OD ≤ 1430mm	±0.5%D~±1.6mm	WT ≥ 25mm	-3.00mm~+3.75mm
	OD>1430mm	-	OD>1430mm	-	-	-10.0%~+17.5%
SY/T5037	OD<508mm	≤ ±0.75%	OD<508mm	≤ ±0.75%	OD<508mm	≤ ±12.5%
	OD ≥ 508mm	≤ ±1.00%	OD ≥ 508mm	≤ ±0.50%	OD ≥ 508mm	≤ ±10.0%
API 5L PSL1/PSL2	OD<60.3	-0.8mm~+0.4mm	OD ≤ 168.3	-0.4mm~+1.6mm	WT ≤ 5.0	≤ ±0.5
	60.3 ≤ OD ≤ 168.3	≤ ±0.75%	168.3<OD ≤ 610	≤ ±1.6mm	5.0<WT<15.0	≤ ±0.1T
	168.3<OD ≤ 610	≤ ±0.75%	610<OD ≤ 1422	≤ ±1.6mm	T ≥ 15.0	≤ ±1.5
	610<OD ≤ 1422	≤ ±4.0mm	OD>1422	-	-	-
API 5CT	OD<114.3	≤ ±0.79mm	OD<114.3	≤ ±0.79mm	≤ -12.5%	
	OD ≥ 114.3	-0.5%~1.0%	OD ≥ 114.3	-0.5%~1.0%		
ASTMA53	≤ ±1.0%		≤ ±1.0%		≤ -12.5%	
ASTMA252	≤ ±1.0%		≤ ±1.0%		≤ -12.5%	

### Chemical Analysis and Mechanical Properties

Standard	Grade	Chemical Composition(max)%					Mechanical Properties(min)	
		C	Si	Mn	P	S	Yield Strength(Mpa)	Tensile Strength(Mpa)
API 5CT	h40	-	-	-	-	0.030	417	417
	J55	-	-	-	-	0.030	517	517
	K55	-	-	-	-	0.300	655	655
API 5L PSL1	A	0.22	-	0.90	0.030	0.030	335	335
	B	0.26	-	1.20	0.030	0.030	415	415
	X42	0.26	-	1.30	0.030	0.030	415	415
	X46	0.26	-	1.40	0.030	0.030	435	435
	X52	0.26	-	1.40	0.030	0.030	460	460
	X56	0.26	-	1.40	0.030	0.030	490	490
	X60	0.26	-	1.40	0.030	0.030	520	520
	X70	0.26	-	1.45	0.030	0.030	535	535
API 5L PSL2	B	0.22	0.45	1.20	0.025	0.015	415	415
	X42	0.22	0.45	1.30	0.025	0.015	415	415
	X46	0.22	0.45	1.40	0.025	0.015	435	435
	X52	0.22	0.45	1.40	0.025	0.015	460	460
	X56	0.22	0.45	1.40	0.025	0.015	490	490
	X60	0.12	0.45	1.60	0.025	0.015	520	520
	X65	0.12	0.45	1.60	0.025	0.015	535	535
	X70	0.12	0.45	1.70	0.025	0.015	570	570
GB/T 9711.1	L210	-	-	0.90	0.030	0.030	335	335
	L245	-	-	1.15	0.030	0.030	415	415
	L290	-	-	1.25	0.030	0.030	415	415
	L320	-	-	1.25	0.030	0.030	435	435
	L360	-	-	1.25	0.030	0.030	460	460
	L390	-	-	1.35	0.030	0.030	490	490
	L415	0.26	-	1.35	0.030	0.030	520	520
	L450	0.26	-	1.40	0.030	0.030	535	535
	L485	0.23	-	1.60	0.030	0.030	570	570
	GB/T3091/SY/T5037	Q195	0.12	0.30	0.50	0.035	0.040	315
Q215B		0.15	0.35	1.20	0.045	0.045	335	335
Q235B		0.20	0.35	1.40	0.045	0.045	370	370
Q345B		0.20	0.50	1.70	0.035	0.035	470	470
ASTMA53	A	0.25	0.10	0.95	0.050	0.045	330	330
	B	0.30	0.10	1.20	0.050	0.045	415	415
ASTMA252	1	-	-	-	0.050	-	345	345
	2	-	-	-	0.050	-	414	414
	3	-	-	-	0.050	-	455	455
EN10217-1	P195TR1	0.13	0.35	0.70	0.025	0.020	320	320
	P195TR2	0.13	0.35	0.70	0.025	0.020	320	320
	P235TR1	0.16	0.35	1.20	0.025	0.020	360	360
	P235TR2	0.16	0.35	1.20	0.025	0.020	360	360
	P265TR1	0.20	0.40	1.40	0.025	0.020	410	410
EN10217-2	P265TR2	0.20	0.40	1.40	0.025	0.020	410	410
	P195GH	0.13	0.35	0.70	0.025	0.020	320	320
	P235GH	0.16	0.35	1.20	0.025	0.020	360	360
	P265GH	0.20	0.40	1.40	0.025	0.020	410	410
	EN10217-5	P235GH	0.16	0.35	1.20	0.025	0.020	360
P265GH		0.20	0.40	1.40	0.025	0.020	410	410
EN10219-1	S235JRH	0.17	-	1.40	0.040	0.040	360	360
	S275JOH	0.20	-	1.50	0.035	0.035	410	410
	S275J2H	0.20	-	1.50	0.030	0.030	410	410
	S355JOH	0.22	0.55	1.60	0.035	0.035	470	470
	S355J2H	0.22	0.55	1.60	0.030	0.030	470	470
	S355K2H	0.22	0.55	1.60	0.030	0.030	470	470



