

Quality	ASTM A 350 LF2	<i>Technical card</i>
According to standards	ASTM A 350M – 07	Lucefin Group
Number		

Chemical composition

C%	Si%	Mn%	P%	S%	Cu%	Ni%	Cr%	Mo%	V%	Nb%
max			max	max	max	max	max	max	max	max
0,30	0,15-0,30	0,60-1,35	0,035	0,040	0,40	0,40	0,30	0,12	0,08	0,02

The sum of copper (Cu), chromium (Cr) and molybdenum (Mo) should not exceed 1,00%

The sum of chromium (Cr) and molybdenum (Mo) should not exceed 0,32%

Carbon Equivalent CE = $C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15$ max 0,47

Temperature °C

Hot-forming	Normalizing	Quenching	Tempering	Stress-relieving			
1150-850	880-930 air cooling	880-930 oil / polymer water	590 air cooling	50 under the temperature of tempering			
Soft annealing	Normalizing and tempering	Isothermal annealing		Pre-heating welding		Stress-relieving after welding (PWHT)	
700 air cooling	900 air 600 air	860 furnace cooling to 660 after, air		200		590 furnace cooling	
				Ac1	Ac3	Ms	Mf

Mechanical properties

Forged values as reference Heat treatments must **guarantee** the reported values ASTM A 350M - 07

all dimension mm	Testing at room temperature (longitudinal)						
	R	Rp 0.2	A%	C% - Z%	Kv -46 °C cl. 1	Kv -18 °C cl. 2	HB
	N/mm ²	N/mm ² min.	min.	min.	J average / minimum		max
T	485-655	250	22	30	20 / 16		197

T= max heat-treated thickness Test specimen should correspond to the $\frac{1}{4}$ T

Mechanical properties (longitudinal testing) LUCEFIN experience

Heat treatments	Ø product mm	R N/mm ²	Rp 0.2 N/mm ²	A %	C - Z %	Kv -46 °C J	Kv -18 °C J	product
Quenching 880 °C water	95	600	480	24.6	58.0	68-66-64	112-114-110	Hot-rolled
Tempering 640 °C air								
Normalizing 900 °C air	210	580	400	32.6	64.4	22-24-18	70-74-70	Hot-rolled
Natural	95	526	302	28.6	62.0	6-6-4	16-10-8	Hot-rolled

EUROPE EN	ITALY UNI	CHINA GB	GERMANY DIN	FRANCE AFNOR	U.K. B.S.	RUSSIA GOST	USA AISI/SAE
S355J2G3 appr.	Fe510 appr.	16Mn	St52.3 N		50D	20G	A350 LF2 cl. 1 – cl. 2



Hot-rolled
Quenched and tempered
Martensite and traces of bainite
X500