meusburger

MATERIAL NO.: 1.2842

DESIGNATION ACCORDING TO:

DIN:	90 MnCrV 8
AFNOR:	90 MV 8
UNI:	90 MnVCr 8 KU
AISI:	≈ O2

TECHNICAL TIP:

» Steel grade 1.2510 is an adequate alternative with regards to its properties, machinability and dimensional stability after heat treatment.

TYPCIAL ANALYSIS:

C	0.90
Si	0.20
Mn	2.00
Cr	0.40
V	0.10

HARDNESS: max. 230 HB (≈ max. 780 N/mm²)

THERMAL CONDUCTIVITY AT 100 °C: 33 $\frac{W}{m\,K}$

COEFFICIENT OF THERMAL EXPANSION [10^{-6}/K]

100 °C	200 °C	300 °C	400 °C	500 °C	600 °C	700 °C
12.2	13.2	13.8	14.3			

CHARACTER:

» **Steel for through-hardening** with good machinability and high wear resistance; low warping and high dimensional stability; with high toughness and through hardenability (uniform hardness for cross sections up to 40 mm)

APPLICATION:

» Cavity plates and inserts exposed to abrasive stress; cutting punches; wear plates, cutting dies and guiding plates; pressure pads and guiding rails

MACHINING:

» Polishing, etching, nitriding:
not usual - use 1.2379 instead

» EDM, hard chrome plating:
is possible

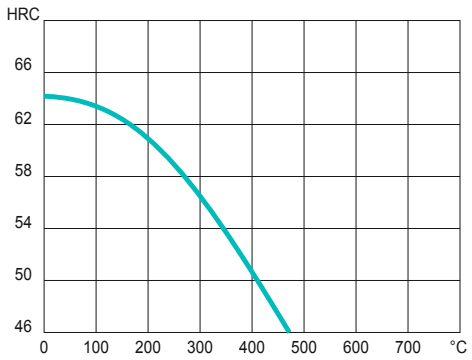
HEAT TREATMENT:

» Soft annealing:
680 to 720 °C for about 2 to 5 hours
slow controlled cooling inside the furnace: 10 to 20 °C per hour to about 600 °C; further cooling in air, **max. 220 HB**

» Hardening:
790 to 820 °C
quenching in oil/hot bath (200 to 250 °C)
obtainable hardness: 63–65 HRC

» Tempering:
slow heating (to avoid forming of cracks) to tempering temperature immediately after hardening; double tempering with intermediate cooling down to 20 °C increases the steel's toughness max. obtainable hardness after tempering: **58–60 HRC**

TEMPERING GRAPH:



Meusburger Georg GmbH & Co KG | Kesselstr. 42 | 6960 Wolfurt | Austria
T +43 5574 6706-0 | sales@meusburger.com | www.meusburger.com