# D Logistics



## Introduction

When steel pipe is completed and operational, it is the result of cooperation between a number of parties in the supply chain. These parties perform steps which are sequential and overlapping involved in the design, manufacturing, blasting, coating, handling, storage, transport and construction of steel pipe.







### Pipe Protection

Pipe-end protection is advisable in case the pipe-ends are bevelled at the pipe manufacturer. In the case of overseas transport, there is an especially increased risk of damaged pipe-ends. This is caused by extra handling procedures in ports and shifting of the pipes onboard vessels.

### Pipe Transport

Pipes need to be transported between parties involved in the supply chain. This is done by truck, train and/or vessel.



LOGISTICS

### Pipe Handling

Pipes are handled multiple times in the supply chain, for example in ports and storage yards. By handling we mean lifting of pipes and loading to or unloading from trailers, train wagons or vessels. Most damages to pipe ends, surfaces and coatings occur during handling procedures due to a combination of inadequate equipment and poor personnel awareness.

### Pipe Storage

Pipes are stored a number of times before they reach their destination. During storage the pipe coating is among other things subject to high pressure, ultra-violet (UV) degradation, design of bottom support, and contamination. In this paragraph the impact of these influences on the pipe coating is examined.




# E Import & Export





## Overseas Agents



Steel pipe from Hunan great steel pipe co.,ltd is not only in domestic, but also exported to all over the world, so far, we have 12 agents distributed in different regions of the world.

- Asia:  Singapore



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- Africa:  South Africa     Nigeria



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- Europe:  Italy     Romania


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- Australia:  Australia     New Zealand



