6542 M2 HIGH SPEED STEEL

Nominal Chemical Analysis %	
C	.85
Cr	4.00
V	2.00
Mo	5.00
W	6.25

Corresponding Specifications	
AISI	M2
BS EN ISO 4957:2000	HS6-5-2C
Supersedes BS4659	BM2
WKSTOFF	1.3343

Colour Code: Silver/Green

Delivery Condition
Annealed 248 BHN Max

Characteristics
M2 is a general purpose high speed steel giving good toughness, wear resistance, red hardness and high compressive strength.

Applications
M2 is suitable for drills, countersinks, woodworking tools, punches and dies, circular cutters, lathe tools and broaches. It is also suitable for press tools, blanking and cold extrusion tools.

Heat Treatment

Annealing
850 / 870°C for 4 hours approx.
Cool slowly in the furnace at 20°C maximum per hour.

Stress Relieving
675 / 725°C for 2 hours approx.
Cool in still air. Always stress relieve before hardening.

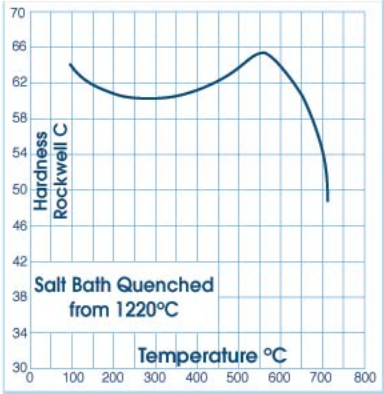
Hardening
Pre-Heating
(i) 400°C Holding time at temperature:
1 min / mm effective section approx.
(ii) 850°C Holding time at temperature:
30 sec / mm effective section approx.
(iii) 1050°C Holding time at temperature:
30 sec / mm effective section approx.

Austenitizing
1200 / 1230°C Holding time at temperature:
10 sec / mm effective section approx.
M2 is suitable for Vacuum Hardening.

Quenching:-
(i) Quench in Oil or,
(ii) Quench into Neutral Salts (Martempering) at 520 / 540°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:

540 / 560°C for maximum hardness,

580 / 600°C for hardness with toughness.

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

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