

M42 – 1.3247 – High Speed Steel

Data Sheet - Tooling Alloys

ZAPP

Zapp is certified to ISO 9001



Key Features of Zapp`s High Speed Steel M42 – 1.3247:

- HSS 2 – 9 – 1 – 8
- Cobalt alloyed high speed steels
- High thermal stability and high wear resistance
- Case hardness up to 68 HRC possible

Typical Areas of Application

- Cutting Tools

Physical properties

Modulus of elasticity E [GPa]	220
Density [kg/dm³]	8,0
Thermal expansion coefficient [mm/(mm/K)] in a temperature range up to 400 °C	11,6 x 10 ⁻⁶

Delivery condition

As-delivered condition	Soft-annealed, approx. 280 HB
Product form	Round bars, flat bars
Surface finish	Mechanically machined

Heat Treatment

Soft Annealing

- In neutral atmosphere at ~ 830 °C and ~ 4 h exposure time (after through-heating)
- Followed by furnace cooling
- Soft annealing hardness ~ 280 HB

Stress Relief Annealing

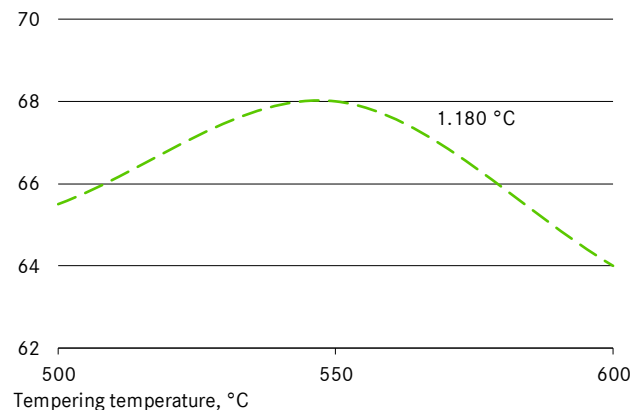
~ 650 °C/~ 2 h exposure time (after through-heating)
followed by furnace cooling

Typical chemical composition (weight-%)

C	Cr	Mo	W	V	Co
1,1	3,9	9,4	1,5	1,1	7,8

Tempering diagram

Hardness, HRC



You can find more materials at:

www.zapp.com/en-uk/materials/powder-metallurgical-tool-steel

Zapp Precision Metals GmbH ensures professional execution of all heat treatment steps as well as their preparation and post-processing (e.g., charging, hardness testing, straightening processes, etc.) – always with the aim of obtaining the optimum component properties!

We are happy to assist you with constructive advice!

TOOLING ALLOYS

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Further information regarding our products and locations are available in our image brochure and on our homepage at www.zapp.com

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