PROPERTIES AND USES

CrMo-alloyed hot-work steel with good high-temperature strength properties and high toughness at elevated temperatures. Being resistant to temperature shocks and easy to harden throughout, RDC 2 is particularly useful in extrusion tools for processing light alloys, such as liners, dies, mandrels, pressure discs, stems, headers, centering and shearing mandrels; also for the casting dies, cores and ejectors, slides, plungers, counter-plungers, nozzles, die inserts, sprues, spreaders for processing light alloys as well as for die forging dies, die inserts, punches and mandrels in forging machines, dies and punches for making bolts, nuts and rivets. RDC 2 is water-coolable. The steel could also be used for the construction of plastic molds.

RDC 2 (Multibloc HQ) produced by ESR (Electro-Slag Remelting) and our specialized forging and heat-treatment technology Micro 900 / BG shows a supreme toughness and extremely homogeneous mechanical and physical properties. Furthermore, a particularly high cleanliness ensures an excellent polishability.

HOT WORKING AND HEAT TREATMENT

Forging 1150–850 ºC (2100–1560 ºF)
Soft annealing 800–820 ºC (1470–1510 ºF) 4 hrs/furnace cooling
Brinell Hardness in the annealed condition Max. 225 HB
Stress relieving 650 ºC (1200 ºF)
Preheating for hardening 850 ºC (1560 ºF)
Hardening temperature 980–1020 ºC (1800–1870 ºF)
Quenching Oil, air or salt bath of 450–500 ºC (840–930 ºF)
Tempering According to tempering curve
Time 1 hr/25 mm (1 hr/in.)

CONTINUOUS TTT CURVE

TEMPERING CURVE (APPROX. VALUES)

<table>
<thead>
<tr>
<th>Temperating temperature in ºC (time 1 hr, air cooling)</th>
<th>Rockwell Hardness C</th>
</tr>
</thead>
<tbody>
<tr>
<td>800</td>
<td>30</td>
</tr>
<tr>
<td>1000</td>
<td>40</td>
</tr>
<tr>
<td>1200</td>
<td>50</td>
</tr>
</tbody>
</table>

Quenched from 1010 ºC / 1850 ºF in-oil
Average values obtained on Ø 25 x 50 mm long samples