meusburger

MATERIAL NO.: 1.2343 / 1.2343 ESR*

DESIGNATION:

DIN:	*X 37 CrMoV 5-1*
AFNOR:	*Z 38 CDV 5*
UNI:	*X 37 CrMoV 5-1 KU*
AISI:	*H11 / H11 ESR*

INDICATORY ANALYSIS:

C	*0.38*
Si	*1.00*
Mn	*0.40*
S	*0.03 (ESR 0.002)*
Cr	*5.30*
Mo	*1.20*
V	*0.40*

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

THERMAL CONDUCTIVITY AT 200 °C:
27 $\frac{W}{m\,K}$

TECHNICAL TIP:

» *Susceptible to corrosion: during maching, continuous corrosion protection has to be ensured (especially during wire EDM)*
» ***1.2343 ESR** is highly suitable for mirror polishing*

COEFFICIENT OF THERMAL EXPANSION [10-6/K]

100° C	200 °C	300 °C	400 °C	500 °C	600 °C	700 °C
10.9	11.4	12.0	12.6	12.9	13.1	13.2

CHARACTER:
» *High-alloy **hot-work steel** with high toughness and heat resistance, hot cracks resistance and good thermal conductivity; for very high requirements available in grade *ESR (Electro-Slag Remelted)*

APPLICATION:
» *Cavity plates and inserts for plastic injection moulds; *ESR for die casting applications (Al, Mg, Zn)*

TREATMENT BY:
» *Polishing: highly suitable*
» *Etching: very easily feasible (graining)*
» *EDM: in the hardened and tempered condition, treat again for stress relief about 20 °C below the last tempering temperature*
» *Nitriding: increases the wear resistance and prevents the bonding of casting material*

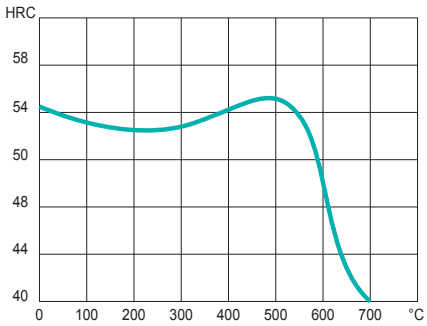
HEAT TREATMENT:
» *Soft annealing: 750 to 800 °C for about 4 to 5 hours; slow controlled cooling inside the furnace: 10 to 20 °C per hour to about 600 °C; further cooling in air, **max. 205 HB***
» *Nitriding: before nitriding, stress-relieving heat treatment at 550 °C (Meusburger standard) is recommended.*
» *Hardening: 1000 to 1040 °C; keeping curing temperature for 15 to 30 minutes; cooling in oil/air/compressed gas/hot bath; obtainable hardness: **50-56 HRC***
» *Tempering: slow heating to tempering temperature immediately after hardening; minimum time in furnace: 1 hour per 20 mm part thickness; repeated tempering is recommended*

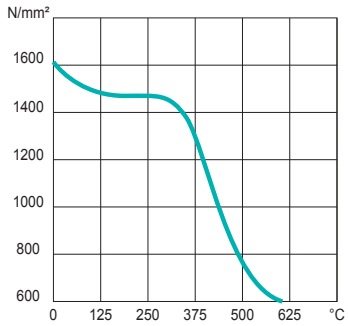
Meusburger Georg GmbH & Co KG | Kesselstr. 42 | 6960 Wolfurt | Austria
T +43 5574 6706 - 0 | sales@meusburger.com | www.meusburger.com

meusburger

TEMPERING CHART:

HIGH TEMPERATURE STRENGTH CHART:





ESR) Electro-Slag Remelted*

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