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Assab Steels ASSAB XW-41 Cold Work Steel

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

Material Notes:

XW-41 is a high-carbon, high chromium tool steel alloyed with molybdenum and vanadium characterized by:High wear resistanceHigh compressive strength Good through-hardening propertiesHigh stability in hardeningGood resistance to tempering-back.XW-41 is used when cutting thicker, harder materials; when forming with tools subjected to bending stresses and where high impact loads are involved. XW-41 can be supplied in various finishes, including the hot-rolled, pre-machined and fine machined condition. It is also available in the form of hollow bar and rings. AISI D2, W.-Nr. 1.2379

Order this product through the following link:

http://www.lookpolymers.com/polymer_Assab-Steels-ASSAB-XW-41-Cold-Work-Steel.php

Physical Properties	Metric	English	Comments
Density	7.67 g/cc	0.277 lb/in ³	
	7.61 g/cc	0.275 lb/in ³	
	@Temperature 400 °C	@Temperature 752 °F	
	7.64 g/cc	0.276 lb/in ³	
	@Temperature 200 °C	@Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	41	41	1020°C Austenitizing temperature, for tempering at 650°C
	44	44	1050°C Austenitizing temperature, for tempering at 650°C
	55	55	1020°C Austenitizing temperature, for tempering at 550°C
	57	57	1050°C Austenitizing temperature, for tempering at 400°C
	59	59	1020°C Austenitizing temperature, for tempering at 400°C
	60	60	1050°C Austenitizing temperature, for tempering at 200°C
	61	61	At 980°C during hardening, soaking time 30 minutes
	62	62	1050°C Austenitizing temperature, for tempering at 550°C
	62	62	Hardened and tempered.
	62.5	62.5	At 980°C during hardening, soaking time 60 minutes

Mechanical Properties	Metric	English	Comments
	64.25	64.25	At 1060°C during hardening, soaking time 30 minutes
	65	65	At 1020°C during hardening, soaking time 30 minutes
	65.5	65.5	At 1020°C during hardening, 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 _c 0.2
	2200 MPa	319000 psi	HRC 62 R _c 0.2.

Thermal Properties	Metric	English	Comments
CTE, linear	12.4 µm/m-°C	6.89 µin/in-°F	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	13.4 µm/m-°C	7.44 µin/in-°F	
	@Temperature 20.0 - 400 °C	@Temperature 68.0 - 752 °F	
Specific Heat Capacity	0.460 J/g-°C	0.110 BTU/lb-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	20.0 W/m-K	139 BTU-in/hr-ft ² -°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	21.0 W/m-K	146 BTU-in/hr-ft ² -°F	
	@Temperature 200 °C	@Temperature 392 °F	
	23.0 W/m-K	160 BTU-in/hr-ft ² -°F	
	@Temperature 400 °C	@Temperature 752 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.55 %	1.55 %	
Chromium, Cr	11.8 %	11.8 %	
Iron, Fe	84.35 %	84.35 %	
Manganese, Mn	0.40 %	0.40 %	

Component Elements Properties	Metric	English	Comments
Molybdenum, Mo			
Silicon, Si	0.30 %	0.30 %	
Vanadium, V	0.80 %	0.80 %	

