Quality	**X2CrMoSiS18-2-1**	Free machining **Ferritic Stainless Steel**	*Technical card 2018*
Number	**1.4106 MOD**		*Lucefin Group*

Chemical composition

C% max	Si%	Mn%	P% max	S%	Cr%	Mo%	N% max	AFNOR FD A 35-570: 1996
0,03	1,25-1,50	0,30-0,60	0,040	0,25-0,30	17,5-18,5	1,50-2,00	0,04	

Temperature °C

Melting range	**Pre-heating**	**Hot-forming**	**Recrystallization +RA**
1490-1480	870-815 pause, then ▲	▲ 1150-1050	810-700 cooling to 300, then air
Soft annealing +A	**Quenching +Q**	**Tempering +T**	**Annealing** for magnetic properties
820-750 air	not suitable	not suitable	860-850 protected atmosphere cooling 55 °C/h to 420, then air

MMA **welding –** AWS electrodes

pre-heating *annealing after w.*

not recommended

joint with steel

carbon CrMo alloyed stainless

cosmetic welding

Normally the atmosphere of the furnace for annealing magnetic has a dew point -60 ° C. Curie temperature 660 °C

Chemical treatment ▪ *Passivation* (20 - 50% HNO_3) + (2 - 6% $Na_2Cr_2O_7$ • $2H_2O$) hot or cold.

Mechanical properties

Hot-rolled (ASTM A 582 582M-05 steel XM-34)

size		Testing at room temperature					
mm		**R**	**Rp** 0.2	**A%**	**Kv** +20 °C	**HB** a)	a) for information only
from	to	N/mm²	N/mm² min	min	J min	max	
		-	-	-	-	262	+A annealed material

Thermal expansion	10^{-6} • K^{-1}	►	12.0
Modulus of elasticity b)	longitudinal GPa	225	
Poisson number	*v*	0,27-0,30~	
Electrical resistivity	Ω • mm²/m	0.76	
Electrical conductivity	Siemens•m/mm²	1.31	
Specific heat	J/(Kg•K)	500 ~	
Density	Kg/dm³	7.75	
Thermal conductivity	W/(m•K)	15	
Relative magnetic permeability	μr	1200 ~	
°C		**20**	**100**

The symbol ► indicates temperatures between 20 °C and 100 °C

b) cold deformations result in a lower modulus of elastucity; it may be increased by stress relief heat treatment

Corrosion resistance	Atmospheric		Chemical			**x** environment with acids and chlorides
Fresh water	*industrial*	*marine*	*mild*	*oxidizing*	*reducing*	
x	**x**					

Magnetic	yes
Machinability	high
Hardening	cold-drawn and other cold plastic deformations
Service temperature in air	continuous service up to 850 °C; intermittent service up to 740 °C

Europe EN	**USA** UNS	**USA** ASTM	**China** GB	**Russia** GOST	**Japan** JIS	**India** IS	**Republic of Korea** KS
(X2CrMoSiS18-2-1)							

Solenoid valves cores