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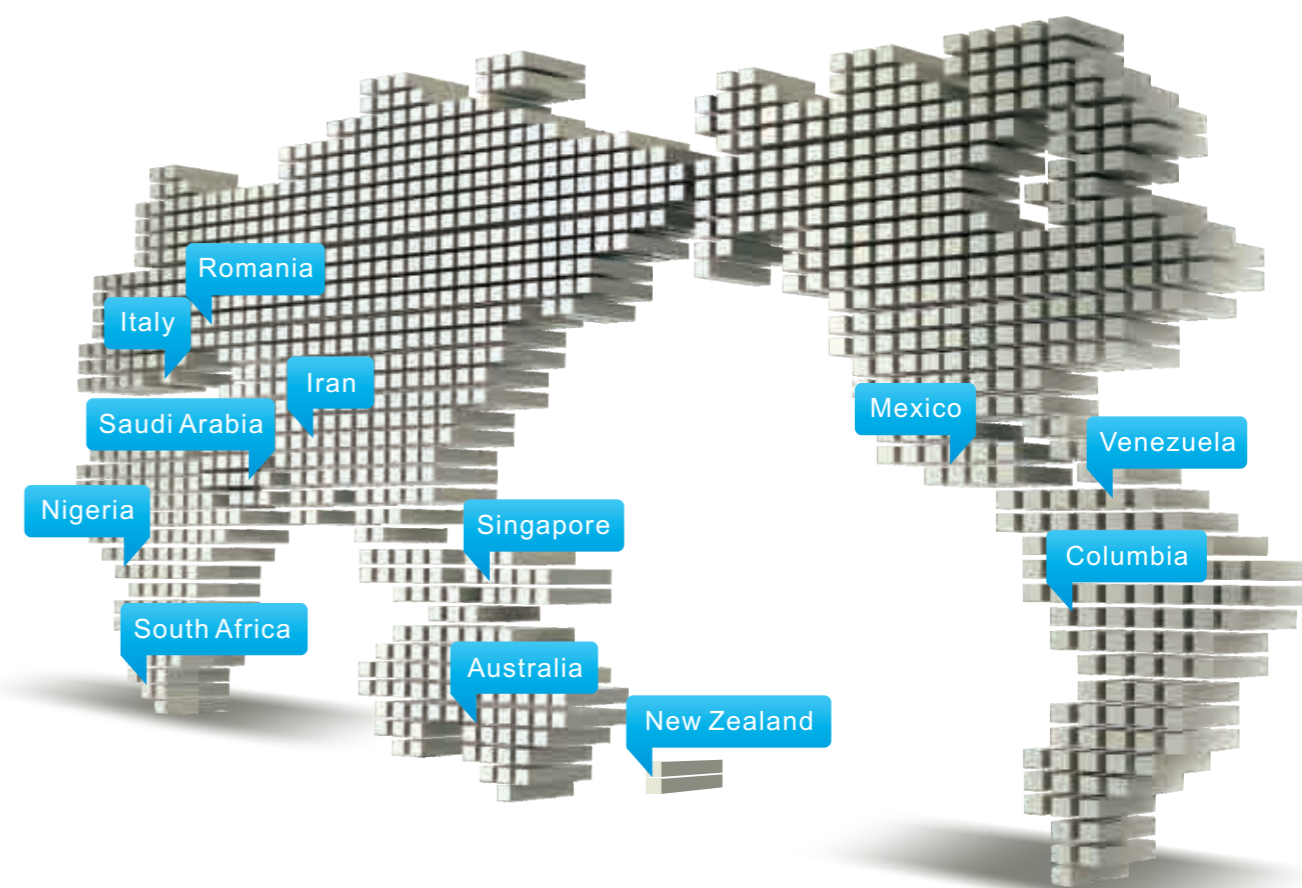
- Middle East:  Saudi Arabia     Iran

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- North America:  Mexico

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- South America:  Venezuela     Columbia







Material Resources







## Raw Materials

### Bar



With the features of high level purity, precise chemical composition control, high reduction ratio, high dimensional accuracy and excellent surface quality, the products are mainly used to manufacture the axle shaft, gas cylinder and plastic mould, etc.

### Heavy plate



Heavy plates are mainly used in shipbuilding, offshore platform, boiler, pressure vessel, pipeline, high building, bridge and heavy duty trucks, etc.

### HR steel sheet



With the excellent properties such as high strength, good toughness, easy machinability and good weldability, Baosteel's hot-rolled steel products are widely used in ship, automobile, bridge, building, machinery and pressure vessel and other industrial applications.

### CR steel sheet



CR steel sheets have good processability, with good flatness and excellent surface, are available with different thickness and width combinations; are mainly used to manufacture the high value-added products in automotive and appliance, beverage packaging, electronic, electrical moor and building etc.

