



Quality	X2CrMoSi18-2-1	Free machining Ferritic	<i>Technical card 2018</i>
Number	1.4106 MOD	Stainless Steel	<i>Lucefin Group</i>

Chemical composition

C%	Si%	Mn%	P%	S%	Cr%	Mo%	N%	
max			max				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	MMA welding – AWS electrodes
1490-1480	870-815 pause, then ▲	▲ 1150-1050	810-700 cooling to 300, then air	<i>pre-heating</i> <i>annealing after w.</i> not recommended
Soft annealing +A	Quenching +Q	Tempering +T	Annealing	joint with steel
820-750 air	not suitable	not suitable	for magnetic properties 860-850 protected atmosphere cooling 55 °C/h to 420, then air	carbon CrMo alloyed stainless <i>cosmetic welding</i>

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

Chemical treatment ▪ *Passivation* (20 - 50% HNO₃) + (2 - 6% Na₂Cr₂O₇ • 2H₂O) 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/mm ²	N/mm ² 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	ν		0,27-0,30~
Electrical resistivity	Ω • mm ² /m		0.76
Electrical conductivity	Siemens•m/mm ²		1.31
Specific heat	J/(Kg•K)		500 ~
Density	Kg/dm ³		7.75
Thermal conductivity	W/(m•K)		15
Relative magnetic permeability	μ _r		1200 ~
°C		20	100

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

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

Corrosion resistance	Atmospheric		Chemical			x environment with acids and chlorides
	<i>industrial</i>	<i>marine</i>	<i>mild</i>	<i>oxidizing</i>	<i>reducing</i>	
Fresh water						
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	USA	USA	China	Russia	Japan	India	Republic of Korea
EN	UNS	ASTM	GB	GOST	JIS	IS	KS
(X2CrMoSi18-2-1)							

Solenoid valves cores

