

**XC16****2316****PLASTIC MOULD STEEL****Nominal Chemical Analysis %**

C	.38
Cr	16.00
Mo	1.20

**Corresponding Specifications****BS EN ISO 4957:2000****X38CrMo16****WKSTOFF 1.2316****Colour Code:**

Silver/Black (annealed)  
Silver/Orange (heat treated)

**Delivery Condition**

Hardened and tempered 280 - 325 BHN.

**Characteristics**

2316 is a pre-hardened high chromium plastic mould steel giving high corrosion resistance, toughness, wear resistance and very good polishability. 2316 is suitable for texturing. Best results are generally obtained in the "as delivered" condition. For other properties anneal and then observe the following heat treatment instructions.

**Applications**

2316 is suitable for moulds and inserts for moulding chemically corrosive plastics and generally for moulds where resistance from water attack is necessary. Other uses include plastic extrusion tooling.

**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.

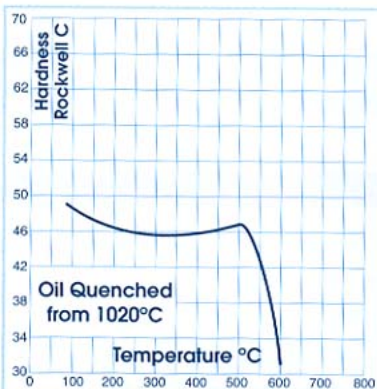
**Austenitizing**

1000/1040°C Holding time at temperature:  
1 min / mm effective section approx.  
2316 is suitable for Vacuum Hardening.

**Quenching:-**

- (i) Quench in Oil.
- (ii) 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:

150 / 220°C for maximum hardness

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

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