

Quality	S355J2	Steel for general engineering	<i>Technical card</i> Lucefin Group rev. 2018
According to standards	EN 10025-2: 2014		
Number	1.0577		

Chemical composition

C%	Si%	Mn%	P%	S%	N%	Cu%	
max	max	max	max	max		max	
0,20 ^{a)}	0,55	1,60	0,025	0,025		0,40	Cast analysis
0,23 ^{a)}	0,60	1,70	0,035	0,035		0,45	Product analysis

FF (G3) deoxidation method - fully killed steel

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

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

Temperature °C

Hot-forming	Supply state +U	Soft annealing +A	Isothermal annealing +I	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 +NT or quenched and tempered +QT				Pre-heating welding	Stress-relieving after welding		
Normalizing and tempering	Quenching and tempering	Stress-relieving +SR		100-150	slow cooling		
920 air	880-900 water	50° under the temperature of tempering					
550-650 air	550-650 air			Ac1	Ac3	Ms	Mf
				-	-	-	-

Mechanical properties

Hot-rolled EN 10025-2: 2014 **S355J2** 1.0577

Testing at room temperature Kv -20 °C

size mm		R	R _{eH}	A%	A%	Kv -20 °C	HB	Mod. of Elasticity	
from	to	N/mm ²	N/mm ² min	min (L)	min (T)	J min ^{b)} (L)	for information	GPa +20 °C	
	3	510-680	355	-	-	-		long.	tang.
3	16	470-630	355	22	20	27	141-192	210	80
16	40	470-630	345	22	20	27	140-187		
40	63	470-630	335	21	19	27	140-187		
63	80	470-630	325	20	18	27	140-187		
80	100	470-630	315	20	18	27	140-187		
100	150	450-600	295	18	18	27	135-178		
150	200	450-600	285	17	17	27	135-178		
200	250	450-600	275	17	17	27	135-178		
250	400	450-600	265	17	17	27	135-178	apply to flat products	

^{b)} values to be agreed for sections with nominal thickness > 100 mm (**normalization +N** is advised)

Cold-drawn +C EN 10277: 2018 **S355J2C** 1.0579

size mm		Testing at room temperature (longitudinal)				Hot-rolled – Peeled +SH			
		R ^{b)}	R _{p 0.2} ^{b)}	A%	HB	Testing at room temperature (longitudinal)			
from	to	N/mm ²	N/mm ² min	min	for info.	R	R _{p 0.2}	A%	HB
5 ^{c)}	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			140-187
40	63	500-770	335	9	152-231	470-630			140-187
63	100	470-740	315	9	140-224	470-630			140-187

^{b)} for flats and special sections, yield point can be - 10% and tensile strength can be ± 10%

^{c)} for thickness < 5 mm, mechanical properties can be agreed before order placement .

The reported values are valid also for +C+G (cold-drawn, ground)

Forged normalized UNI EN 10250-2: 2001 **S355J2G3** n° 1.0570

Tensile test at room temperature and (normalizing is suggested)

size mm		R	Re	A%	A%	Kv - 20 °C	Kv - 20 °C	HB
from	to	N/mm ² min	N/mm ² min	min (L)	min (T)	J min (L)	J min (T)	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