

NiCr 80/20 – Resistance Alloy

UNS N06003

Werkstoff – Nr. 2.4869

Common trade names: NiCr 80/20, Ni80Cr20, Chromel A, N8, Nikrothal 80, Resistohm 80, Cronix 80, Nichrome V, HAI-NiCr 80, X20H80.

NiCr 80/20 is an nickel-chromium alloy for use at temperatures up to 1200 °C. Heat resistant alloy applied in oxidizing atmospheres such as nitrogen, ammonia, unstable atmospheres containing sulfur and sulfur compounds. NiCr 80/20 has higher heat-resisting characteristic than Iron-aluminum alloys.

Chemical Composition:

NiCr 80/20	C	Mn	Si	Cr	Cu	Fe	Ni
Min	–	–	0.5	19.0	–	–	75.0
Max	0.15	1.0	2.0	21.0	0.50	1.0	–

Physical properties:

Density g/cm ³	8.3
Electrical resistivity at 20 °C Ω mm ² /m	1.08 (1.12) *
Melting point °C	1400
Max continuous operating temperature in air °C	1200
Magnetic properties	non-magnetic

* Electrical resistivity 1.08 Ω mm²/m corresponds to an Oxidized Annealed condition
 Electrical resistivity 1.12 Ω mm²/m corresponds to a Bright Annealed condition

Mechanical properties:

Wire size, mm	Tensile strength Rm, MPa	Elongation, A %
Ø 1.0 – 10.0	Min 650	25 – 45
Ø 0.2 – 1.0	Min 650	18 – 45

Specification:

Product	Standard	Size, mm
Bar	DIN 17470 / 17471	Ø 2.0 – Ø 60.0
Strip	DIN 17470 / 17471	Thickness 2.5 – 5.0
Wire & Rod	DIN 17470 / 17471	Ø 0.2 – Ø 12.0

Supply conditions:

- Hot Finished and Cold Drawn
- Annealed, Bright Annealed and Oxidized Annealed
- Peeled and Turned

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