

Quality	S275JR	Structural Steel	<i>Technical card</i>	
According to standard	EN 10025-2: 2004		Lucefin Group	
Number	1.0044		<i>rev. 2018</i>	

Chemical composition

C%	Si%	Mn%	P%	S%	N%	Cu%	
max		max	max	max	max	max	
0,21 ^{c)}	-	1,50	0,035	0,035	0,012 ^{a)}	0,40	Cast analysis
0,24 ^{c)}	-	1,60	0,045	0,045	0,014 ^{b)}	0,45	Product analysis

FN deoxidation method - rimming steel not admitted

^{c)} for thickness over 40 mm up to 100 mm, max 0.22 ladle analysis, max 0.25 product analysis

^{c)} for nominal thickness > 100 mm, C content to be agreed

^{a)} N max value is not applied if chemical composition shows total Al content of 0.020%

^{b)} N max value is not applied if chemical composition shows total Al content of 0.015%

Temperature °C

Hot-forming	Supply state +U	Soft annealing +A	Isothermal annealing +I	Temperature values are valid for analysis close to:		
1150-850	natural state	650-700 air	-	C%	Mn%	Si%
				~ 0.19	~ 0.65	
In some cases, the piece can be normalized and tempered +NT or quenched and tempered +QT				Pre-heating welding	Stress-relieving after welding	
Normalizing and tempering	Quenching and tempering	Stress-relieving +SR		not required	slow cooling	
880-900 air	860-900 water	50° under the temperature of tempering				
550-660 air	550-660 air			Ac1	Ac3	Ms Mf
				-	-	- -

Mechanical properties

Hot-rolled EN 10025-2: 2004 S275JR 1.0044

Testing at room temperature, Kv + 20 °C

size mm	R	ReH	A%	A%	Kv +20 °C	HB	Modulus of Elasticity	
from to	N/mm ²	N/mm ² min	min(L)	min (T)	J min ^{a)} (L)	for inf.	GPa +20 °C	
3	430-580	275	-	-	-	-	long.	tang.
3 16	410-560	275	23	21	27	122-162	200	77
16 40	410-560	265	23	21	27	122-162		
40 63	410-560	255	22	20	27	122-162		
63 80	410-560	245	21	19	27	122-162		
80 100	410-560	235	21	19	27	122-162		
100 150	400-540	225	19	19	27	119-158		
150 200	380-540	215	18	18	27	110-158		
200 250	380-540	205	18	18	27	110-158		
250 400	380-540	195	18	18	27	110-158	apply to flat products	

^{a)} values to be agreed for thickness > 100 mm; impact properties are verified only if specified when placing the order.

(normalization +N is advised)

Cold-drawn					Hot-rolled – Peeled				
size mm		Testing at room temperature (longitudinal)			Testing at room temperature (longitudinal)				
		R	Rp 0.2	A%	HB	R	Rp 0.2	A%	HB
from	to	N/mm ²	N/mm ² min	min		N/mm ²	N/mm ² min	min	

No indications from reference standards

EUROPE	ITALY	CHINA	GERMANY	FRANCE	U.K.	RUSSIA	USA
EN	UNI	GB	DIN	AFNOR	B.S.	GOST	AISI/SAE
S275JR	Fe 430 B	Q255A	St 44-2	E 28-2	43 B	St4kp-2	1020 (A 36)