

Quality	S275JR (Fe 430 B)
According to standard	EN 10025-2: 2004
Number	1.0044

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	Soft annealing	Isothermal annealing	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 or quenched and tempered			End quench hardenability	Pre-heating welding	Stress-relieving after welding		
Normalizing and tempering	Quenching and tempering	Stress-relieving		not required	slow cooling		
880-900 air	860-900 water	50° under the					
550-660 air	550-660 air	temperature of		Ac1	Ac3	Ms	Mf
		tempering					

Mechanical properties

Hot-rolled EN 10025-2: 2004 S275JR

Testing at room temperature, Kv + 20 °C

size mm		R	size mm		ReH	size mm		A% L	A% T	HB
from	to	N/mm ²	over	to	N/mm ² min	over	to	min	min	<i>for information only</i>
	3	430-580		16	275	3	40	23	21	128-172
3	100	410-560	16	40	265	40	63	22	20	122-162
100	150	400-540	40	63	255	63	100	21	19	119-158
150	250	380-540	63	80	245	100	150	19	19	110-158
			80	100	235	150	250	18	18	
Mod. of elasticity GPa			100	150	225	over	to	Kv L + 20 °C ^{a)} J min		
E long.	G tang.		150	200	215	10	150	27		
210	80		200	250	205	150	250	27		

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

Cold-drawn

Cold-drawn					Hot-rolled – Peeled- Reeled				
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 EN	ITALY UNI	CHINA GB	GERMANY DIN	FRANCE AFNOR	U.K. B.S.	RUSSIA GOST	USA AISI/SAE
S275JR	Fe 430 B	Q255A	St 44-2	E 28-2	43 B	St4kp-2	1020