Carbon Steel A53GR.B St37 ERW Seamless Welded Pipes

Our Product Introduction

Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 CE
- Model Number: DY-SP-C05
- Minimum Order Quantity: 5 TONS
- Price: USD600/ each ton
- Packaging Details: wooden case, pallet , bundles or as customers' requirement
- Delivery Time: 30 days for usual order, 7 days for stock sizes
- Payment Terms: T/T, D/P, L/C
- Supply Ability: 1000 tons for each month

Product Specification

- Standard: ASME B36.19M, DIN, GOST
- Material: A53GR.B /ST37/ API 5L / SS316/SS316L, SS304/304L, SAF2507, SAF2205, UNS31803, UNS32750, 904L, INCONEL625
- Size: 1/2"(DN15)-24"(DN600) For SMLS 12" (DN200)-88"(DN2200) For Welded
- Types: Seamless Pipe, Welded Pipe, ERW Pipe, SAW Pipe, FAW Pipe
- Highlight: **ERW Seamless Welded Pipes**, **Carbon Steel Seamless Welded Pipes**, **astm a53 gr b pipe**

Product Description

Carbon Steel A53GR.B St37 ERW Welded Seamless Pipes

ERW (Electric Resistance Welded) pipes are welded longitudinally, manufactured from Strip / Coil and can be manufactured upto 24" OD.
ERW pipe cold formed from a ribbon of steel pulled through a series of rollers and formed into a tube which is fused through a electric charge

ERW pipes have an advantage over seamless pipes in terms of accuracy of dimensions owing to higher strip rolling accuracy and pipe material control. ERW pipes and tubes have a high level of impact toughness. Pre-galvanized ERW pipes have strong rust and corrosion-resistant properties

ERW steel pipe used for transporting gas and liquid objects such as oil and gas, could meet the low and high pressure requirement. In recent years, with the development of ERW technology, more and more ERW steel pipe used in the oil and gas fields, automobile industry and so on

Product Information/Product Description/Basis Information/Specification

Name	CARBON STEEL A53GR.B ST37 ERW WELDED PIPES
Types	SAW pipes, LSAW pipes, SSAW pipes, ERW pipes, welded pipes/ Seamless Carbon Steel Boiler Tube Pipe,seamless Industry Pipes, stainless steel tubes, stainless steel pipes
Size	SAW PIPES OD 219-3200MM ERW pipes OD 21.3-219MM
Thickness	SAW PIPES with thickness 5mm-30mm For the ERW pipes, thickness scope is 2mm-200mm Accept customization Seamless Pipes Thickness: SCH5S, SCH10S SCH10 SCH20 SCH30 STD SCH40S , SCH40, SCH80S, SCH80, SCH60 XS SCH100 SCH120S SCH120 SCH140 SCH160 XXS
Length	Single random length/Double random length/Fixed Length 5m-14m,5.8m,6m,10m-12m,12m Accept customization
Surface Treatment	Carbon steel with surface of Bare, painting black, varnished, galvanized, anti-corrosion 3PE PP/EP/FBE coating Stainless Steel with Surface of acid pickling or polished.
Material	* ASTM A53, A106, A210, A252, A333 etc; * API5L X42, API 5L X46, API 5L X52, API5L X60, API5L X65, API5L X70 etc; * JIS STPG42, G3454, G3456 etc; * German St37, St42, St45, St52, DIN1626, DIN17175 * Chinese 20#, Q345, 16Mn etc Alloy steel: ASTM A234 GR.WPB,ASTM A182 GR.F22/F11 CL2/CL3, ASTM A234 GR.WP11/WP22 CL.2/CL.1 P1,P2,P5,P9,P11,P12,P22, P91,P92,15CrMO,Cr5Mo,10CrMo910,12CrMo,13CrMo44,30CrMo,A333 GR.1,GR.3,GR.6,GR.7, etc Stainless steel: SS304, SS304L, SS304H, SS321, SS316, SS316L, SS310S, 904L, 254SMO , 253MA etc. Duplex: 2205, 2507, F55 etc. Nickle Alloy: Hastelloy C276, Inconel 601,Inconel 625, Inconel 718, Monel 400, Monel K500 etc.
Standard	AASME, ASTM, MSS, JIS, DIN, EN * American ASME B36.10M, ASTM, API 5L, API 5CT * Japanese JIS * German DIN * Chinese GB * BS standard
End Connection	Plain end/Beveled, protected by plastic caps on both ends, cut square, grooved, threaded and coupling.
Applications	Petroleum, chemical, power, gas, metallurgy, shipbuilding, construction, etc
Shipment	By 20GP/ 40GP containers, by loose Containers LCL; bulk vessels, top open containers

