

<b>Quality</b>	<b>S355J2</b> (Fe 510 D)	<i>Technical card</i>
According to standards	<b>EN 10025-2: 2004</b>	<i>Lucefin Group</i>
Number	<b>1.0577</b>	

### Chemical composition

C%	Si%	Mn%	P%	S%	N%	Cu%	
max	max	max	max	max		max	
0,20 <sup>a)</sup>	0,55	1,60	0,025	0,025		0,40	<b>Cast analysis</b>
0,23 <sup>a)</sup>	0,60	1,70	0,035	0,035		0,45	<b>Product analysis</b>
FF deoxidation method - fully killed steel							S355J2 n° 1.0579
<sup>a)</sup> max 0.22 by ladle analysis, max 0.24 of the product for thickness > 30 mm up to 100 mm							P% - S% max 0.030
<sup>a)</sup> for nominal thickness > 100 mm, C content to be agreed							cast analysis

### Temperature °C

Hot-forming	Supply state	Soft annealing	Isothermal annealing	Temperature values are valid for analysis close to:			
1100-850	natural state	700 air (HB max 180)		C%	Mn%	Si%	
				~ 0.18	~ 1.20	~ 0.30	
In some cases, the piece can be normalized and tempered or quenched and tempered			<b>Pre-heating welding</b>	<b>Stress-relieving after welding</b>			
<b>Normalizing and tempering</b>	<b>Quenching and tempering</b>	<b>Stress-relieving</b>	<b>End quench hardenability</b>	100	slow cooling		
920 air	880-900 water	50° under the temperature of tempering					
550-650 air	550-650 air			<b>Ac1</b>	<b>Ac3</b>	<b>Ms</b>	<b>Mf</b>

### Mechanical properties

Hot-rolled EN 10025-2: 2004 **S355J2**

Testing at room temperature Kv -20 °C

size mm		R	size mm		ReH	size mm		A% L	A% T	HB
from	to	N/mm <sup>2</sup>	over	to	N/mm <sup>2</sup> min	over	to	min	min	for information
	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
250	400	450-600	80	100	315	150	250	17	17	135-178
			100	150	295	250	400	17	17	
			150	200	285	over	to	<b>Kv L - 20 °C</b> <sup>a)</sup> J min		
<b>Mod. of elasticity</b> GPa			200	250	275		150	27		
<b>E long.</b>	<b>G tang.</b>		250	400	265		150	27		
220	84						250	27		

<sup>a)</sup> values to be agreed for sections with nominal thickness > 100 mm (**normalization** is suggested)

Cold-drawn +C EN 10277-2: 2008 <b>S355J2C</b> 1.0579						Hot-rolled – Peeled- Reeled +SH			
size mm		Testing at room temperature (longitudinal)				Testing at room temperature (longitudinal)			
from	to	R <sup>b)</sup>	Rp 0.2 <sup>b)</sup>	A%	HB	R	Rp 0.2	A%	HB
		N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min	for information	N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min	
5 <sup>c)</sup>	10	630-950	520	6	192-286				
10	16	580-880	450	7	172-263				
16	40	530-850	350	8	156-253	470-630			146-187
40	63	500-770	335	9	152-231	470-630			146-187
63	100	470-740	315	9	141-224	470-630			146-187

<sup>b)</sup> for flats and special sections, yield point can be - 10% and tensile strength can be ± 10%

<sup>c)</sup> for thickness < 5 mm, mechanical properties can be agreed before order placement.

The reported values are valid also for +C+SL and +SH+SL

**Forged normalized** EN 10250-2: 2001 **S355J2G3** n° 1.0570 (Fe 510 D)

Tensile test at room temperature Kv at - 20°C (normalizing is suggested)

size		R	Re	A% L	A% T	Kv L - 20 °C	Kv T - 20 °C	HB
from	to	N/mm <sup>2</sup> min	N/mm <sup>2</sup> min	min	min	J min	J min	min
	100	490	315	20		35		149
100	250	450	275	18	12	30	20	135
250	500	450	265	18	12	27	15	135

EUROPE EN	ITALY UNI	CHINA GB	GERMANY DIN	FRANCE AFNOR	U.K. BS	RUSSIA GOST	USA AISI/SAE
S355J2	Fe 510 D		St 52-3 N		50 D	17G1S	A 350 LF2