

## Bohler-Uddeholm O1 Cold Work Tool Steel

Category : Metal , Ferrous Metal , Alloy Steel , Tool Steel , Cold Work Steel

### Material Notes:

Manganese-chromium-tungsten alloyed steel A general purpose oil hardening tool steel suitable for back up and punch holder plates.

Features of this grade include a good combination of high surface hardness and toughness after hardening and tempering. AISI O1 is characterized by: Good machinability Good dimensional stability in hardening A good combination of high surface hardness and toughness after hardening and tempering

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Bohler-Uddeholm-O1-Cold-Work-Tool-Steel.php](http://www.lookpolymers.com/polymer_Bohler-Uddeholm-O1-Cold-Work-Tool-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.81 g/cc	0.282 lb/in <sup>3</sup>	hardened to 62 HRC
	7.70 g/cc	0.278 lb/in <sup>3</sup>	hardened to 62 HRC
	@Temperature 399 °C	@Temperature 750 °F	
Density	7.75 g/cc	0.280 lb/in <sup>3</sup>	hardened to 62 HRC
	@Temperature 191 °C	@Temperature 375 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	190	190	Soft annealed
Modulus of Elasticity	193 GPa	28000 ksi	(hardened to 62 HRC)
	172 GPa	25000 ksi	hardened to 62 HRC
	@Temperature 399 °C	@Temperature 750 °F	
Modulus of Elasticity	186 GPa	27000 ksi	hardened to 62 HRC
	@Temperature 191 °C	@Temperature 375 °F	
Compressive Yield Strength	1350 MPa	196000 psi	0.2%, hardened to 50 HRC
	1800 MPa	261000 psi	0.2%, hardened to 55 HRC
	2150 MPa	312000 psi	0.2%, hardened to 60 HRC
	2200 MPa	319000 psi	0.2%, hardened to 62 HRC

Thermal Properties	Metric	English	Comments
CTE, linear	6.30 µm/m-°C	3.50 µin/in-°F	hardened to 62 HRC
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	

Thermal Properties	6.50 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Metric	3.61 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ English	Comments hardened to 62 HRC
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
Specific Heat Capacity	0.460 J/g-°C @Temperature 20.0 °C	0.110 BTU/lb-°F @Temperature 68.0 °F	hardened to 62 HRC
Thermal Conductivity	32.0 W/m-K @Temperature 20.0 °C	222 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 68.0 °F	hardened to 62 HRC
	33.0 W/m-K @Temperature 191 °C	229 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 375 °F	hardened to 62 HRC
	34.0 W/m-K @Temperature 399 °C	236 BTU-in/hr-ft <sup>2</sup> -°F @Temperature 750 °F	hardened to 62 HRC

Component Elements Properties	Metric	English	Comments
Carbon, C	0.95 %	0.95 %	
Chromium, Cr	0.60 %	0.60 %	
Manganese, Mn	1.1 %	1.1 %	
Tungsten, W	0.60 %	0.60 %	

## Contact Songhan Plastic Technology Co.,Ltd.

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