



沧州博拓国际贸易有限公司

Cangzhou Botop International Co.,Ltd.

**BS EN 10210 S355J0H Specifications**  
**- CFCHS Steel Pipe**

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<https://www.botopsteelpipe.com>

## What is BS EN 10210 S355J0H?

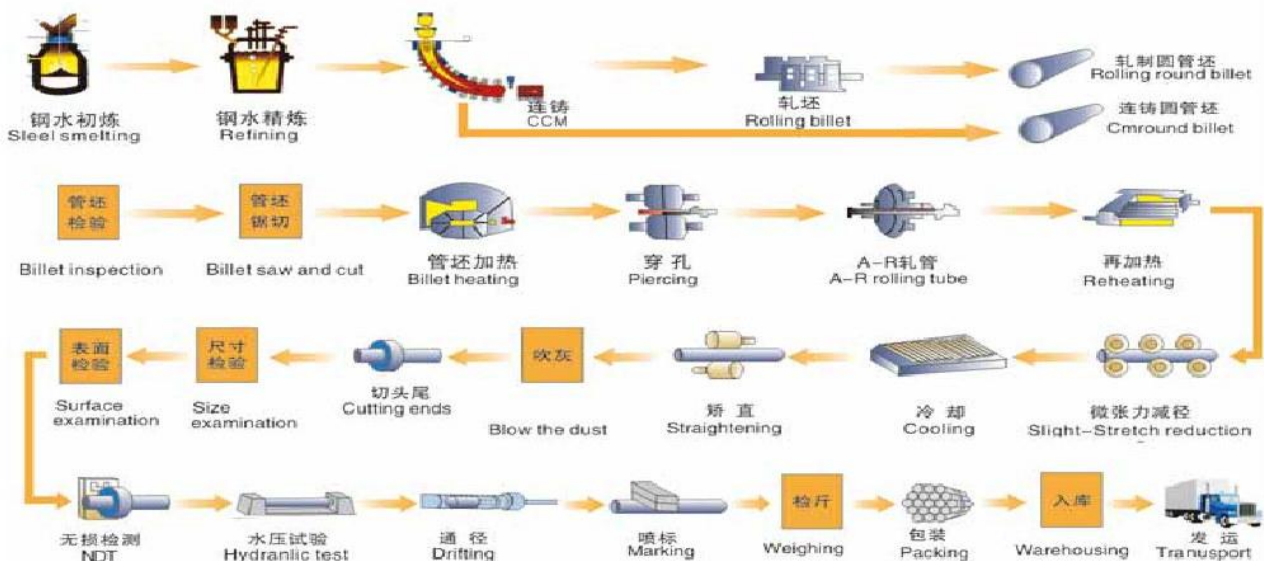


- ★ **BS EN 10210 S355J0H**, steel number 1.0547, belongs to the hot-formed hollow structural steel section and can be seamless or welded steel pipe, mostly used in structures requiring high strength and good toughness, such as large building frames and bridges.
- ★ S355J0H material has the mechanical properties that the minimum yield strength is 355MPa when the wall thickness does not exceed 16 mm and meets the minimum impact strength of 27J at 0°C.
- ★ BS EN 10210 contains a variety of cross-sectional shapes, such as circular, square, rectangular, or elliptical, Botop Steel specializes in circular steel tubes in various sizes, providing you with high quality and standard-compliant steel tube materials with factory direct sale and competitive price.
- ★ Note: All requirements in this document also apply to EN 10210.

# Manufacturing Process



- BS EN 10210 allows for production using a variety of manufacturing processes, commonly including seamless, LSAW, SSAW, and ERW welding processes.
- From the above comparison, it can be seen that seamless steel pipe has an inherent advantage in the production of thick-walled steel pipe, especially small-diameter thick-walled steel pipe, but its size will be limited. If you need to produce steel pipes with a diameter of more than 660mm, it will be more difficult.



# BS EN 10210 S355J0H Dimensions



- ✔ Wall thickness  $\leq 120$ mm.
- ✔ Circular: Outside diameters up to 2500 mm;
- ✔ Square: Outside dimensions up to 800 mm x 800 mm;
- ✔ Rectangular: Outside dimensions up to 750 mm x 500 mm;
- ✔ Elliptical: Outside dimensions up to 500 mm x 250 mm.

Below are the tube sizes we can provide:

Abbreviations	Name	Outer Diameter	Wall Thickness
<b>SSAW</b> (HSAW,SAWH)	Spiral Submerged Arc Welding	200-3500 mm	5-25 mm
<b>LSAW</b> (SAWL)	Longitudinal Submerged Arc Welding	350-1500 mm	8-80 mm
<b>ERW</b>	Electric Resistance Welded	20-660 mm	2-20 mm
<b>SMLS</b>	Seamless	13.1-660 mm	2-100 mm

# BS EN 10210 S355J0H Chemical Composition



Steel grade		Type of deoxidation <sup>a</sup>	% by mass, maximum						
			C (Carbon)		Si (Silicon)	Mn (Manganese)	P (Phosphorous)	S (Sulphur)	N <sup>b,c</sup> (Nitrogen)
Steel name	Steel number		Specified thickness (mm)						
			≤ 40	> 40 ≤ 120					
BS EN 10210 S355J0H	1.0547	FN	0.22	0.22	0.55	1.60	0.035	0.035	0.009

**a** FN = Rimming steel not permitted;

**b** It is permissible to exceed the specified values provided that for each increase of 0.001 % N the P, max. content is also reduced by 0.005 %. The N content of the cast analysis, however, shall not be more than 0.012 %;

**c** The maximum value for nitrogen does not apply if the chemical composition shows a minimum total Al content of 0.020 % with a minimum Al/N ratio of 2:1, or if sufficient other N-binding elements are present. The N-binding elements shall be recorded in the Inspection Document.

