

Quality	S355J0 (Fe 510 C)
According to standard	EN 10025-2: 2004
Number	1.0553

Chemical composition

C%	Si%	Mn%	P%	S%	N%	Cu%	
max	max	max	max	max	max	max	
0,20 ^{c)}	0,55	1,60	0,030	0,030	0.012 ^{a)}	0,40	Cast analysis
0,23 ^{c)}	0,60	1,70	0,040	0,040	0.014 ^{b)}	0,45	Product analysis

FN deoxidation method - rimming steel not admitted

^{c)} max 0.22 by ladle analysis, max 0.24 of the product for thickness > 30 mm up to 100 mm

^{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	Normal treatment	Soft annealing	Isothermal annealing	Temperature values are valid for analysis close to:			
1100-850	natural	700 air		C%	Mn%	Si%	
				~ 0.18	~ 1.20	~ 0.30	
In some cases, the piece can be normalized and tempered or quenched and tempered				Pre-heating welding	Stress-relieving after welding		
Normalizing and tempering	Quenching and tempering	Stress-relieving	End quench hardenability	100	slow cooling		
920 air	880-900 water	50 under the					
550-650 air	550-650 air	temperature of		Ac1	Ac3	Ms	Mf
		tempering					

Mechanical properties

Hot-rolled EN 10025-2: 2004 **S355J0**

Testing at room temperature Kv 0 °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</i>
	3	510-680		16	355	3	40	22	20	154-208
3	100	470-630	16	40	345	40	63	21	19	141-192
100	150	450-600	40	63	335	63	100	20	18	135-178
150	250	450-600	63	80	325	100	150	18	18	135-178
			80	100	315	150	250	17	17	
			100	150	295					
			150	200	285	over	to	Kv 0 °C J min ^{a)}		
			200	250	275	10	150	27		
						150	250	27		

^{a)} values to be agreed for thickness > 100 mm (**normalization** is advised)

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
over	to	N/mm ²	N/mm ² min	min		N/mm ²	N/mm ² min	min	

No indications from reference standards

(use as reference S355J2C EN 10277-2 values)

EUROPA EN	ITALIA UNI	SPAGNA UNE	GERMANIA DIN	FRANCIA AFNOR	UK B.S.	SVEZIA SS	USA AISI/SAE
S355J0	Fe 510 C	AE 355 C	St 52-3 U	E 36-3	50 C	--	--