

MICRON ALLOY CASTINGS LTD

TECHNICAL DATA - Special Alloys

NICKEL ALLOY: T36

Description

T36 is a 36% Nickel Alloy which possesses a rate of thermal expansion approximately one-tenth that of carbon steel at temperatures up to more than 200°C

Heat Treatment

Castings in T36 alloy are normally supplied in the as-cast or annealed condition.

Applications

Bimetallic thermostats mould tooling for carbon-fibre composites.

Design Considerations

Section thicknesses from 8 mm up can be cast satisfactorily in T36. Designs with drastic changes in section should be avoided and uniform thickness maintained whenever possible.

Summary of Properties

Nominal Chemical Composition %

C	Mn	Si	P	S	Ni	Fe
0.03	0.35	0.35	0.02	0.02	36.0	Balance

Mechanical Properties at room temperature

UTS	450 N/mm ²
Yield	275 N/mm ²
Elongation	35%
Hardness	180 BHN

Physical Properties

Specific Gravity (g/cc)	8.05
Density (Kg/cm ³)	0.0079
Melting Point (°C)	1420
Specific Heat (cals./gm./°C)	0.11
Electrical Resistivity (microhms/cm ³)	105
Magnetic Permeability	2.0μ
Thermal Conductivity (W/m-K)	10.15

Mean Coefficient of Linear Expansion

(cm/cm/°C x 10⁻⁶)

93°C	1.30
149°C	2.11
260°C	4.18
371°C	7.60

Properties listed are typical of published laboratory tests and are intended as a guide only. This data should not be considered as guaranteed maximums or minimums. Materials should be tested under actual service conditions to determine their suitability for particular applications.