Assab Steels ASSAB 88 Cold Work Steel

Category : Metal , Ferrous Metal , Chrome-moly Steel , Tool Steel , Cold Work Steel

Material Notes:

ASSAB 88 (SLEIPNER) is a chromium-molybdenum-vanadium alloyed tool steel which is characterized by:Good wear resistanceGood chipping resistanceHigh compressive strengthHigh hardness (>60HRC) after high temperature temperingGood through-hardening propertiesGood stability in hardening Good resistance to tempering backGood WEDM propertiesGood machinability and grindabilityGood surface treatment propertiesASSAB 88 (SLEIPNER) is a general purpose steel for cold work tooling. ASSAB 88 (SLEIPNER) is recommended for medium run tooling applications. Examples: Blanking and fine blankingShearingFormingCoiningCold forgingCold extrusionThread rollingDrawing and deep drawingPowder pressing

Order this product through the following link:
http://www.lookpolymers.com/polymer_Assab-Steels-ASSAB-88-Cold-Work-Steel.php

Physical Properties	Metric	English	Comments
Density	7.72 g/cc	0.279 lb/in³	
	7.61 g/cc @Temperature 400 °C	0.275 lb/in³ @Temperature 752 °F	
	7.67 g/cc @Temperature 200 °C	0.277 lb/in³ @Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	55	55	1075°C Austenitizing temperature, for tempering at 400°C
	56	56	1075°C Austenitizing temperature, for tempering at 250°C
	58	58	1050°C Austenitizing temperature, for tempering at 400°C
	59	59	1030°C Austenitizing temperature, for tempering at 250°C
	59	59	1050°C Austenitizing temperature, for tempering at 250°C
	60	60	1030°C Austenitizing temperature, for tempering at 400°C
	60	60	1030°C Austenitizing temperature, for tempering at 550°C
	61	61	1050°C Austenitizing temperature, for tempering at 550°C
	62	62	Hardened and tempered.
	62.5	62.5	At 1075°C Austenitizing temperature (30 min)

Mechanical Properties	Metric	English	Comments
	63	63	1075°C Austenitizing temperature, for tempering at 550°C
	64.25	64.25	At 1000°C Austenitizing temperature (30 min)
	64.5	64.5	At 1035°C Austenitizing temperature (30 min)
Modulus of Elasticity	205 GPa	29700 ksi	
	180 GPa @Temperature 400 °C	26100 ksi @Temperature 752 °F	
Compressive Yield Strength	2050 MPa	297000 psi	approximate, Hardness HRC 55 R_c0.2
	2500 MPa	363000 psi	approximate, Hardness HRC 62 R_c0.2

Thermal Properties	Metric	English	Comments
CTE, linear	11.6 µm/m-°C @Temperature 20.0 - 200 °C	6.44 µin/in-°F @Temperature 68.0 - 392 °F	after high temperature tempering
	12.4 µm/m-°C @Temperature 20.0 - 400 °C	6.89 µin/in-°F @Temperature 68.0 - 752 °F	after high temperature tempering
	12.7 µm/m-°C @Temperature 20.0 - 200 °C	7.06 µin/in-°F @Temperature 68.0 - 392 °F	after low temperature tempering (60 HRC)
Specific Heat Capacity	0.460 J/g-°C @Temperature 20.0 °C	0.110 BTU/lb-°F @Temperature 68.0 °F	
Thermal Conductivity	20.0 W/m-K @Temperature 200 °C	139 BTU-in/hr-ft²-°F @Temperature 392 °F	
	25.0 W/m-K @Temperature 400 °C	174 BTU-in/hr-ft²-°F @Temperature 752 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.90 %	0.90 %	
Chromium, Cr	7.8 %	7.8 %	
Iron, Fe	86.9 %	86.9 %	

Component Elements Properties	Metric	English	Comments
Manganese, Mn	0.50 %	0.50 %	
Molybdenum, Mo	2.5 %	2.5 %	
Silicon, Si	0.90 %	0.90 %	
Vanadium, V	0.50 %	0.50 %	

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