

EN10025-3, Hot Rolled Products of Structural Steels

Part 3: Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels



EN10025-3 is Standard specifies Hot rolled products of structural steels. Technical delivery conditions for normalized/normalized rolled weldable fine grain structural steels. EN10025-3 Standard main steel grade: S275N, S355N, S275NL, S420N, S355NL, S460N, S420NL, S460N and so on.

Standard: EN10025-3

Grade : S275N, S355N, S275NL, S420N, S355NL, S460N, S420NL, S460N

Thickness : 8mm-500mm

Width : 1000mm-4000mm

Length : 1000mm-20000mm

MOQ: 1 PC

Product type : Steel plate

Delivery time : Promptly (Stock) or 10-40 days (Production)

Stock : Available

MTC: Available

Delivery condition: AS REQUIREMENTS

EMAIL: info@steelguang.com

TEL: 0086-371-55023661

Table 2 - Chemical composition of the ladle analysis for normalized steel

Designation		C % max.	Si % max.	Mn %	P % max. ^a	S % max. ^{a, b}	Nb % max.	V % max.	Al _{total} % min. ^c	Ti % max.	Cr % max.	Ni % max.	Mo % max.	Cu % max. ^a	N % max.
According EN 10027-1 and CR 10260	According EN 10027-2														
S275N	1 0490	0,18	0,40	0,50 - 1,50	0,030	0,025	0,05	0,05	0,02	0,05	0,30	0,30	0,10	0,55	0,015
S275NL	1 0491	0,16			0,025	0,020									
S355N	1 0545	0,20	0,50	0,90 - 1,65	0,030	0,025	0,05	0,12	0,02	0,05	0,30	0,50	0,10	0,55	0,015
S355NL	1 0546	0,18			0,025	0,020									
S420N	1 8902	0,20	0,60	1,00 - 1,70	0,030	0,025	0,05	0,20	0,02	0,05	0,30	0,80	0,10	0,55	0,025
S420NL	1 8912				0,025	0,020									
S460N ^a	1 8901 ^a	0,20	0,60	1,00 - 1,70	0,030	0,025	0,05	0,20	0,02	0,05	0,30	0,80	0,10	0,55	0,025
S460NL ^a	1 8903 ^a				0,025	0,020									

^a For long products the P and S content can be 0,005 % higher.

^b For railway applications a maximum S content of 0,010 % may be agreed at the time of enquiry and order.

See option 32.

^c If sufficient other N-binding elements are present the minimum total Al content does not apply.

^d Cu content above 0,40 % may cause hot shortness during hot forming.

^e V + Nb + Ti ≤ 0,22 % and Mo + Cr ≤ 0,30 %.

Table 5 - Mechanical properties at ambient temperature for normalized steel

Designation		Minimum yield strength R _{eH} ^a MPa ^b								Tensile strength R _m ^a MPa ^b			Minimum percentage elongation after fracture ^a % L ₀ = 5,65 S ₀ Nominal thickness mm					
According EN 10027-1 and CR 10260	According EN 10027-2	≤ 16	>16 ≤ 40	>40 ≤ 63	> 63 ≤ 80	> 80 ≤ 100	> 100 ≤ 150	> 150 ≤ 200	> 200 ≤ 250	≤ 100	> 100 ≤ 200	> 200 ≤ 250	≤ 16	>16 ≤ 40	>40 ≤ 63	> 63 ≤ 80	> 80 ≤ 200	> 200 ≤ 250
S275N	1 0490	275	265	255	245	235	225	215	205	370 to 510	350 to 480	350 to 460	24	24	24	23	23	23
S275NL	1 0491																	
S355N	1 0545	355	345	335	325	315	295	285	275	470 to 630	450 to 600	450 to 600	22	22	22	21	21	21
S355NL	1 0546																	
S420N	1 8902	420	400	390	370	360	340	330	320	520 to 680	500 to 650	500 to 650	19	19	19	18	18	18
S420NL	1 8912																	
S460N	1 8901	460	440	430	410	400	380	370	-	540 to 720	530 to 710	-	17	17	17	17	17	-
S460NL	1 8903																	

^a For plate, strip and wide flats with widths ≥ 600 mm the direction transverse (t) to the rolling direction applies. For all other products the values apply for the direction parallel (l) to the rolling direction.

^b 1 MPa = 1 N/mm²

Table 6 - Minimum values of impact energy for impact tests on longitudinal V-notch test pieces for normalized steel

Designation		Minimum values of impact energy in J at test temperatures, in °C						
According EN 10027-1 and CR 10260	According EN 10027-2	+ 20	0	- 10	- 20	- 30	- 40	- 50
S275N S355N S420N S460N	1.0490 1.0545 1.8902 1.8901	55	47	43	40 ^{a)}	-	-	-
S275NL S355NL S420NL S460NL	1.0491 1.0546 1.8912 1.8903	63	55	51	47	40	31	27

^{a)} This value corresponds with 27J at - 30 °C (see Eurocode 3).