Technology/ Technical Data Sheets of the normal material grade

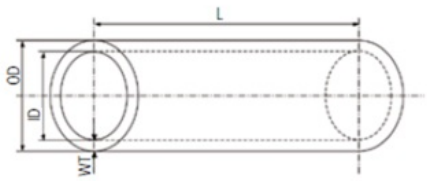
A53 Chemical components and mechanical property														
Standard	Grade	Chemical components Max. %										Mechanical property		
		C	Si	Mn	P	S	Cu	Ni	Mo	Cr	V	Tensile Strength (Mpa)	Yield Strength (Mpa)	Elongation (%)

ASTM A53	A	0. 25	/	0.95	0.05	0.1	0.4	0.4	0.2	0.4	0.08	≥330	≥205	≥29. 5
	B	0.3	/	1.2	0.05	0.1	0.4	0.4	0.2	0.4	0.08	≥415	≥240	≥29.5

API 5L Chemical components and mechanical property PSL 1:									
Class and Sort		Chemical components				Mechanical property			
		C (Max)	Mn (Max)	P (Max)	S (Max)	Tensile Strength (Min)		Yield Strength (Min)	
						psi	Mpa	ps i	Mpa
A25	CL I	0.21	0. 60	0. 030	0. 030	45000	310	25000	172
	Cl n	0. 21	0. 60	0. 030	0. 030				
A		0. 22	-0.90	0. 030	0. 030	48000	331	30000	207
B		0. 28	1.20	0. 030	0. 030	60000	414	35000	241
X42		0. 28	1.30	0. 030	0. 030	60000	414	42000	290
X46		0. 28	1.40	0. 030	0. 030	63000	434	46000	317
X52		0. 28	1.40	0. 030	0. 030	66000	455	52000	359
X56		0. 28	1.40	0. 030	0. 030	71000	490	56000	386
X60		0. 28	1.40	0. 030	0. 030	75000	517	60000	414
X65		0. 28	1.40	0. 030	0. 030	77000	531	65000	448
X70		0. 28	1.40	0. 030	0. 030	82000	565	70000	483

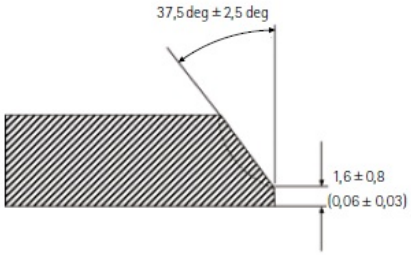
API 5L Chemical components and mechanical property PSL 2:												
Class and Sort	Chemical components				Mechanical property							
	C (Max)	Mn (Max)	P (Max)	S (Max)	Tensile Strength (Min)		Tensile Strength (Max)		Yield Strength (Mln)		Yield Strength (Max)	
					Psi	Mpa	Psi	Mpa	Psi	Mpa	Psi	Mpa
B	0. 24	1.20	0. 025	0. 015	60000	414	11000	758	35000	241	65000	758
X42	0. 24	1.30	0. 025	0.015	60000	414	11000	758	42000	290	72000	758
X46	0. 24	1.40	0. 025	0.015	63000	434	11000	758	46000	317	76000	758
X52	0. 24	1.40	0. 025	0. 015	66000	455	11000	758	52000	359	77000	758
X56	0. 24	1.40	0. 025	0. 015	71000	490	11000	758	56000	386	79000	758
X60	0. 24	1.40	0. 025	0.015	75000	517	11000	758	60000	414	82000	758
X65	0. 24	1.40	0. 025	0.015	77000	531	11000	758	65000	448	87000	758
X70	0. 24	1.40	0. 025	0.015	82000	565	11000	758	70000	483	90000	758
X80	0. 24	1.40	0.025	0. 015	90000	621	12000	827	80000	552	10000 0	827

Dimension Design



OD … Outside Diameter
ID … Inside Diameter
WT … Wall Thickness
L … Length
If minimum wall thickness is required variations are allowed on the plus side only

