

Désignation	NiCr15Fe	EN 2.4816	UNS (ASTM) N06600	AISI -	LMSA B580
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Chemical composition

Ni	Cr	Fe	Mn	Si	Cu	Al	Ti
72.0 min.	14.0 - 17.0	6.0 - 10.0	1.0 max.	0.50 max.	0.50 max.	0.30 max.	0.30 max.
C	P	S	B	-	-	-	-
0.10 max.	0.020 max.	0.015 max.	0.006 max.	-	-	-	-

Values (Weight %). In order to achieve maximum homogeneity and consistent quality, the actual manufacturing tolerances are tighter and more precise than the composition indicated.

Main technical properties and features

Alloy 600 is a nickel-chromium-iron high temperature alloy combining excellent mechanical strength, high hot and cold workability and high corrosion resistance. The high nickel content provides an excellent resistance to reducing environments (such as many organic and inorganic compounds) and the immunity to chloride stress corrosion cracking. The high chromium content provides an excellent resistance to oxidizing conditions at high temperatures and sulfur compounds. Alloy 600 presents outstanding behaviour in ammonia containing gases as well as in nitrating or carburizing atmospheres. This alloy is not susceptible to precipitation hardening, and the high strength is obtained by cold work. Alloy 600 is nonmagnetic and easily weldable by conventional processes and procedures.

Alloy 600 is used in a wide variety of applications from cryogenic temperatures up to 1050 °C. Alloy 600 is a standard engineering material of choice when high resistance to corrosion and heat is required

Typical uses

Equipment for chemical engineering, in the nuclear energy power plants, high temperature furnace applications and in the electronic industry.

Typical manufacturing range

	Thickness (mm)	Width (mm)	Length (mm)
Rolled products Strip in coils ^[1]	0.010 - 0.500	1.5 - 200.0	-
Strip as sheets ^[1]	0.010 - 0.500	10.0 - 200.0	100 - 3000

^[1] Not all our production possibilities are presented here. Other dimensions or product forms available upon request. Some combinations of thicknesses and widths are not possible.

Mechanical properties of strips

Temper	R _m (N/mm ²)	R _{p0.2} (N/mm ²)	A _{50mm} (%)	Hardness HV
soft	550 - 800	210 - 450	25 - 55	120 - 220
½ hard	750 - 1000	600 - 950	2 min.	210 - 320
hard	950 - 1300	800 - 1250	-	290 - 410
spring	1250 min.	1100 min.	-	370 min.

Physical properties

Modulus of elasticity	kN/mm ²	206
Density	g/cm ³	8.45
Melting point / Melting range	°C	1370 - 1425
Linear dilatation coefficient 20 to 100 °C	10 ⁻⁶ /°C	13.3
Thermal conductivity at 20 °C	W/m °K	14.8
Specific heat at 20 °C	J/(kg. K)	460
Curie temperature	°C	-124
Electrical resistivity at 20 °C	μΩcm	103
Magnetic properties		Nonmagnetic
Magnetic permeability (H=200 Oersted)		1.010 (annealed)

Tolerances (strip and foil)

Thickness	Thickness (mm)		Lamineries MATTHEY			
	≥	<	LMSA Standard	LMSA Precision	LMSA Extreme	
	-	0.025	-	-	± 0.001	
	0.025	0.050	± 0.003	± 0.002	± 0.0015	
	0.050	0.065	± 0.004	± 0.003	± 0.002	
	0.065	0.100	± 0.006	± 0.004	± 0.003	
	0.100	0.125	± 0.008	± 0.006	± 0.003	
	0.125	0.150	± 0.008	± 0.006	± 0.004	
	0.150	0.250	± 0.010	± 0.008	± 0.004	
	0.250	0.300	± 0.012	± 0.008	± 0.005	
	0.300	0.400	± 0.012	± 0.009	± 0.005	
	0.400	0.500	± 0.015	± 0.010	± 0.006	
	0.500	0.600	± 0.020	± 0.012	± 0.007	
	0.600	0.800	± 0.020	± 0.014	± 0.007	
	0.800	1.000	± 0.025	± 0.015	± 0.009	
	1.000	1.200	± 0.025	± 0.018	± 0.012	
	1.200	1.250	± 0.030	± 0.020	± 0.012	
	1.250	1.500	± 0.035	± 0.025	± 0.014	
The table shown is an outline of our typical thickness tolerances available. They are tighter than industry standards.						
Our "LMSA Precision" and "LMSA Extreme" tolerances are available upon request.						
Width	Our width tolerances "Standard" is +0.2, -0.0 (or ± 0.1 mm upon request). They are available for slit widths < 125 mm and thicknesses < 1.00 mm. Special tolerances upon request.					
Camber	Width (mm)		Camber max. (mm/m)			
	>	≤	LMSA standard ≤ 0.5 mm	LMSA standard > 0.5 mm	LMSA extreme ≤ 0.5 mm	LMSA extreme > 0.5 mm
	3	6	12	-	6	-
	6	10	8	10	4	5
	10	20	4	6	2	3
	20	250	2	3	1	1.5
Our tolerance "LMSA Standard" respects the EN Standard 1654 (Length of measurement 1000 mm). Other tolerances upon request.						
Surface	Special surface qualities upon request					
Flatness	Special requirement on the longitudinal or transversal flatness upon request					

Les indications dans ce document sont à titre d'information uniquement. Elles ne constituent en aucun cas un engagement contractuel de notre part.