



沧州博拓国际贸易有限公司

Cangzhou Botop International Co.,Ltd.

BS EN 10210 S275J0H Specifications
- CFCHS Steel Pipe

<https://www.botopsteelpipe.com>

What is BS EN 10210 S275J0H?



- ★ **BS EN 10210 S275J0H** is a hot-finished hollow structural steel section manufactured to BS EN 10210 in a variety of round, square, rectangular, or oval section shapes.
- ★ **S275J0H** material is characterized by a minimum yield strength of 275 MPa at a thickness of not more than 16 mm; its minimum impact energy is a minimum of 27 J at 0°C.
- ★ S275J0H belongs to a kind of carbon steel, steel number 1.0149, which has good structural and processing properties, mainly used in building structures, but also used for non-load-bearing components, can give in maintaining structural stability and durability based on the realization of low-cost benefits.
- ★ Note: All requirements in BS EN 10210 also apply to EN 10210 and are therefore not repeated here.

Manufacturing Process



The BS EN 10210 standard allows for a number of manufacturing processes to be used to produce structural hollow sections, including seamless and welded processes.

Within the welding process, common methods include LSAW (SAWL), SSAW (HSAW), and ERW.



EN 10210 Dimensional Range



- ✔ Wall thickness ≤ 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
SSAW (HSAW,SAWH)	Spiral Submerged Arc Welding	200-3500 mm	5-25 mm
LSAW (SAWL)	Longitudinal Submerged Arc Welding	350-1500 mm	8-80 mm
ERW	Electric Resistance Welded	20-660 mm	2-20 mm
SMLS	Seamless	13.1-660 mm	2-100 mm

We specialize in providing various specifications of Round Hollow Structural Steel Pipe, if you have any needs, please feel free to contact us, looking forward to cooperating with you!

BS EN 10210 S275J0H Chemical Composition



Steel grade		Type of deoxidation ^a	% by mass, maximum						
			C (Carbon)		Si (Silicon)	Mn (Manganese)	P (Phosphorous)	S (Sulphur)	N ^{b,c} (Nitrogen)
Steel name	Steel number		Specified thickness (mm)						
					≤ 40	> 40 ≤ 120			
S275J0H	1.0149	FN	0.20	0.22	—	1.5	0.035	0.035	0.009

a FN = Rimmed 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 S275J0H Mechanical Properties



The mechanical properties of BS EN 10210 include yield strength, tensile strength, elongation, and impact properties.

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
S275J0H ^c	275	265	255	245	235	225	430 - 580	410 - 560	400 - 540	23	22	21	19	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% ^{b c}	2 % for D/T ≤ 100 ^d	0,2 ^a % of total length and 3 mm over any 1 m length	- 6 %/+8 % on individual delivered lengths
<p>^a For elliptical hollow sections of sizes H < 250 mm, the permitted tolerance is twice the value given in this table.</p> <p>^b The positive deviation is limited by the tolerance on mass</p> <p>^c 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.</p> <p>^d When the diameter to thickness ratio exceeds 100, application of tolerance on out-of-roundness is not required, unless specifically agreed (see 5.2).</p>					

✓ Tolerances of Length

Tolerances length		
Type of length ^a	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 ^b
	2000 ≤ L ≤ 6000	0 - +10mm
Exact length	6000 < L ^c	0 - +15mm
<p>^a The manufacturer shall establish at the time of enquiry and order the type of length required and the length range or length.</p> <p>^b Option 21 the tolerance on annvimata length is 0 - +150mm</p> <p>^c Common lengths available are 6 m and 12 m.</p>		

✓ 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, FBE, 3LPE, epoxy coal asphalt, concrete counterweight and so on.



Our Supply Range



Several different packaging methods for steel tubes:

