

Steel

RA50YW

80MoCrV42-16

Melting: Vacuum induction melted and consumable electrode remelted steel

SPECIFICATIONS

80MoCrV42-16
UNS : T11350
WL : 1.3551
AIR : E 80DCV40
Aisi : M50

COMPOSITION

Carbon.....	0.83
Molybdenum.....	4.25
Chromium.....	4.15
Vanadium.....	1.00

TYPICAL MECHANICAL PROPERTIES

HEAT TREATMENT REFERENCE

- Gas pressure quench (5 bars) from 1100°C. Triple temper at 550°C.
 - HRC: 60 /63

APPLICATIONS

RA50YW is used mainly in the manufacture of highly stressed aerospace bearings which could attain temperatures up to 300°C and which require good fatigue resistance.

CHARACTERISTICS

- Vacuum melted and consumable electrode remelted steel.
- High level of hardness at ambient temperature.
- Good temper resistance up to 500°C.
- Good resistance to compression.
- High level of fatigue resistance.

HEAT TREATMENT

- Harden:
 - 1st preheat at 550°C.
 - 2nd preheat at 750°C.
 - Heat to 1100°C.
 - Oil or gas pressure quench
- Temper:
 - Double or triple temper in the region of 550°C.

PHYSICAL PROPERTIES

- Density: 7.8
- Mean coefficient of expansion in m/m. °C:
 - between 20°C and 200°C : 11.8×10^{-6}
 - between 20°C and 400°C : 12.7×10^{-6}
 - between 20°C and 600°C : 13.5×10^{-6}
 - between 20°C and 800°C : 13.9×10^{-6}
- Critical points:
 - Ac 1: 800°C
 - Ac 3: 840°C

FORGING

- 1100/900°C

Contact :

www.aubertduval.com

The data provided in this document represent typical or average values rather than maximum or minimum guaranteed values. The applications indicated for the grades described are given as guidance only in order to help the reader in his personal assessment. Please note that these do not constitute a guarantee whether implicit or explicit as to whether the grade selected is suited to specific requirements. Aubert & Duval's liability shall not under any circumstances extend to product selection or to the consequences of that selection.