

20 PLUS HS

2312

PLASTIC MOULD STEEL

Nominal Chemical
Analysis %

C	.40
Mn	1.50
Cr	2.00
Mo	.20
S	.10

Heat Treatment

Annealing

720 / 750°C for 4 hours approx.
Cool slowly in the furnace at 20°C maximum per hour.

Stress Relieving

580 / 600°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.

Austenitizing

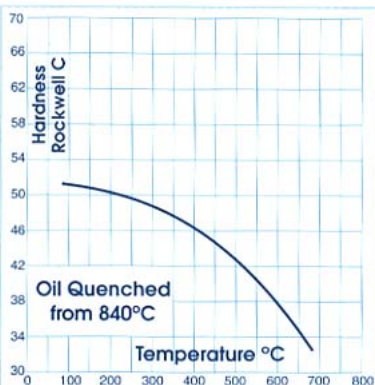
830 / 870°C Holding time at temperature:
1 min / mm effective section approx.

Quenching:-

- (i) Quench in Oil or
- (ii) Quench into Neutral Salts (Martempering) at 180 / 220°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 / 600°C for most applications.

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

Corresponding Specifications

WKSTOFF 1.2312

Colour Code: Yellow / Silver

Delivery Condition

Hardened and tempered to 280 - 325 BHN. (1000 Nmm²).

Characteristics

2312 is a hardened and tempered mould steel supplied at 280 - 325 BHN. (1000 Nmm²). The higher sulphur content gives excellent machinability whilst retaining good toughness.

Applications

2312 is suitable for bolsters for mould tools and die casting dies where further heat treatment and consequent risk of distortion is to be avoided. It is also suitable for plastic moulds which do not require texturing. If a higher hardness is required the tools should first be annealed and then the following details observed.