

Alloy 80/20 (NiCr 80 20)

Material Designation

N06003 UNS
Alloy 80/20
2.4869 DIN

Standards

ASTM B344
DIN 17470
DIN 17742

Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Ni	Cu	Fe	Al
min.	-	0,75	-	-	-	19,0	75,0	-	-	-
max.	0,15	1,75	1,00	0,020	0,010	21,0	Balance	0,50	1,0	0,30

Customer specific restrictions upon request

Properties

Alloy 80/20 is an austenitic, high-temperature resistant Ni-Cr alloy. It is resistant to oxidation and shows almost constant electrical properties within the entire application temperature range.

Delivery Condition

- ✖ annealed (+A)
- ✖ bright drawn

Supply Form

Wire (on spool up to 3mm, coils, casks)
Bright bars

Application Area

Heating elements for industrial and domestic applications and furnace components with service temperature up to 2192 °F.¹

Typical Applications

- ✖ High-power cartridge-type heaters
- ✖ Heating for plastic mould dies
- ✖ Soldering irons
- ✖ Wire mesh conveyor belts
- ✖ Control resistors
- ✖ Wire-wound resistors

Mechanical Properties room temperature

Dimension [mm]	Tensile strength		Elongation
	[ksi]	[N/mm ²]	[%]
0,063 - 2,00	≥ 94	≥ 650	≥ 20
> 2,00	≥ 94	≥ 650	≥ 25

Physical Properties acc. to DIN 17470

Temperature [°F]	68	392	752	1112	1472	1832	2192
Electrical resistivity [Ω·mm ² /m]	1,12	1,13	1,15	1,15	1,14	1,15	1,17
Thermal conductivity [W/m·K]	15,0						
Specific heat capacity [kJ/kg·K]	0,42					0,50	
Melting temperature [°F]	2552						
Density [g/cm ³]	8,3						
Temperature [°F]	68-392	68-1472	68-1832				
Thermal expansion coeff. x [10 ⁻⁶ /K]	15	16	17				

¹Temperature valid for wire > 2 mm in air.

Quality

- ISO 9001
- ISO 14001
- ISO 50001
- Approvals acc. to standards like ABS, BV, DNV ...
- Customer specific approval certificates

Innovation

- Fully automated ultrasonic testing up to dia. 37.4"
- CO₂-reduction by innovative heat treatment solutions

Flexibility

- Product range from fine wire to forging
- Directly from stock close at hand

Individuality

- Dimensions
- Tolerances
- Surface qualities
- Delivery conditions

Your personal contact:

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