

<b>Quality</b>	<b>S355D</b>	<b>Steel for general engineering</b>	<i>Technical card</i> <b>Lucefin Group</b> rev. 2025
According to standards	<b>EN 10025-2: 2014</b>		
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 (G3) deoxidation method - fully killed steel

<sup>a)</sup> max 0.22 by ladle analysis, max 0.24 of the product for thickness > 30 mm up to 100 mm

<sup>a)</sup> 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			<b>Pre-heating welding</b>	<b>Stress-relieving after welding</b>			
<b>Normalizing and tempering</b>	<b>Quenching and tempering</b>	<b>Stress-relieving +SR</b>	100-150	slow cooling			
920 air	880-900 water	50° under the temperature of tempering		<b>Ac1</b>	<b>Ac3</b>	<b>Ms</b>	<b>Mf</b>
550-650 air	550-650 air			-	-	-	-

### Mechanical properties

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

Testing at room temperature Kv -20 °C

size mm		R	R <sub>eH</sub>	A%	A%	Kv -20 °C	HB	Mod. of Elasticity	
from	to	N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min (L)	min (T)	J min <sup>b)</sup> (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	

<sup>b)</sup> values to be agreed for sections with nominal thickness > 100 mm (**normalization +N** is advised)

**Cold-drawn +C** EN ISO 683-7:24 **S355J2C** 1.0579

size mm		Testing at room temperature (longitudinal)				Hot-rolled – Peeled +SH			
		R <sup>b)</sup>	R <sub>p 0.2</sub> <sup>b)</sup>	A%	HB	R	R <sub>p 0.2</sub>	A%	HB
from	to	N/mm <sup>2</sup>	N/mm <sup>2</sup> min	min	for info.	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			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

<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+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 <sup>2</sup> min	N/mm <sup>2</sup> 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