Bohler-Uddeholm AISI D2 Cold Work Tool Steel

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

Material Notes:

AISI D2 is a high-carbon, high-chromium tool steel alloyed with molybdenum and vanadiumAISI AD2 is characterized by: High wear resistance High compressive strength Good through-hardening properties High stability in hardening Good resistance to tempering-backApplications: AISI D2 is recommended for tools requiring very high wear resistance, combined with moderate toughness (shock-resistance). AISI D2 can be supplied in various finishes, including the hot-rolled, pre-machined and fine machined condition.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Bohler-Uddeholm-AISI-D2-Cold-Work-Tool-Steel.php

Physical Properties	Metric	English	Comments
Density	7.67 g/cc	0.277 lb/in³	hardened to 62 HRC
	7.61 g/cc @Temperature 399 °C	0.275 lb/in³ @Temperature 750 °F	hardened to 62 HRC
	7.64 g/cc @Temperature 199 °C	0.276 lb/in³ @Temperature 390 °F	hardened to 62 HRC

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	210	210	Soft annealed
Modulus of Elasticity	209.9 GPa	30450 ksi	(hardened to 62 HRC)
	180 GPa @Temperature 399 °C	26100 ksi @Temperature 750 °F	hardened to 62 HRC
	200 GPa @Temperature 199 °C	29000 ksi @Temperature 390 °F	hardened to 62 HRC
Compressive Yield Strength	1650 MPa	239000 psi	0.2%, hardened to 50 HRC
	1900 MPa	276000 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	11.2 µm/m-°C @Temperature 20.0 - 200 °C	6.20 µin/in-°F @Temperature 68.0 - 392 °F	high temp. tempering, hardened to 62 HRC

Thermal Properties	Metric	English	Comments
	12.1 µm/m-°C @Temperature 20.0 - 400 °C	6.70 µin/in-°F @Temperature 68.0 - 752 °F	[illegible] tempering, hardened to 62 HRC
	12.2 µm/m-°C @Temperature 20.0 - 200 °C	6.80 µin/in-°F @Temperature 68.0 - 392 °F	low temp. tempering, hardened to 62 HRC
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	20.0 W/m-K @Temperature 20.0 °C	139 BTU-in/hr-ft²-°F @Temperature 68.0 °F	hardened to 62 HRC
	21.0 W/m-K @Temperature 199 °C	146 BTU-in/hr-ft²-°F @Temperature 390 °F	hardened to 62 HRC
	23.0 W/m-K @Temperature 399 °C	160 BTU-in/hr-ft²-°F @Temperature 750 °F	hardened to 62 HRC

Component Elements Properties	Metric	English	Comments
Carbon, C	1.55 %	1.55 %	
Chromium, Cr	11.8 %	11.8 %	
Manganese, Mn	0.40 %	0.40 %	
Molybdenum, Mo	0.80 %	0.80 %	
Silicon, Si	0.30 %	0.30 %	
Vanadium, V	0.80 %	0.80 %	

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