# BS EN 10210 S355J0H Mechanical Properties



Material designations in BS EN 10210 are based on their minimum yield strength at 16mm wall thickness and impact properties at specific temperatures. The yield strength, tensile strength, and elongation of BS EN 10210 S355J0H decrease as the wall thickness increases.

Steel name	Minimum yield strength $R_{eH}$ MPA						Tensile strength $R_m$ MPA			Minimum elongation $A^{a,b}$ %				Minimum impact energy $KV^{d}$ ,J
	Specified thickness mm						Specified thickness mm			Specified thickness mm				At test temperature of
	≤ 16	> 16 ≤ 40	> 40 ≤ 63	> 63 ≤ 80	> 80 ≤ 100	> 100 ≤ 120	≤ 3	> 3 ≤ 100	> 100 ≤ 120	≤ 40	> 40 ≤ 63	> 63 ≤ 100	> 100 ≤ 120	0°C
BS EN 10210 S355J0H <sup>c</sup>	355	345	335	325	315	295	510 - 680	470 - 630	450 - 600	22	21	20	18	27

**a** Longitudinal values. Transverse values are 2 % lower.

**b** For thicknesses < 3 mm, see 9.2.2.

**c** The impact properties are verified only when Option 1.3 is specified.

**d** For impact properties for reduced section test pieces see 6.6.2.

## Hydrostatic Pressure Test



EN 10210 does not require hydrostatic pressure testing of steel pipes.

- This is because the EN 10210 standardized products are mainly used for structural purposes and not for piping systems that need to be subjected to pressure.
- If hydrostatic pressure testing is required, reference can be made to EN 10216 (seamless steel tubes) or EN 10217 (welded steel tubes) standards.

## Non-destructive Testing (NDT)



There is no mandatory requirement in the standard to carry out NDT on hollow section steel pipes.

If NDT is performed on welded steel pipes, the following requirements can be referred to.

### ✓ **Electric Welded Sections**

For round hollow section steel tubes is ERW.

You can choose one of the following experimental methods for testing.

- a) EN 10246-3 to acceptance level E4, with the exception that the rotating tube/pancake coil technique shall not be permitted;
- b) EN 10246-5 to acceptance level F5;
- c) EN 10246-8 to acceptance level U5.

### ✓ **Submerged Arc Welded Sections**

For round hollow section steel tubes is LSAW and SSAW.

The weld seam of submerged arc welded hollow sections shall be tested either in accordance with EN 10246-9 to acceptance level U4 or by radiography in accordance with EN 10246-10 with an image quality class R2.



# Dimensional Tolerances



## ✓ Tolerances on Shape, Straightness and Mass

Tolerances on shape, straightness and mass					
Characteristic	Outside Dimensions (D)	Thickness (T)	Out-of-roundness (O)	Straightness (e)	Mass (M)
Circular hollow sections (CHS)	±1 % with a minimum of ±0.5 mm and a maximum of ±10 mm	- 10% <sup>b c</sup>	2 % for D/T ≤ 100 <sup>d</sup>	0,2 <sup>a</sup> % of total length and 3 mm over any 1 m length	- 6 %/+8 % on individual delivered lengths

<sup>a</sup> For elliptical hollow sections of sizes H < 250 mm, the permitted tolerance is twice the value given in this table.  
<sup>b</sup> The positive deviation is limited by the tolerance on mass  
<sup>c</sup> For seamless sections thicknesses of less than 10 % but not less than 12,5 % of the nominal thickness may occur in smooth transition areas over not more than 25 % of the circumference.  
<sup>d</sup> When the diameter to thickness ratio exceeds 100, application of tolerance on out-of-roundness is not required, unless specifically agreed (see 5.2).

## ✓ Tolerances of Length

Tolerances length		
Type of length <sup>a</sup>	Range of length or length L	Tolerance
Random length	4000 ≤ L ≤ 16000 with a range of 2000 per order item	10 % of sections supplied may be below the minimum for the ordered range but not shorter than 75 % of the minimum range length
Approximate length	4000 ≤ L ≤ 16000	±500 mm <sup>b</sup>
	2000 ≤ L ≤ 6000	0 - +10mm
Exact length	6000 < L <sup>c</sup>	0 - +15mm

<sup>a</sup> The manufacturer shall establish at the time of enquiry and order the type of length required and the length range or length.  
<sup>b</sup> Option 21 the tolerance on annvimata length is 0 - +150mm  
<sup>c</sup> Common lengths available are 6 m and 12 m.

## ✓ Seam Height of SAW Weld

Thickness, T	Maximum weld bead height, mm
≤ 14,2	3.5
> 14,2	4.8

## Our Supply Range



Since its establishment in 2014, **Botop Steel** has become a leading supplier of carbon steel pipe in Northern China, known for excellent service, high-quality products, and comprehensive solutions.

The company offers a variety of carbon steel pipes and related products, including **seamless, ERW, LSAW, and SSAW** steel pipe, as well as a complete lineup of pipe **fittings** and **flanges**. Its specialty products also include high-grade alloys and austenitic stainless steels, tailored to meet the demands of various pipeline projects.



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## Our Supply Range



We can provide many types of anti-corrosion coatings, such as paint, galvanized, FBE, 3LPE, epoxy coal asphalt, and concrete counterweight.



## Our Supply Range



Several different packaging methods for steel tubes:

