

Quality		S355J2/S355D				Steel for general engineering		Technical card Trafilix Industries rev. 2025	
According to standards		EN 10025-2 / ISO 683-7							
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					
550-650 air		550-650 air		temperature of tempering		Ac1	Ac3	Ms	Mf
						-	-	-	-
Mechanical properties									
Hot-rolled EN 10025-2 S355J2 1.0577									
Testing at room temperature Kv –20 °C									
size mm		R	ReH	A%	A%	Kv -20 °C	HB	Mod. of Elasticity	
from	to	N/mm²	N/mm² 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 ISO 683-7 S355D						Hot-rolled – Peeled +SH			
size mm		Testing at room temperature (longitudinal)				Testing at room temperature (longitudinal)			
		R ^{b)}	Rp 0.2 ^{b)}	A%	HB	R	Rp 0.2	A%	HB
from	to	N/mm²	N/mm² min	min	for info.	N/mm²	N/mm² min	min	
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 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/mm² min	N/mm² 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	