Assab Steels 8407 2M Hot Work Steel

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

Material Notes:

ASSAB 8407 is a chromium-molybdenum-vanadium-alloyed steel which is characterized by: Good resistance to abrasion at both low and high temperatures. High level of toughness and ductility Uniform and high level of machinability and polishability Good high-temperature strength and resistance to thermal fatigue. Excellent through-hardening properties Very limited distortion during hardening.Applications: Tools for Extrusion: Dies, backers, die holders, liners, dummy blocks, stems. Plastic molding applications: Injection molding of thermoplastics: long production runs. Molding of parts in thermosetting plastic with finish requirements. AISI H13, W.-Nr. 1.2344

Order this product through the following link:
http://www.lookpolymers.com/polymer_Assab-Steels-8407-2M-Hot-Work-Steel.php

Physical Properties	Metric	English	Comments
Density	7.78 g/cc	0.281 lb/in³	
	7.53 g/cc @Temperature 800 °C	0.272 lb/in³ @Temperature 1470 °F	
	7.67 g/cc @Temperature 400 °C	0.277 lb/in³ @Temperature 752 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	31	31	holding time 100 hours at 600°C. Austenitizing temperature 1020°C
	43	43	holding time 10 hours at 600°C. Austenitizing temperature 1020°C
	43	43	holding time 100 hours at 550°C. Austenitizing temperature 1020°C
	46	46	tempering temperature 600°C. Austenitizing temperature 1020°C
	51	51	holding time 10 hours at 500°C. Austenitizing temperature 1020°C
	51	51	holding time 10 hours at 550°C. Austenitizing temperature 1020°C
	51	51	holding time 1 hour at 600°C. Austenitizing temperature 1020°C
	48 - 54	48 - 54	Hardness before tempering. Austenitizing temperature: 1000°C. Soaking time 45 minutes.
	50 - 56	50 - 56	Hardness before tempering. Austenitizing temperature: 1020°C. Soaking time 30 minutes.
	53	53	holding time 10 hours at 500°C

Mechanical Properties	Metric	English	Comments
	53	53	holding time 1 hour at 550°C. Austenitizing temperature 1020°C
	54	54	holding time 1 hour at 500°C tempering temperature
	54	54	Taken from tempering graph. At tempering temperature 300°C. Austenitizing temperature 1020°C
Tensile Strength at Break	285 MPa @Temperature 700 °C	41300 psi @Temperature 1290 °F	R_m. Austenitizing temp. 1020°C. Tempering temp. 610°C
	930 MPa @Temperature 550 °C	135000 psi @Temperature 1020 °F	R_m. Austenitizing temp. 1020°C. Tempering temp. 610°C
Tensile Strength, Ultimate	1420 MPa	206000 psi	R_m. 45 HRC.
	1820 MPa	264000 psi	R_m. 52 HRC.
Tensile Strength, Yield	1280 MPa	186000 psi	R_p02. 45 HRC.
	1520 MPa	220000 psi	R_p02. 52 HRC.
	150 MPa @Temperature 700 °C	21800 psi @Temperature 1290 °F	R_p02
	720 MPa @Temperature 550 °C	104000 psi @Temperature 1020 °F	R_p02
Modulus of Elasticity	202.5 GPa	29370 ksi	
	130 GPa @Temperature 800 °C	18900 ksi @Temperature 1470 °F	
	175 GPa @Temperature 400 °C	25400 ksi @Temperature 752 °F	
Impact Test	14.0 J	10.3 ft-lb	During tempering at 550°C tempering temperature (2h + 2h)
	20.0 J	14.8 ft-lb	During tempering at 250°C tempering temperature (2h + 2h)
	22.0 J	16.2 ft-lb	During tempering at 650°C tempering temperature (2h + 2h)

Thermal Properties	Metric	English	Comments
CTE, linear	12.6 µm/m-°C @Temperature 20.0 -	7.00 µin/in-°F @Temperature 68.0 -	

Thermal Properties	Metric	English	Comments
	400 °C	752 °F	
	13.9 µm/m-°C @Temperature 20.0 - 800 °C	7.72 µin/in-°F @Temperature 68.0 - 1470 °F	
Thermal Conductivity	24.6 W/m-K @Temperature 20.0 °C	171 BTU-in/hr-ft²-°F @Temperature 68.0 °F	
	26.2 W/m-K @Temperature 400 °C	182 BTU-in/hr-ft²-°F @Temperature 752 °F	
	27.6 W/m-K @Temperature 800 °C	192 BTU-in/hr-ft²-°F @Temperature 1470 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.39 %	0.39 %	
Chromium, Cr	5.3 %	5.3 %	
Iron, Fe	90.71 %	90.71 %	
Manganese, Mn	0.40 %	0.40 %	
Molybdenum, Mo	1.3 %	1.3 %	
Silicon, Si	1.0 %	1.0 %	
Vanadium, V	0.90 %	0.90 %	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China