Quality	**X6Cr17**	**Ferritic Stainless Steel**
Number	**1.4016**	

GRUPPO LUCEFIN Lovin' Steel

Chemical composition

C% max	**Si%** max	**Mn%** max	**P%** max	**S%** [a] max	**Cr%**	
0,08	1,00	1,00	0,040	0,030	16,0-18,0	EN 10088-1: 2005
± 0.01	+ 0.05	+ 0.03	+ 0.005	± 0.005	± 0.2	

Product deviations are allowed

[a] for improving polishability, it is suggested a controlled sulphur content of max 0,015 %

Temperature °C

Melting range	**Hot-forming**	**Recrystallization +RA**	**Soft annealing +A**
1510-1425	1100-950	810-700 cooling to 300, then air	850-750 air

Isothermal annealing +I	**Quenching +Q**	**Tempering +T**
not suitable	not suitable	not suitable

MMA **welding -** AWS electrodes

pre-heating	*annealing after w.*
200	800-750

joint with steel

carbon	CrMo alloyed	stainless
E60 xx	E8018-B 2	E309 – E308

cosmetic welding
E430

Mechanical properties

Hot-formed EN 10088-3: 2005 in conditions 1C, 1E, 1D, 1X, 1G, 2D

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	
	100	400-630	240	20		200	+A annealed material

Cold-processed EN 10088-3: 2005 in conditions 2H, 2B, 2G, 2P

size		Testing at room temperature					
mm		**R**	**HB**		**R**	**Rp** 0.2	**A**%	**Kv** +20 °C
from	to	N/mm² max	max		N/mm²	N/mm² min	min	J min
	10 [b]				500-750	320	8	
10	16				480-750	300	8	
16	40				400-700	240	15	
40	63				400-700	240	15	
63	100				400-630	240	20	
					+A annealed material			

[b] in the range of 1 mm ≤ d < 5 mm, values are valid only for rounds – the mechanical properties of non round bars of < 5 mm of thickness have to be agreed at the time of request and order

Forged EN 10250-4: 2001

size		Testing at room temperature						
mm		**R**	**Rp** 0.2	**A**%	**C%**	**Kv** +20 °C	**HB**	
from	to	N/mm²	N/mm² min	min	min	J min	max	
	100	400-630	240				200	+A annealed material

Effect of **cold-working** (hot-rolled +RA+C). Approximate values

R	N/mm²	550	620	680	700	720	770	790	820	860
Rp 0.2	N/mm²	320	500	590	620	650	680	700	750	800
A	%	22	11	10	9	9	9	9	9	9
Reduction	**%**	**0**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**75**

Minimum values at high temperatures EN 10088-3: 2005

Rp 0.2	N/mm²	220	215	210	205	200	195	190	+A annealed material
Test at	**°C**	**100**	**150**	**200**	**250**	**300**	**350**	**400**	

X6Cr17 **n° 1.4016** ferritic steel

Thermal expansion	$10^{-6} \cdot K^{-1}$	►	10.0	10.5	10.5	10.5	11.0	12.0
Modulus of elasticity	longitudinal GPa	220	215	210	205	195		
Poisson number	*v*	0.144	0.138					
Electrical resistivity	$\Omega \cdot mm^2/m$	0.60		0.77		0.93	1.05	1.25
Electrical conductivity	$Siemens \cdot m/mm^2$	1.67						
Specific heat	$J/(Kg \cdot K)$	460		495		570	660	760
Density	Kg/dm^3	7.75						
Thermal conductivity	W/(m•K)	25						
Relative magnetic permeability	μr	600-1000 ~						
°C		**20**	**100**	**200**	**300**	**400**	**600**	**800**

The symbol ► indicates between 20 °C and 100 °C, 20 °C and 200 °C .....

Corrosion resistance	Atmospheric		Chemical			**x** phenol, food, detergents, weak organic acids
Fresh water	*industrial*	*marine*	*medium*	*oxidizing*	*reducing*	
x	**x**		**x**	**x**		

Magnetic	yes
Machinability	good
Hardening	cold-drawing and other cold plastic deformations
Service temperature in air	up to 800 °C continuous service and up to 875 °C intermittent service

Europe EN	**USA** UNS	**USA** ASTM	**China** GB	**Russia** GOST	**Japan** JIS	**India** IS	**Republic of Korea** KS
X6Cr17	S43000	**430**	1Cr17	12Ch17	SUS 430	X07Cr17	STS 430

Architectural element