### Carbon steel



Carbon steel is steel where the main interstitial alloying constituent is carbon in the range of 0.12-2.0%. Suitable for nominal pressure  $PN \leq 32.0\text{MPa}$ , temperature  $-30-425\text{ }^\circ\text{C}$  water, steam, air, hydrogen, ammonia, nitrogen and petroleum products, and other media.

### Alloy steel



Alloy steel is often subdivided into two groups: high alloy steels and low alloy steels. The difference between the two is defined somewhat arbitrarily. However, most agree that any steel that is alloyed with more than eight percent of its weight being other elements beside iron and carbon, is high alloy steel.

### Stainless steel



Stainless steel does not readily corrode, rust or stain with water as ordinary steel does, but despite the name it is not fully stain-proof, most notably under low oxygen, high salinity, or poor circulation environments. It is also called corrosion-resistant steel or CRES when the alloy type and grade are not detailed, particularly in the aviation industry.

### Black steel



Black steel is a term given to steel pipe with a black oxide scale on the surface. This black oxide scale is formed when the pipe is forged and is typically sealed with a protective oil to prevent corrosion. Because of this oxide scale and protective film, black steel pipe requires little maintenance and is used for a wide variety of applications, including in water, steam, air and gas services.



# F Projects



## Oil & Gas



- ◎ Refineries
- ◎ Petrochemical Plants
- ◎ Offshore Facilities
- ◎ Pipelines

## Power / Alternative Energy



- ◎ Thermal and Hydroelectric Power
- ◎ Waste-to-Energy Plants
- ◎ Transmission Lines
- ◎ Substations

