



## Alloy Steel A335 P5 Seamless Welded Pipes With Sch80 XS SCH120

### Our Product Introduction

#### Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 CE
- Model Number: DY-SP-C03
- 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: API5L /A335/ A106/ 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: **P5 Seamless Welded Pipes,  
A335 Seamless Welded Pipes,  
SCH120 alloy steel pipes**

## Product Description

### Alloy Steel A335 P5 Seamless Pipes With Thickness Of Sch80, XS, SCH120

**An Alloy Steel Pipe** is used in applications which require moderate corrosion resistance properties with good durability and at an economical cost. To simply put it, alloy pipes are preferred in those areas where carbon steel pipes may fail. There are two classes of alloy steels - high alloys and low alloy steels.

Low alloy piping materials are often called chrome moly materials because of the chemical makeup of Molybdenum (Mo) and Chromium (Cr). Chromium increases the hardness and strength and only minimally reduces elasticity. Molybdenum improves tensile strength and especially heat resistance.

High alloy steel is an alloy of iron which contains 10.5% of chromium. High alloy steel also has a mixture of 10% alloy. Chromium makes a thin layer of oxide on the surface of the steel and it is known as latent layer. And it is little costly than low alloy steel.

### Product Information/Product Description/Basis Information/Specification

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name              | ALLOY STEEL HEAVY THICKNESS SCH80 XS SCH160 A355 SEAMLESS PIPES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 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<br>Stainless Steel with Surface of acid pickling or polished.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Material          | Carbon steel: 10#, 20#, 45#, ASTM A105 etc.<br>* ASTM A53, A106, A210, A252, A333 etc;<br>* API5L X42, API 5L X46, API 5L X52, API5L X60, API5L X65, API5L X70 etc;<br>* JIS STPG42, G3454, G3456 etc;<br>* German St37, St42, St45, St52, DIN1626, DIN17175<br>* Chinese 20#, Q345, 16Mn etc<br>Alloy steel: ASTM A234 GR.WPB, ASTM A182 GR.F22/F11 CL2/CL3, ASTM A234 GR.WP11/WP22 CL.2/CL.1<br>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<br>Stainless steel: SS304, SS304L, SS304H, SS321, SS316, SS316L, SS310S, 904L, 254SMO, 253MA etc.<br>Duplex: 2205, 2507, F55 etc.<br>Nickle Alloy: Hastelloy C276, Inconel 601, Inconel 625, Inconel 718, Monel 400, Monel K500 etc.<br>Copper Nickel: CuNi 90/10, CuNi 70/30 |
| Standard          | AASME, ASTM, MSS, JIS, DIN, EN<br>* American ASME B36.10M, ASTM, API 5L, API 5CT<br>* Japanese JIS<br>* German DIN<br>* Chinese GB<br>* 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

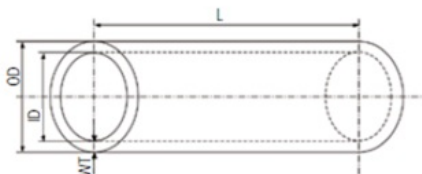
### Technology/ Technical Data Sheets

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

| NPS | Outside Diameter | Different thickness with tolerance of $\pm 12.5\%$ |       |       |      |       |        |        |      |
|-----|------------------|----------------------------------------------------|-------|-------|------|-------|--------|--------|------|
|     |                  | STD                                                | Sch40 | Sch60 | XS   | Sch80 | Sch120 | 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 |
| 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

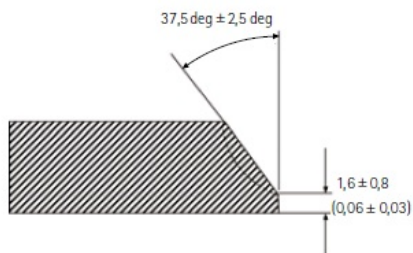
ID ... Inside Diameter

WT ... Wall Thickness

L ... Length

If minimum wall thickness is required variations are allowed on the plus side only

