

EN 10210

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● Production Standard of EN 10210

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EN 10210 is an important standard of the European Organization for Standardization, which strictly specifies the specifications and parameters of hot-rolled structural steel rods. The hollow sections and tubes, made from non-alloy and fine-grain steels, are designed to meet the rigorous standards of the European Standard EN 10210. EN 10210 with a wide range of steel grades such as S235JRH, S275JOH, S275J2H, S355JOH and S355J2H.

● Dimensions and Sizes of EN 10210

	Outside Diameters	Outside Dimensions	Wall Thicknesses
Circular	Up to 2 500 mm	–	Up to 120 mm
Square	–	Up to 800 mm x 800 mm	
Rectangular	–	Up to 750 mm x 500 mm	
Elliptical	–	Up to 500 mm x 250 mm	

● Chemical Composition of EN 10210

Chemical Composition — Cast Analysis For Product Thickness ≤ 120 Mm		
Steel Grade	Type of	% by Mass, Maximum

Steel Name	Steel Number	Deoxidation	C Specified Thickness (mm)		Si	Mn	P	S	N
			≤ 40	> 40 ≤ 120					
S235JRH	1.0039	FN	0.17	0.20	—	1.40	0.040	0.040	0.009
S275J0H	1.0149	FN	0.20	0.22	—	1.50	0.035	0.035	0.009
S275J2H	1.0138	FF	0.20	0.22	—	1.50	0.030	0.030	—
S355J0H	1.0547	FN	0.22	0.22	0.55	1.60	0.035	0.035	0.009
S355J2H	1.0576	FF	0.22	0.22	0.55	1.60	0.030	0.030	—
S355K2H	1.0512	FF	0.22	0.22	0.55	1.60	0.030	0.030	—

Chemical Composition — Cast Analyses For Product Thickness < 65 Mm																	
Steel Grade		Type of Deoxidation	Sub Group	% by Mass													
Steel Name	Steel Number			C max.	Si max.	Mn	P max.	S max.	Nb max.	V max.	Al total min.	Ti max.	Cr max.	Ni max.	Mo max.	Cu max.	N max.
S275 NH	1.0493	GF	QS	0.2	0.4	0.50	0.035	0.003	0.05	0.08	0.02	0.03	0.3	0.3	0.1	0.35	0.015
S275 NLH	1.0497					1.40	0.03	0.025									
S355 NH	1.0539	GF	QS	0.2	0.5	0.90	0.035	0.003	0.05	0.12	0.02	0.03	0.3	0.5	0.1	0.35	0.002
S355 NLH	1.0549					1.65	0.03	0.025									
S420 NH	1.875	GF	SS	0.22	0.6	1.00	0.035	0.003	0.05	0.2	0.02	0.03	0.3	0.8	0.1	0.7	0.025
S420 NLH	1.8751					1.70	0.03	0.025									
S460 NH	1.8953	GF	SS	0.22	0.6	1.00	0.035	0.003	0.05	0.2	0.02	0.03	0.3	0.8	0.1	0.7	0.025
S460 NLH	1.8956					1.70	0.03	0.025									

●Mechanical Properties Tensile Strength and Yield Strength of EN 10210

Mechanical Properties Of Non-Alloy Structural Steel Hollow Section				
Steel Grade	Minimum Yield Strength	Tensile Strength Rm	Minimum	Minimum

		ReH MPa						MPa			Elongation Aab %				Impact Energy KV J		
		Specified Thickness mm						Specified Thickness mm			Specified Thickness mm				At Test Temperature of		
Steel Name	Steel Number	≤ 16	> 16 ≤ 40	> 40 ≤ 63	> 63 ≤ 80	> 80 ≤ 100	> 100 ≤ 120	≤ 3	> 3 ≤ 100	> 100 ≤ 120	≤ 4	> 4 ≤ 6	> 6 ≤ 10	> 10 ≤ 12	-20 °C	0 °C	20 °C
S235J RH	1.0039	235	225	215	215	215	195	360-510	360-510	350-500	26	25	24	22	—	—	27
S275J0 H	1.0149	275	265	255	245	235	225	430-580	410-560	400-540	23	22	21	19	—	27	—
S275J2 H	1.0138														27	—	—
S355J0 H	1.0547	355	345	335	325	315	295	510-680	470-630	450-600	22	21	20	18	—	27	—
S355J2 H	1.0576														27	—	—
S355K 2H	1.0512														40	—	—

Mechanical Properties Of Fine Grain Structural Steel Hollow Sections									
Steel Grade		Minimum Yield Strength ReH MPa			Tensile Strength Rm MPa at Specified Thickness ≤ 65 mm	Minimum Elongation A % at Specified Thickness ≤ 65 mm		Minimum Impact Energy KV J	
Steel Name	Steel Number	Specified Thickness mm				Longitudinal	Transverse	At Test Temperature of	
		≤ 16	> 16 ≤ 40	> 40 ≤ 65				-50 °C	-20 °C
S275NH	1.0493	275	265	255	370-510	24	22	—	40
S275NLH	1.0497							27	—
S355NH	1.0539	355	345	335	470-630	22	20	—	40
S355NLH	1.0549							27	—
S420NH	1.875	420	400	390	520-680	19	17	—	40

S420NLH	1.8751							27	–
S460NH	1.8953	460	440	430	540-720	17	15	–	40
S460NLH	1.8956							27	–