

CCZ

H10A

HOT WORK TOOL STEEL

Nominal Chemical  
Analysis %

C	.35
Cr	2.90
Mo	2.75
V	.50
Co	2.90

Corresponding  
Specifications

BS4659 BH10A

WKSTOFF 1.2885

Colour Code: Brown/Green

## Delivery Condition

Annealed 250 BHN Max

## Characteristics

H10A is a highly alloyed hot work tool steel giving good hot tensile strength and resistance to softening at high temperature. It is able to withstand moderate water cooling in service.

## Applications

H10A is suitable for hot work applications including brass pressing dies, pressure die casting dies, heading tools, metal extrusion tools, drop stamping dies, nut and bolt forming tools and extrusion mandrels for non-ferrous materials.

Heat Treatment**Annealing**

850 / 870°C for 4 hours approx.

Cool slowly in the furnace at 20°C maximum per hour.

**Stress Relieving**

600 / 650°C for 2 hours approx.

Cool in still air. Always stress relieve before hardening.

**Hardening****Pre-Heating**

(i) 400°C Holding time at temperature:

1 min / mm effective section approx.

(ii) 650°C Holding time at temperature:

30 sec / mm effective section approx.

(iii) 850°C Holding time at temperature:

30 sec / mm effective section approx.

**Austenitizing**

1000 / 1050°C Holding time at temperature:

30 sec / mm effective section approx.

H10A is suitable for Vacuum Hardening

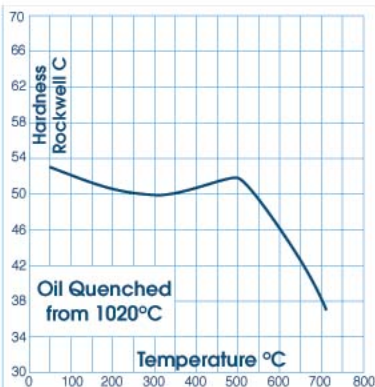
**Quenching:-**

(i) Quench in Oil or,

(ii) Quench in Air or,

(iii) Quench into Neutral Salts (Martempering) at 500 / 550°C then cool slowly in still air.

Temper immediately after quenching whilst tools are still hand warm.

**Tempering**

Consult the tempering diagram and temper according to requirements.

Temper for 1 hour / 25mm effective section for a minimum of 2 hours then cool in still air.

For guidance, temper at:

500 / 530°C for maximum wear resistance,

550 / 600°C for hardness with wear resistance.

Triple tempering is recommended, cooling to room temperature between tempers.

NB. Lower hardness values will tend to result when hardening larger sections.