### Butt Welding Ends



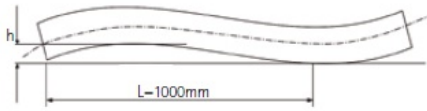
ANSI / ASME B16.25-2007

Fig. 4 Weld Bevel Details for GTAW Root Pass [WT > 3mm (0,12 in.) to 10mm (0,38 in.), Inclusive]

### GENERAL NOTES:

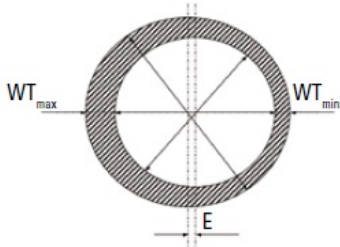
- a) This detail applies for gas tungsten arc welding (GTAW) of the root pass where nominal thickness is over 3mm
- b) Linear dimensions are in millimeters with inch values in parentheses.

### Straightness Requirement



standard 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.

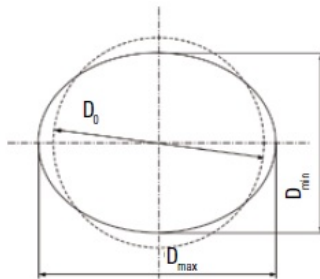
$$E(\text{mm}) = \frac{WT_{\max} - WT_{\min}}{2}$$

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**



D<sub>0</sub> 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

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

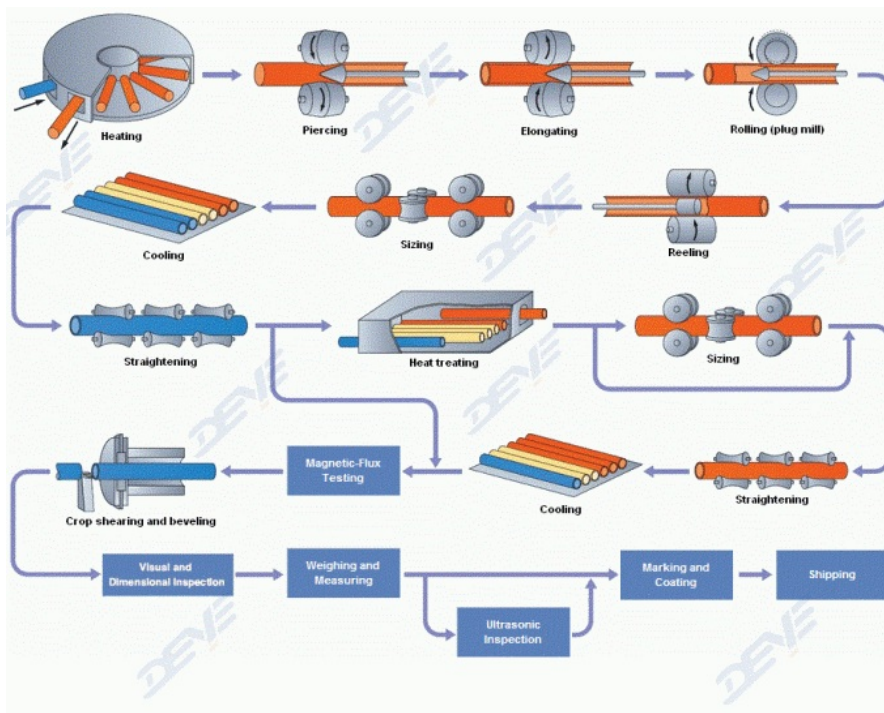
As a percentage of the mean diameter this is:

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

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  $\pm 0.5$  mm. Pipe end  $\pm 0.5$  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  $\pm 0.0075D$ , pipe end  $\pm 0.005D$  but max to  $\pm 1.6$  mm (0.063mm);

Roundness tolerance for pipe body  $\leq 0.015D$ , pipe end  $\leq 0.01D$ .

(In case agreed with manufacturer and client, more strictly tolerances could be applied)

3. For wall thickness

Below than 4 mm (0.157 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),  $\pm 0.125t$ ;

Wall thickness  $\geq 25$  mm,  $+3.7$  mm 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  $\leq 0.3$  mm /m.

6. Length  $\pm 200$  mm for general,  $\pm 25.4$  mm for special.

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