

Nickel Alloy

R2449

NiCr19Fe19Nb5Mo3

Consumable electrode remelted version

SPECIFICATIONS

European standard:

- NiCr19Fe19Nb5Mo3
- W.Nr 2.4668

DIN : NiCr19NbMo

JIS : NCF 718

COMPOSITION

Carbon.....	0.10
Chromium.....	19.00
Iron.....	19.00
Niobium.....	5.20
Molybdenum.....	3.00
Nickel.....	Base

TYPICAL MECHANICAL PROPERTIES

• Metal delivered in the heat treated condition:

- UTS: 1350 N/mm²
- 0.2 % Yield strength: 1100 N/mm²
- Elongation (5d): 20 %

• Rapid tensile test at temperature:

Temperature in °C	UTS in (N/mm ²)	0.2 % Yield strength in (N/mm ²)	Elongation (5d) in %
600	1200	1000	25
650	1150	980	27
700	1050	950	30

• Creep:

Temperature in °C	Average load in N/mm ² causing creep fracture in 1000 hrs
600	760
650	540
700	350

APPLICATIONS

Superalloy for:

- Drop-stamping tools.
- Wire drawing dies for heavy metals.
- Hot shear blades.

CHARACTERISTICS

Precipitation hardening nickel base superalloy:

- Very good oxidation resistance.
- Excellent mechanical properties up to 700°C.

HEAT TREATMENT

- Delivered in the heat treated condition.
- Other conditions of supply on request.

PHYSICAL PROPERTIES

- Density: 8.2
- Mean coefficient of expansion in $m/m.^{\circ}C$:
 - between 20°C and 200°C: 13.5×10^{-6}
 - between 20°C and 400°C: 14.2×10^{-6}
 - between 20°C and 600°C: 14.9×10^{-6}
- Modulus of elasticity in N/mm^2 :
 - at 20°C: 199×10^3
- Thermal conductivity in $W.m/m^2.^{\circ}C$:
 - at 20°C: 11
 - at 200°C: 14
 - at 400°C: 17
 - at 600°C: 21
- Specific heat in $J/g.^{\circ}C$:
 - at 20°C: 0.43
 - at 200°C: 0.48
 - at 400°C: 0.52
 - at 600°C: 0.57

FORGING

- 1150/900°C

Contact:

www.aubertduval.com

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