

Quality	S235J0	Structural Steel	<i>Technical card</i>
According to standard	EN 10025-2: 2004		Lucefina Group
Number	1.0114		<i>rev. 2018</i>

Chemical composition

C%	Si%	Mn%	P%	S%	N%	Cu%	
max		max	max	max	max	max	
0,17 ^{a)}	-	1,40	0,030	0,030	0,012	0,40	Cast analysis
0,19 ^{a)}	-	1,50	0,040	0,040	0,014	0,45	Product analysis

FN deoxidation method -N rimming steel not admitted

^{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:		
1200-850	natural state (HB 240 ~)	700 air (HB 120 ~)		C%	Mn%	Si%
				~ 0.10	~ 0.50	~ 0.20

In some cases, the piece can be normalized and tempered +NT or quenched and tempered +QT

Normalizing and tempering	Quenching and Tempering	Stress-relieving +SR	Pre-heating welding	Stress-relieving after welding			
			not required	slow cooling			
920 air	920 water	50° under the temperature	Ac1	Ac3	Ms	Mf	
540-650 air	540-665 air	of tempering	725	880	480	260	

Mechanical properties

Hot-rolled EN 10025-2: 2004 **S235J0** 1.0114

Testing at room temperature, impact testing at 0 °C

size mm	R	ReH	A%	A%	Kv 0 °C	HB	Mod. of Elasticity	
from to	N/mm ²	N/mm ² min	min (L)	min (T)	J min ^{b)} (L)	for inf.	long.	tang.
3	360-510	235	-	-	-	-		
3	360-510	235	26	24	27	104-154	200	77
16	360-510	225	26	24	27	104-154		
40	360-510	215	25	23	27	104-154		
63	360-510	215	24	22	27	104-154		
80	360-510	215	24	22	27	104-154		
100	350-500	195	22	22	27	103-152		
150	340-490	185	21	21	27	100-149		
200	340-490	175	21	21	27	100-149		
250	330-480	165	21	21	27	94-146	apply to flat products	

^{a)} values to be agreed for thickness > 100 mm (**normalization** +N treatment is suggested)

Cold-drawn S235J0C 1.0115					Hot-rolled – Peeled				
Testing at room temperature (longitudinal)					Testing at room temperature (longitudinal)				
size mm	R	Rp 0.2	A%	HB	R	Rp 0.2	A%	HB	
from to	N/mm ²	N/mm ² min	min		N/mm ²	N/mm ² min	min		

No indications are shown in the reference standards,
(please refer to the same values of quality S235JRC EN 10277-2)

Forged normalized UNI EN 10250-2: 2001

ensile testing at room temperature, Kv testing at 0 °C (normalizing treatment is suggested)

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

No indications are shown in the reference standards,
(please refer to the same values of quality S235J2G3 UNI EN 10250-2)

EUROPE	ITALY	CHINA	GERMANY	FRANCE	U.K.	RUSSIA	USA
EN	UNI	GB	DIN	AFNOR	B.S.	GOST	AISI/SAE
S235J0	Fe 360 C		St 37-3 U	E 24-3	40 C	St3Gsp	A 1011 ~