Assab Steels ASSAB XW-42 Cold Work Steel

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

Material Notes:

XW-42 is a high-carbon, high chromium tool steel alloyed with molybdenum and vanadium characterized by:High wear resistanceHigh compressive strength High hardness after hardeningGood through-hardening propertiesExcellent dimensional stability in hardeningGood resistance to tempering-back.XW-42 is used when cutting thicker, harder materials; when forming with tools subjected to bending stresses and where high impact loads are involved. XW-42 can be supplied in various finishes, including the hot-rolled, pre-machined and fine machined condition. XW-42 is a good choice for inserts in larger tools as well as deep drawing tools.AISI D2

Order this product through the following link:
http://www.lookpolymers.com/polymer_Assab-Steels-ASSAB-XW-42-Cold-Work-Steel.php

Physical Properties	Metric	English	Comments
Density	7.67 g/cc	0.277 lb/in³	
	7.61 g/cc @Temperature 400 °C	0.275 lb/in³ @Temperature 752 °F	
	7.64 g/cc @Temperature 200 °C	0.276 lb/in³ @Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	61	61	During hardening at 980°C Austenitizing temperature, soaking time 30 minutes,
	62	62	Hardened and tempered.
	63	63	during hardening at 980°C Austenitizing temperature, soaking time 60 minutes,
	65	65	During hardening at 1020°C Austenitizing temperature, soaking time 30 minutes,
	65	65	During hardening at 1060°C Austenitizing temperature, soaking time 30 minutes,
	65.75	65.75	During hardening at 1020°C Austenitizing temperature, soaking time 60 minutes,
Modulus of Elasticity	193 GPa	28000 ksi	
	173 GPa @Temperature 400 °C	25100 ksi @Temperature 752 °F	
Compressive Strength	1900 MPa	276000 psi	HRC 55 R_p0.2

Mechanical Properties	Metric	English	Comments
	2200 MPa	319000 psi	HRC 62 R_p0.2
	2650 MPa	384000 psi	HRC 55 R_m
	3100 MPa	450000 psi	HRC 62 R_m

Thermal Properties	Metric	English	Comments
CTE, linear	12.4 µm/m-°C @Temperature 20.0 - 200 °C	6.89 µin/in-°F @Temperature 68.0 - 392 °F	
	13.4 µm/m-°C @Temperature 20.0 - 400 °C	7.44 µin/in-°F @Temperature 68.0 - 752 °F	
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 20.0 °C	139 BTU-in/hr-ft²-°F @Temperature 68.0 °F	
	21.0 W/m-K @Temperature 200 °C	146 BTU-in/hr-ft²-°F @Temperature 392 °F	
	23.0 W/m-K @Temperature 400 °C	160 BTU-in/hr-ft²-°F @Temperature 752 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.55 %	1.55 %	
Chromium, Cr	11.6 %	11.6 %	
Iron, Fe	84.45 %	84.45 %	
Manganese, Mn	0.40 %	0.40 %	
Molybdenum, Mo	0.80 %	0.80 %	
Silicon, Si	0.30 %	0.30 %	
Vanadium, V	0.90 %	0.90 %	

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