## Water Supply / Sewage



- ◎ Dams
- ◎ Transmission Pipelines
- ◎ Irrigation Canals
- ◎ Pumping Stations

## Industrial Process



- ◎ Steel Mills
- ◎ Pharmaceutical Plants
- ◎ Chemical Plants
- ◎ Mining





Bridge construction



Environmental project



Mineral exploration



Offshore engineering



Gas exploration



Hydraylic system



Oil refinery



Pipeline for NICO



Hydroelectricity



Industrial exhaust



Shipbuilding



Sweage treatment



Liquefeild gas



Marine engineering



Thermal power plants



West- east gas pipeline







## Achievement List Of Main Projects

YEAR	COUNTRY	PROUCT NAME	STANDARD / GRADE	SPECIFICATION	QUANTITY
2013	Nigeria	CASING (THREAD,COUPLING)	API 5CT.K55/N80	13-3/8, 9-5/8, 7, 3-1/2* 12.19, 11.99, 10.36, 6.45	500MT
2013	Saudi Arabia	ERW (VARNISH)	ASTMA53 GR.B	60.3, 73, 88.9*5.54-7.62	583MT
2013	Iran	SEAMLESS	API 5L, X52 PSL2	273 & 323*12.7 & 6.35	1487.2 MT
2012-2013	Kuwait	ALLOLY	ASTMA335 P5,P9	8"-14"	660MT
2012	Trinidad	LSAW / SEAMLESS (VARNISH)	API 5L GR.B (PSL1)	1219.2*13.75 323.8*10.3	2556MT 87MT
2012	Saudi Arabia	ERW (VARNISH)	ASTMA53 GR.B	73, 88.9*7.01, 7.62	978MT
2012	Venezuela	LSAW / ERW / SSAW	API 5L, GR.B	6"-36"	12192 METERS
2012	Mexico	LSAW (NACE)	API 5L L245 (PSL2)	914.4, 1066.8 1066.8, 1219.2* 26.97, 30.18,34.93, 44.45	715.8MT
2012	Iran	LSAW (NACE,3LPE)	API 5L, X52 PSL2	762*9.53	6861 MT
2012	Saudi Arabia	ERW (VARNISH)	ASTMA53 GR.B	60.3, 73, 168.3*5.54-7.11	704MT
2012	Ireland	SEAMLESS	ASTMA106 GR.B	1"-6**sch40/80	930MT
2012	Italy	ERW	ASTMA53 GR.B	114-273*5.49-9.27	4016METERS
2012	Singapore	ERW / SMLS	API 5L, GR.B	ERW:4"-14" SMLS:6-12"	1854MT 644MT
2012	Colombia	SEAMLESS	API 5L, GR.B	508*sch80/sch120	817MT
2012	Saudi Arabia	SEAMLESS	API 5L, L245	21.3-406.4	1690MT
2011-2012	Georgia	LSAW(3PE) HOT BEND/TEE-JOINT	API 5L X60 PSL2	720*10 / 720*14mm	27940METERS
2011	Kuwait	SEAMLESS	API 5L GR.B (PSL2)	60.3-323.8*5.54-12.7	1086MT
2011	Venezuela	LSAW / SSAW	API 5L, X52/X60/X65	16"-48"	7932METERS
2011	Romania	ERW (3PE)	API 5L, X52	355.6*7.1/7.9	12000METERS
2011	Singapore	ERW	API 5L GR.B	73-406.4*5.16-9.52	1890METERS
2011	Saudi Arabia	ERW (VARNISH)	ASTMA53 GR.B	60.3,73,273*5.54,7.01,7.08	770MT
2011	Iraq	CORTEN STEEL SHEET	CORTEN	3000*1500	845MT
2011	Spain	LSAW	API 5L GR.B PSL1	914*12.7	8000 METERS
2011	Algeria	ERW (3PE)	API 5L GR.B	219*3.5	3500METERS
2011	Colombia	SEAMLESS	API 5L, X42	16"-24" x sch std/sch80/sch120	330MT
2010	Singapore	ERW / SMLS	API 5L, GR.B	ERW:6"-24" SMLS:18-24"	958MT 180MT
2010	Switzerland	ERW	EN10208-2 L290	406.4*9.53	5000 METERS
2010	Sudan	ERW 3LDPE	API 5L, X42	914*12.7 / 355*9.52	96840METERS
2010	Bangladesh	ERW	API 5L GR.B	323.8*6.4 / 406.4*7.9	1120MT
		LSAW	API 5L GR.B	508*11.9mm	3300MT
2010	Bangladesh	STEEL STRIP	L245	5.6*526 / 4*551	986MT
2010	Philippine	SSAW	ASTMA53 GR.B	457.2, 711.2*8	1320PCS
2010	Brazil	SEAMLESS	SAE 1020BK	159.5, 190*5	1680METERS
2010	Saudi Arabia	SSAW	API 5L ,GR.B	58" 60"	800MT
2010	Mexico	LSAW	API 5L, GR.B	30", 36"	1016MT
2010	Serbia	ERW (3LPE)	API 5L,GR.B/X42 PSL2	88.9MM,273mm	2500MT
2009	Belgium	LSAW	API 5L X56 PSL1	762*25	660MT

