Assab Steels ASP 30 Cold Work Steel

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

Material Notes:

ASP 30 is a W-Mo-v-Co alloyed PM high speed steel characterized by:High wear resistanceHigh compressive strength at high hardnessGood through hardening propertiesGood toughnessGood dimensional stability on heat treatmentVery good temper resistanceThe combination of high wear resistance and unusually good compressive strength can be put to use in tooling for heavy forming operations.W.-NR. 1.3207

Order this product through the following link:
http://www.lookpolymers.com/polymer_Assab-Steels-ASP-30-Cold-Work-Steel.php

Physical Properties	Metric	English	Comments
Density	7.94 g/cc	0.287 lb/in³	soft annealed condition
	7.86 g/cc @Temperature 600 °C	0.284 lb/in³ @Temperature 1110 °F	soft annealed condition
	7.89 g/cc @Temperature 400 °C	0.285 lb/in³ @Temperature 752 °F	soft annealed condition

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	63 @Diameter 5.00 mm	63 @Diameter 0.197 in	Four point bend testing. 5mm/min. Austenitizing temperature: 1050°C Tempering: 3X1 h at 560°C, AC
	66 @Diameter 5.00 mm	66 @Diameter 0.197 in	Four point bend testing. 5mm/min. Austenitizing temperature: 1050°C Tempering: 3X1 h at 560°C, AC
Modulus of Elasticity	240 GPa	34800 ksi	
	192 GPa @Temperature 400 °C	27800 ksi @Temperature 752 °F	
Flexural Strength	2000 MPa	290000 psi	Rmb. Four point bend testing. 5 mm ø. 5mm/min. Austenitizing temperature: 1250°C Tempering: 3X1 h at 560°C, AC
	3100 MPa	450000 psi	Reb. Four point bend testing. 5 mm ø. 5mm/min. Austenitizing temperature: 1100°C Tempering: 3X1 h at 560°C, AC
	4000 MPa	580000 psi	Reb. Four point bend testing. 5 mm ø. 5mm/min. Austenitizing temperature: 1200°C Tempering: 3X1 h at 560°C, AC
	4500 MPa	653000 psi	Rmb. Four point bend testing. 5 mm ø. 5mm/min. Austenitizing

temperature: 1200°C Tempering: 3X1 h at 560°C, AC

Mechanical Properties	Metric	English	Comments
	5500 MPa	798000 psi	Rmb. Four point bend testing. 5 mm ø. 5mm/min. Austenitizing temperature: 1100°C Tempering: 3X1 h at 560°C, AC

Thermal Properties	Metric	English	Comments
CTE, linear	11.8 µm/m-°C @Temperature 20.0 - 400 °C	6.56 µin/in-°F @Temperature 68.0 - 752 °F	for the hardened and tempered condition
	12.3 µm/m-°C @Temperature 20.0 - 600 °C	6.83 µin/in-°F @Temperature 68.0 - 1110 °F	for the hardened and tempered condition
Specific Heat Capacity	0.418 J/g-°C @Temperature 20.0 °C	0.100 BTU/lb-°F @Temperature 68.0 °F	hardened and tempered condition
	0.502 J/g-°C @Temperature 400 °C	0.120 BTU/lb-°F @Temperature 752 °F	hardened and tempered condition
	0.586 J/g-°C @Temperature 600 °C	0.140 BTU/lb-°F @Temperature 1110 °F	hardened and tempered condition
Thermal Conductivity	22.0 W/m-K @Temperature 20.0 °C	153 BTU-in/hr-ft²-°F @Temperature 68.0 °F	hardened and tempered condition
	25.0 W/m-K @Temperature 600 °C	174 BTU-in/hr-ft²-°F @Temperature 1110 °F	hardened and tempered condition
	26.0 W/m-K @Temperature 400 °C	180 BTU-in/hr-ft²-°F @Temperature 752 °F	hardened and tempered condition

Component Elements Properties	Metric	English	Comments
Carbon, C	1.28 %	1.28 %	
Chromium, Cr	4.2 %	4.2 %	
Cobalt, Co	8.5 %	8.5 %	
Iron, Fe	71.52 %	71.52 %	
Molybdenum, Mo	5.0 %	5.0 %	
Tungsten, W	6.4 %	6.4 %	
Vanadium, V	3.1 %	3.1 %	

Component Elements Properties	Metric	English	Comments

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