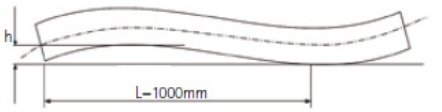
Butt Welding Ends



ANSI / ASME B16.25-2007
Fig. 4 Weld Bevel Details for GTAW Root Pass [WT > 3mm (0,12 in.) to 10mm (0,38 in.), Inclusive]

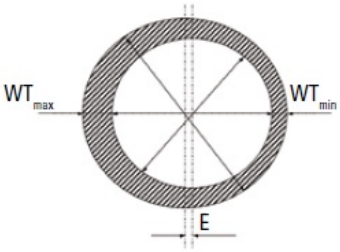
GENERAL NOTES:
a) This detail applies for gas tungsten arc welding (GTAW) of the root pass where nominal thickness is over 3mm
b) Linear dimensions are in millimeters with inch values in parentheses.

Straightness Requirement



tandard pipes and tubes are supplied straightened to the eye: for special applications the permissible deviation from the straight line may be agreed between purchaser and pipe manufacturer; the maximum permissible deviation from the straight line related to the length of measurement L is to be indicated, e.g. 1mm/1000mm.

Eccentricity



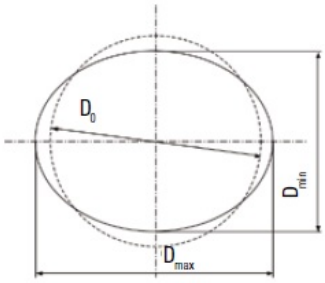
E is half of the difference between biggest and smallest wall thickness (WT) values in one cross section.

$$E(mm) = \frac{WT_{max} - WT_{min}}{2}$$

In terms of mm:
However, eccentricity is expressed as a percentage of the mean wall thickness of this cross section

$$E(\%) = \frac{WT_{max} - WT_{min}}{WT_{max} + WT_{min}} \cdot 100$$

Mean Diameter inside and outside



D0 is the arithmetic mean between the smallest and biggest tube diameter on any one pipes or tube circumference. If minimum wall thickness is required variations are allowed on the plus side only

Ovality

O is the difference between biggest and smallest diameter on any one tube circumference

$$O(mm) = D_{max} - D_{min}$$

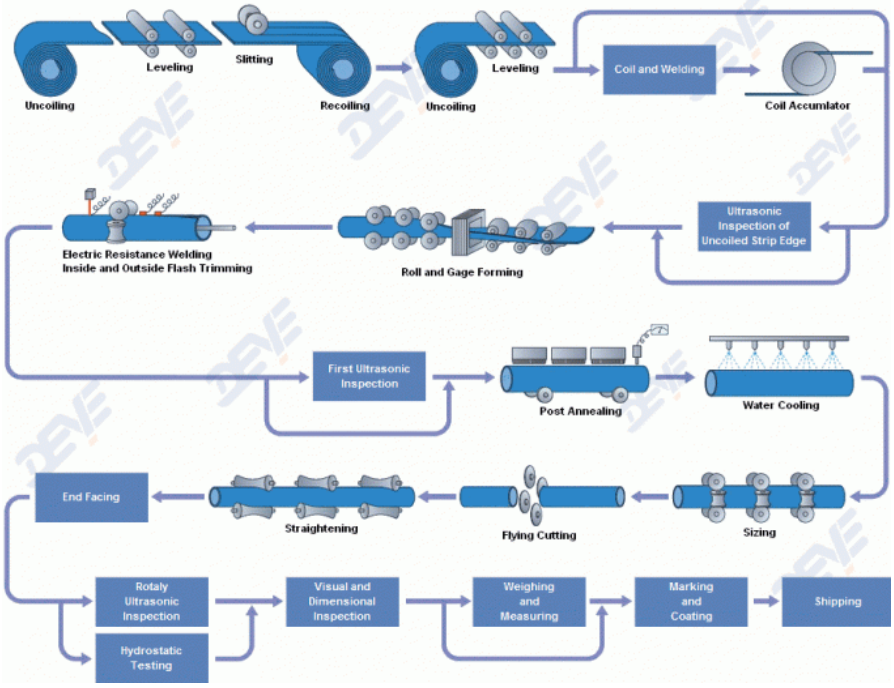
As a percentage of the mean diameter this is:

$$O(mm)=\frac{D_{max}-D_{min}}{D_{max}+D_{min}}\cdot 200$$

Ovality must not be confused with eccentricity.

