Quality ASTM A 350 LF2
According to standards ASTM A 350M - 07
Number

ALOK INGOTS
steel re engineered
AN ISO 9001:2008 CERTIFIED COMPANY

Chemical composition

C% max	Si%	Mn%	P% max	S% max	Cu% max	Ni% max	Cr% max	Mo% max	V% max	Nb% 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 AC1	AC3	590 furnace cooling MS Mf

Mechanical properties

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

all dimension mm	R N/mm2	Rp 0.2 N/mm2	A% min.	C% -Z% min.	Kv - 46 C° CL.1	Kv - 18 C° CL.2 J average / minimum	HB max
T	485-655	250	22	30	20 / 16	27 / 20	197

Testing at room temperature (longitudinal)
T= max heat-treated thickness Test specimen should correspond to the 1/4 T

Mechanical properties (longitudinal testing)

Heat treatments	Φ product mm	R N/mm2	Rp 0.2 N/mm2	A %	C -Z %	Kv -46 °C J	Kv -18 °C J	product
Quenching 880 °C water	95	600	480	24.6	58	68-66-64	112-|114-110	Hot-rolled
Tempering 640 °C air								
Normalizing 900 °C air	210	580	400	32.6	64.4	22①|24-18	70①|74-70	Hot-rolled
Natural	95	526	302	28.6	62	06/06/04	16/10/08	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		