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BS4659 BM42 High Speed Steel

BS4659 BM42 high speed steel stockholders and suppliers, delivering to the whole of the UK. BM42 is supplied in round bar. A cobalt molybdenum high speed steel BM42 achieves a high hardness up to 70 HRc and superior hot hardness. BM42 offers outstanding cutting performance and excellent wear resistance

We welcome export enquiries for BS 4659 BM42 high speed steel. Contact our sales office and consult our shipping policy for further details.

Related Specifications

ASTM A681 DIN 17350 BS EN ISO 4957

Alternative BS4659 tool steel grades we supply

BO1 | BD2 | BD3 | BO2 | BA2 | BS1 | BH13 | BP20 | BP30| BM2 | BM35

Form of Supply

BM42 is supplied in round bar. Diameters can be sawn to your required sizes as one offs or multiple cut pieces. Ground high speed steel bar can be supplied, providing a high quality high speed steel precision ground bar to close tolerances.

- Flat
- Diameter

BM42 Tool Bits

High speed steel tool bits are supplied in flats, squares and rounds in grade BM42. Commonly supplied in standards sizes though non standard metric and imperial sizes can be produced within a few weeks subject to the availability of suitable raw material.

Typical Analysis

Carbon	1.05%	Silicon	0.35%
Tungsten	1.50%	Chromium	3.75%
Vanadium	1.15%	Molybdenum	9.50%
Cobalt	8.00%		

Forging

Pre heat the steel slowly and uniformly to 650-760°C. Then increase more quickly to the forging temperature of 1010-1150°C and. Do not allow the forging temperature to drop below 980°C, if this occurs re heating will be necessary. Always cool the high speed steel very slowly after forging.

Annealing

Heat the steel to 870-900°C at a rate of no more than 220°C per hour. Always hold at temperature for one hour per 25mm of thickness, with two hours being minimum. Cool slowly in the furnace.

Stress Relieving

Tools produced from BM42 high speed steel which are heavily machined or ground it is recommended to stress relieve after machining to minimise the possibility of distortion in hardening. Heat the BM42 component to 600-650°C and soak well for approximately two hours. Furnace cool. The tools can be finish machined before heat treatment.

Hardening

Pre heat the steel thoroughly to 820-870°C then transfer to the high temperature salt bath or furnace. The exact hardening temperature to use for BM42 high speed steel will depend on the type of work being treated. In general components should be hardened from the range of 1160-1180°C in salt, or 1180-1200°C in atmosphere or vacuum furnaces. After a short hold at the hardening temperature, quench the component without further soaking into salt at 500-560°C or warm oil followed by cooling in air.

Tempering

Temper at a suitable tempering temperature between 520-540°C. For BM42 triple tempering is recommended with a minimum of two hours at temperature. The steel should be cooled in still air to room temperature between tempering.

Heat Treatment

Heat treatment temperatures, including rate of heating, cooling and soaking times will vary due to factors such as the shape and size of each BM42 steel component. Other considerations during the heat treatment process include the type of furnace, quenching medium and work piece transfer facilities. Please consult your heat treatment provider for full guidance on heat treatment of BS4659 high speed steels.

Final Grinding

Select the correct grade of wheel in consultation with the grinding wheel manufacturer. Ensure the grinding wheel is in good condition by means of a suitable dressing tool. Wet grinding is a preferable option using a copious supply of coolant. If dry grinding is resorted to then use a very soft wheel.

Quality Assured Supply

BS4659 BM42 high speed steel is supplied in accordance with our ISO 9001:2015 registration.