SAW PIPE MANUFACTURING PROCESS

Electric resistance welded (ERW) pipe is manufactured by cold-forming a sheet of steel into a cylindrical shape. Current is then passed between the two edges of the steel to heat the steel to a point at which the edges are forced together to form a bond without the use of welding filler material.



Application/Usage

Spiral welded steel pipes are widely used in Oil, Natural Gas, Water and other flammable & nonflammable liquid conveyance and distribution pipelines, steel structures for construction and other general purposes by means of their wide size range.

FAQ: Question and Answers

Q: What is the different between ERW pipes and SAW pipes?

ERW Pipes

ERW pipes, also known as Electric Resistance Welding pipes, are made by rolling a flat sheet of steel into a tube shape. The edges are then heated and pressured together to create a weld. The resulting weld is almost seamless, making ERW pipes ideal for applications that require high precision and seamless finishes. ERW pipes are commonly used in building structures, machinery, and automotive industries.

Advantages of ERW Pipes

ERW pipes are less expensive than SAW pipes.
They are easier to fabricate and have a smoother surface finish.
ERW pipes can be used for a wide range of applications.

Disadvantages of ERW Pipes

ERW pipes have a lower capacity to withstand pressure compared to SAW pipes.
They tend to have weaker welds than SAW pipes.
ERW pipes are more susceptible to rust.

SAW Pipes

SAW pipes, also known as Submerged Arc Welding pipes, are made by heating the edges of steel plates or coils under pressure to create a weld. SAW pipes are commonly used in the oil and gas industry for transporting oil and gas from onshore and offshore drilling sites.

Advantages of SAW Pipes

SAW pipes have a higher capacity to withstand pressure compared to ERW pipes.
They have stronger welds than ERW pipes.
SAW pipes are less likely to rust.

Disadvantages of SAW Pipes

SAW pipes are more expensive than ERW pipes.
They are harder to fabricate and have a rougher surface finish.
SAW pipes are mainly used in oil and gas and could be better for other industries.

Use ERW Pipes

ERW pipes are ideal for applications that require a smooth surface finish and precise dimensions. They are also suitable for projects requiring a lower pressure capacity and budget. ERW pipes are commonly used in building structures, machinery, and automotive industries.

Use SAW Pipes
SAW pipes are ideal for projects that require a higher pressure capacity and a stronger weld. They are commonly used in oil and gas as pipelines for transporting oil and gas. If you're working on an oil and gas project and want to protect your pipes from corrosion, consider getting a fusion-bonded epoxy coating on your SAW pipes

Q: What is the tolerance of the seamless pipes
A: Dimensions tolerance for API 5L /A106GR.B seamless pipe.

1. For outer diameters less than 2 3/8 in (60.3 mm), pipe body diameter tolerance +/-0.5 mm. Pipe end +/- 0.5 mm; Out of Roundness tolerance for pipe body is 0.9 mm (0.036 in), pipe end 0.6 mm (0.024 mm).
2. For OD equal or above 2 3/8 in (60.3) to 24 in (610 mm), (diameter tolerance) for pipe body is +/- 0.0075D,pipe end +/- 0.005D but max to +/-1.6 mm (0.063mm);
Roundness tolerance for pipe body≤0.015D, pipe end≤0.01D.

(In case agreed with manufacturer and client, more strictly tolerances could be applied)
3. For wall thickness
Below than 4 mm (0 0157 in), tolerance +0.6 (0.024 mm), -0.5 mm (0.020 in);
For API 5L seamless steel pipe thickness in 4 mm to 10 mm (0.394 in), +0. 150t, -0.125t;
For API seamless pipe thickness 10 mm to 25mm (0.984 in), +/-0.125t;
Wall thickness≥25 mm, +3.7mm or +0.1t (if larger) and -3.0 mm (0.120 in) or -0.1t (if larger).
t for thickness,
4. For straightness, max for full length, tolerance maximum 0.15% of length.
5. Straightness, max deviation for pipe end, shall be≤0.3 mm /m.
6. Length +/- 200 mm for general, +/- 25.4 mm for special.

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