YEAR	COUNTRY	PROUCT NAME	STANDARD / GRADE	SPECIFICATION	QUANTITY
2009	Iran	SEAMLESS/ALLOY	ASTMA106 A335 P22 P91	609,457,635*25,30,55	537MT
2009	Australia	ERW	API 5L ,GR.B	609*12	1128METERS
2009	Kenya	SSAW	A252, GR.2	508*12.5	1200METERS
2009	TANZANIA	SSAW	A252, GR.2	609,812*7.5	780MT
2009	Israel	EFW	ASTMA672 CLASS22	660,711,762	3560METERS
2008	Colombia	SEAMLESS	ASTMA53/A106,API 5L GR.B	114.3*6	41005METERS
2008	Yemen	ERW (VARNISH)	ASTMA53 GR.B	8" 10"	400MT
2008	USA	LSAW	API 5L GR.B (PSL2)	508*9.53	590MT
2008	Peru	ALLOLY	ASTMA335 P22	114-323	160PC
2008	Srilanka	SEAMLESS	ASTMA106 GR.B	114-273*6.02-9.27	8280METERS
2008	UK	SSAW	API 5L ,GR.B	273,323,355*6.5mm	950MT
2008	Spain	ERW	API 5L X52,X60 PSL2	273,323,355*7.8-8.7mm	1067MT
2007	Saudi Arabia	CASING PIPE	API 5CT, N80	3" to 10"	500MT
2007	Spain	ERW	API 5L GR.B	323*6.35	950MT
2007	Singapore	SEAMLESS	EN10210 S355JR	323.8*10 / 355.6*16	2568METERS
2007	Ukraine	ALLOLY	12X1Mφ	32,42,159*5,6,16,18	20106METERS
2007	Indonesia	SEAMLESS	ASTMA106 GR.B	3",12" x sch40	1620PCS
2007	BULGARIA	LSAW(3PE)	API 5L X60, X65	406,508,1219*8.7,8.8,14.3	732MT
2006	Norway	ERW	API 5L, X42 PSL2	168.3*5.6	674MT
2006	SYRIA	SSAW ERW	API 5L X52	24" 36"	2150MT
2006	Iran	ERW	API 5L X52	API 5L X52, 20** 8.7mm	119400METERS
2006	Saudi Arabia	ERW	API 5L GR.B	273*6.3 / 219*6.3	1272METERS
2006	Panama	LSAW	ASTMA572 GR.50	600*6.35mm	2544METERS
2006	Switzerland	SMLS	API 5L, X52 PSL2	12**12.7&14**14.2mm	1200MT
2005	LAOS	ERW	API 5L GR.B / X65 PSL2	14" / 24**SCH80	880MT
2005	Singapore	GALVANIZED PIPE	BS1139	48.3*4	24000METERS
2005	Congo	LINE PIPE	API 5L, X52 PSL1	16**9.53&20**16.6mm	1100MT
2005	Holland	SSAW	API 5L, GR.B	660*15	1267PC
2004	Brazil	SEAMLESS	API 5L, GR.B	168.3*sch80	3600METERS
2004	Zealand	SEAMLESS	API 5L, GR.B	17mm-273mm	4458METERS
2004	Iraq	SEAMLESS	API 5L, GR.B	21.3-168.3	12000METERS
2004	Panama	GALVANIZED PIPE	BS1387	42.2*2.65	5600PC
2003	Kenya	SEAMLESS	API 5L, GR.B PSL1	21.3-323.8	823MT
2003	Vietnam	SQUARE	C350	125*75,125*125,150*150	1032METERS
2003	Germany	LSAW	EN10204 st37.2	32**20	236MT
2003	India	SEAMLESS	ST52	58,90,122*7.5,8	278MT



# G Clients



< SHELL OIL COMPANY



SINOPEC GROUP



< PEMEX



TOTAL S.A



< PETROBRAS



AMOCO CORPORATION










< TERPEL



















	< BP
	STRABAG SE
	HOCHTIEF SOLUTIONS AG
	AECON GROUP INC
	BROOKFIELD MULTIPLEX
	ISOLUX CORSAN
	CNOCC

CNPC	> 
GAZPROM	> 
AGL ENERGY	> 
YPF	> 
EXXONMOBIL	> 
PDVSA	> 
EGPC	> 





 <p>Qatar Petroleum</p>	<	QATAR PETROLEUM(QP)
	>	STATOIL
	<	SONATRACH
	>	ECOPETROL
	<	SALINE WATER CONVERSION
	>	NATIONAL IRANIAN OIL
	<	APA GROUP

ORIGIN ENERGY LIMITED	>	
SONANGOL GROUP	>	 <b>Sonangol</b>
NEE ZEALAND OIL & GAS	>	 THE EXPLORERS NEW ZEALAND OIL & GAS
WOODSIDE PETROLEUM	>	 woodside
SASOL	>	 sasol <i>reaching new frontiers</i>
SUDAPET	>	
PETROECUADOR	>	 <b>PETROECUADOR</b>



# H Contact

## Organization Framework

