

420 PLUS**2083****PLASTIC MOULD STEEL**Nominal Chemical
Analysis %

C	.42
Cr	13.00

Corresponding Specifications

AISI 420

BS EN ISO 4957:2000
X40Cr14

WKSTOFF 1.2083

Colour Code:Pink/Purple
Purple/Green (ESR)**Delivery Condition**

Annealed 250 BHN Max

Characteristics

2083 is a high chromium mould steel giving excellent corrosion resistance and good polishability. It has low distortion in hardening, good machinability and is suitable for texturing.

Most sizes are available as Electroslag Remelted (ESR). This material exhibits a finer structure with the highest level of homogeneity.

Applications

2083 is suitable for tools for moulding corrosive plastics. Its excellent polishability makes ESR 2083 particularly suitable for lens moulds and packaging moulds where extra fine surface finish is required.

Heat Treatment**Annealing**

760 / 800°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

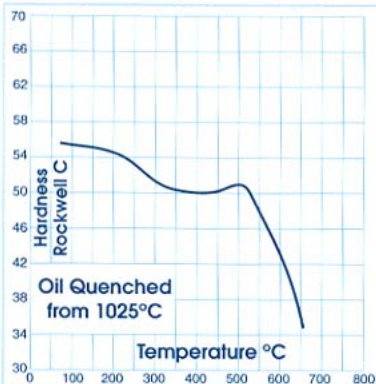
1000/1050°C Holding time at temperature:
90 sec / mm effective section approx.

420+ is suitable for Vacuum Hardening.

Quenching:-

- (i) Quench in Oil or
- (ii) Quench in Air Blast
- (iii) Quench into Neutral Salts (Martempering) at 500 / 525°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:

150 / 250°C for most applications.

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

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