# API5L PLS1 PLS2 Seamless Welded Pipes DN15-DN600 With Size 1/2"-24"

Our Product Introduction

Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 CE
- Model Number: DY-SP-C09
- 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
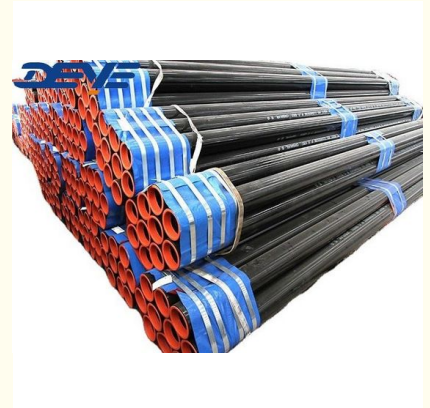
Product Specification

- Standard: API5L
- Material: API 5L GR.B, API 5LX42, X46,X52,X60, X65,X70
- 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: **FAW Seamless Welded Pipes**,
                  SAW Seamless Welded Pipes,
                  API5L welded pipe and seamless pipe

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Product Description

API5L PLS1 PLS2 Seamless Pipes DN15-DN600 with size 1/2"-24"

API 5L is a seamless and welded carbon steel pipe material specification. API 5L pipes are widely used to transport oil, water, and gases in the pipeline industry. Depending on the strength, schedule, and service requirements API 5L pipes are manufactured
in various grades and are suitable for both onshore and offshore applications

API 5L PSL-1 is a loose standard quality for line pipe, whereas API5L PSL-2 contains additional testing requirement, stricter chemical physicals,
along with different ceiling limits of mechanical properties, and require Charpy impact testing conditions

API 5L seamless pipes are designated with a nominal pipe size (representing the
approximate fluid conveyance capacity of the pipe) and with a "schedule", which refers to
the thickness of the pipe (the most common are schedule 40, STD, XS, XXS SCH120, SCH160 for carbon/alloy
pipes.

Product Information/Product Description/Basis Information/Specification

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Name	API5L API5L PLS1 PLS2 Seamless Pipes DN15-DN600 with size 1/2"-24" for OIL
Types	Seamless Carbon Steel Boiler Tube Pipe,seamless Industry Pipes, stainless steel tubes, stainless steel pipes
Size	DN: Seamless:10-914mm 3/8"-36"
Thickness	Wall Thickness: SCH5S, SCH10S SCH10 SCH20 SCH30 STD SCH40S , SCH40, SCH80S, SCH80, SCH60 XS SCH100 SCH120S SCH120 SCH140 SCH160 XXS 2mm-120mm Accept customization
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	Carbon steel: 10#, 20#, 45#, ASTM A105 etc. * 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. Copper Nickel: CuNi 90/10, CuNi 70/30
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

Thickness List for seamless pipes as per ANSI B36.10
Unit: MM

NPS	Outside Dimeter	Different thickness with tolerance of +-12.5%						
		STD	Sch40	Sch60	XS	Sch80	Schl20	Sch160	XXS
1/8	10. 3	1. 73	1. 73	——	2. 41	2. 41	——	——	——
1/4	13. 7	2. 24	2. 24	—	3. 02	3. 02	—	—	—
3/8	17. 1	2. 31	2. 31	—	3. 20	3. 20	—	—	—
1/2	21. 3	2. 77	2. 77	——	3. 73	3. 73	——	4. 78	7. 47

| NPS	OD								
3/4	26.7	2.87	2.87	—	3.91	3.91	—	5.56	7.82
1	33.4	3.38	3.38	—	4.55	4.55	—	6.35	9.09
1 1/4	42.2	3.56	3.56	—	4.85	4.85	—	6.35	9.70
1 1/2	48.3	3.68	3.68	—	5.08	5.08	—	7.14	10.15
2	60.3	3.91	3.91	—	5.54	5.54	—	8.74	11.07
2 1/2	73.0	5.16	5.16	—	7.01	7.01	—	9.53	14.02
3	88.9	5.49	5.49	—	7.62	7.62	—	11.13	15.24
3 1/2	101.6	5.74	5.74	—	8.08	8.08	—	—	—
4	114.3	6.02	6.02	—	8.56	8.56	11.13	13.49	17.12
5	141.3	6.55	6.55	—	9.53	9.53	12.70	15.88	19.05
6	168.3	7.11	7.11	—	10.97	10.97	14.27	18.26	21.95
8	219.1	8.18	8.18	10.31	12.70	12.70	18.26	23.01	22.23
10	273.1	9.27	9.27	12.70	12.70	15.09	21.44	28.58	25.40
12	323.9	9.53	10.31	14.27	12.70	17.48	25.40	33.32	25.40
14	355.6	9.53	11.13	15.09	12.70	19.05	27.79	35.71	—
16	406.4	9.53	12.70	16.66	12.70	21.44	30.96	40.49	—
18	457.2	9.53	14.27	19.05	12.70	23.83	34.96	45.24	—
20	508.0	9.53	15.09	20.62	12.70	26.19	38.10	50.01	—
22	558.8	9.53	—	22.23	12.70	28.58	41.28	53.98	—
24	609.6	9.53	17.48	24.61	12.70	30.96	46.02	59.54	—
26	660.4	9.53	—	—	12.70	—	—	—	—
28	711.2	9.53	—	—	12.70	—	—	—	—
30	762.0	9.53	—	—	12.70	—	—	—	—
32	812.8	9.53	17.48	—	12.70	—	—	—	—
34	863.6	9.53	17.48	—	12.70	—	—	—	—
36	914.4	9.53	17.48	—	12.70	—	—	—	—
38	965.2	9.53	—	—	12.70	—	—	—	—
40	1016.0	9.53	—	—	12.70	—	—	—	—
42	1066.8	9.53	—	—	12.70	—	—	—	—
44	1117.6	9.53	—	—	12.70	—	—	—	—
46	1168.4	9.53	—	—	12.70	—	—	—	—
48	1219.2	9.53	—	—	12.70	—	—	—	—

