Characteristics
DRM1 is an entirely new Matrix type high speed tool steel specifically designed for hot and warm forging operations. High toughness compared with conventional hot work grades.

- Good hardness at 58 HRc.
- Excellent resistance to heat checking.
- High softening resistance and hot hardness.
- Double melting ensures great cleanliness and very low inclusion levels.

Toughness
DRM1 is significantly tougher in both the longitudinal and transverse directions.

Resistance to Softening
All tool steels temper back to a greater or lesser extent as they are exposed to high temperatures but DRM1 has a considerably greater resistance to softening than other hot work tool steels.

Typical Applications
- Hot forging dies and punches.
- Warm forging dies and punches.

Stock
CARRS DRM1 is stocked in a range of diameters and plate and cut to customers requirements

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READYMILLED.COM
Rectangular sections from 25mm³ up to 430 X 430 X 150mm can be delivered fine milled on all six faces to -0+0.1mm and with squareness guaranteed to 0.1mm/m.
HEAT TREATMENT

Hardening Vacuum Furnace

Raise temperature to 950°C and hold for 30 minutes then raise to 1,120 – 1,140°C and hold for 30 to 90 minutes depending on the maximum section. Gas quench with a minimum of 6 bar. It is important to maintain a high quench rate below 500°C to ensure high toughness to suppress lower Bainitic transformation.

Tempering

Double tempering is essential for optimum properties. The final tempering temperature should be selected with the following characteristics in mind.

<table>
<thead>
<tr>
<th>Temperature (°C)</th>
<th>Hardness HRC</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>600</td>
<td>56</td>
<td>Maximum toughness</td>
</tr>
<tr>
<td>580</td>
<td>57</td>
<td>Good toughness and wear resistance</td>
</tr>
<tr>
<td>550</td>
<td>58</td>
<td>Maximum wear resistance</td>
</tr>
</tbody>
</table>