**DIN - Material - No.** 1.2312  
**Code** 40CrMnMoS8-6  
**Comparable standards** AISI: P-20, EU: 55NiCrMoV7  

**Chemical composition**  
<table>
<thead>
<tr>
<th>C</th>
<th>Mn</th>
<th>S</th>
<th>Cr</th>
<th>Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.40</td>
<td>1.50</td>
<td>0.075</td>
<td>1.90</td>
<td>0.20</td>
</tr>
</tbody>
</table>

**Steel properties**  
Plastic Mould steel generally supplied hardened and tempered (280 - 325 BHN) to 880-1080 N/mm². Provides good machinability in comparison to UTOPNEX (1.2311). Possibility of nitriding. Polishable.

**Physical properties**  
- Thermal conductivity W/(m.K) 20°C: 33 W/(m.K)
- Density g/cm³ 20°C: 7.83 g/cm³

**Applications**  
Large & medium size moulds for plastics processing, mould frames for the injection moulding and pressure die casting.

**Stress Relieving**  
Holding at approx 650°C for one - two hours.

**Heat treatment**  
- Soft annealing C: 710 - 740°C
- Cooling: furnace
- Hardness HB: max 230
- Hardening from: 830 - 840°C
- Cooling: oil, air, thermal bath 180 - 220°C
- Hardness after quenching HRC: 51 HRC (1730 N/MM²)

**Tempering Diagram**  
Time - Temperature - Transformation - Diagram

**Tempering Diagram**  
Tempering Temperature in °C, Time 1.5 h

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Usbcdo Steels Pvt Ltd