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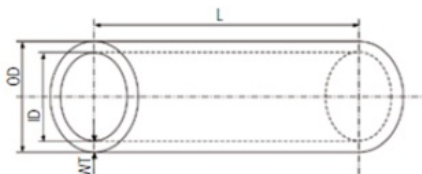
OD … Outside Diameter
ID … Inside Diameter
WT … Wall Thickness
L … Length
If minimum wall thickness is required variations are allowed on the plus side only

**Butt Welding Ends**

37,5 deg ± 2,5 deg

1,6 ± 0,8
(0,06 ± 0,03)
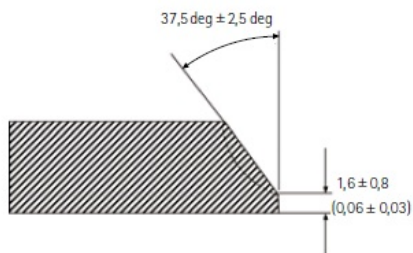
ANSI / ASME B16.25-2007
Fig. 4 Weld Bevel Details for GTAW Root Pass [WT > 3mm (0,12 in.) to 10mm (0,38 in.), Inclusive]

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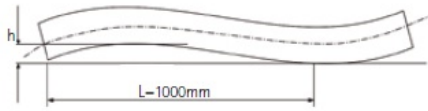
tandard pipes and tubes are supplied straightened to the eye: for special applications the permissible deviation from the straight line may be agreed between purchaser and pipe manufacturer; the maximum permissible deviation from the straight line related to the length of measurement L is to be indicated,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

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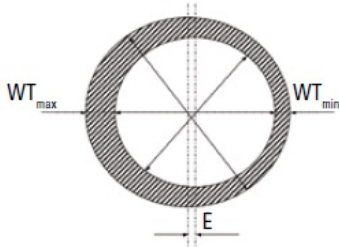
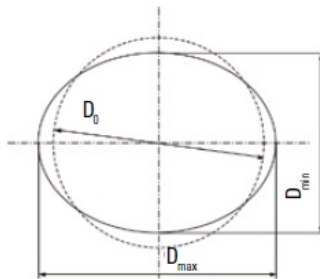E is half of the difference between biggest and smallest wall thickness (WT) values in one cross section.

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

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.

SEAMLESS PIPE MANUFACTURING PROCESS

Mild steel seamless pipes from 1/8 to 24 inch. are manufactured with the so-called "plug mill process" or the "extrusion process" (used for smaller diameters), whereas the "mandrel mill process" is used for larger diameters.
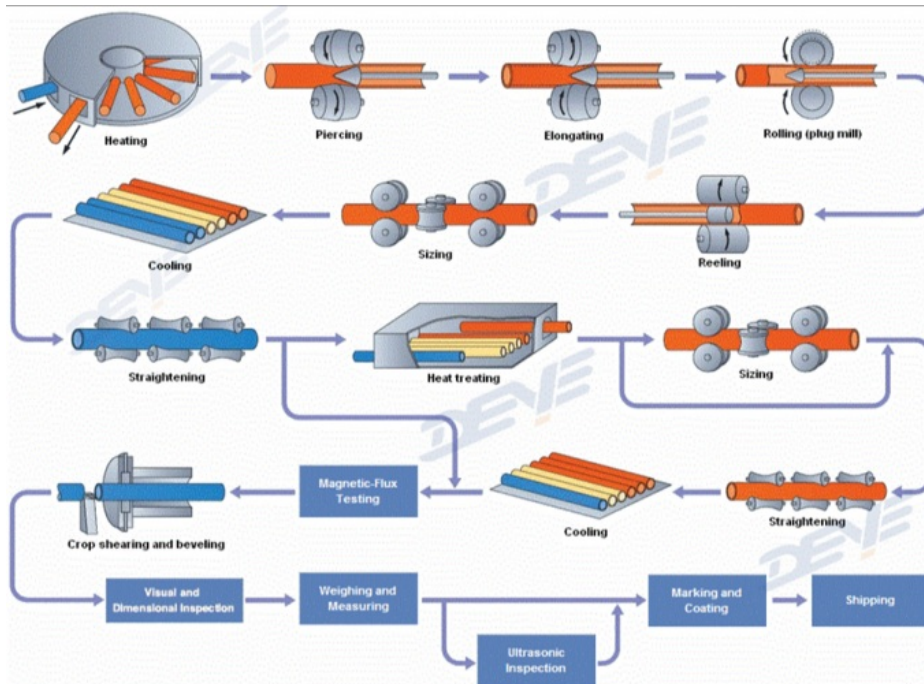
Application/Usage

Seamless steel pipes are used for different applications within the oil & gas industry:
•upstream operations (OCTG pipes)
•midstream (transmission and distribution of fluids, as oil, gas, steam, acids, slurries)
•downstream (process piping to refine oil and gas in derivative products)
•general plumbing applications for utility services

FAQ: Question and Answers

Q: What is the different between seamless pipes and seamless Tubes?

A: Seamless steel pipes shall not be confused with seamless tubes. Indeed, there are a few important differences between pipes and tubes, which are not only semantic. In general, the word "pipe" applies to any tubular used to convey fluids, whereas the word "tube" applies to tubular sections (of various shapes, round, oval, squared) used for structural/mechanical applications, instrumentation systems, and the construction of pressure equipment like boilers, heat exchangers, and superheaters.

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