![Xometry]

Data Sheet

Steel 1.2842 / 90MnCrV8

Alternative Designations

90MnV8 (AFNOR) | B02 (BS) | 90MnVCr8KU (UNI)

Key Features

Tough • High machinability • Wear resistant • Non-magnetic

Description

Steel 1.2842 / 90MnCrV8 is a high carbon chromium alloy steel with molybdenum and vanadium. It is used for making cutting tools and measuring implements. The material is also suitable for cold forming operations such as bending, stamping and drawing. The material has good toughness and wear resistance. It also has good machinability and is non-magnetic. The steel can be heat treated to achieve high hardness.

Mechanical Properties

Yield strength	739 MPa
Tensile strength	914 MPa
Elongation at break	14%
Hardness	334
Module of elasticity	386 GPa

Physical Properties

Density	243 kg/dm³
Electrical conductivity	4.34 m/Ω · mm²
Coefficient of thermal expansion	41 K-1 · 10-6
Thermal conductivity	21.2 – 33.3 W/m · K
Specific heat capacity	441 J/kg · K

Chemical Composition

Al	-	N	-
Bi	-	Nb	-
C	0.85 – 0.95%	Ni	-
Cd	-	O	-
Co	-	P	0.03%
Cr	0.20 – 0.50%	Pb	-
Cu	-	S	-
Fe	-	Si	0.10 – 0.40%
H	-	Sn	-
Mg	-	Ti	-
Mn	1.8 – 2.2%	V	0.05 – 0.15%
Mo	-	Zn	-

Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit Materialdatacenter.com for further information on this material.