

## Assab Steels VANADIS 10 Cold Work Steel

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

### Material Notes:

VANADIS 4 is a chromium-molybdenum-vanadium alloyed steel which is characterized by:Extremely high abrasive wear resistanceHigh compressive strengthVery good through-hardening propertiesGood toughnessVery good stability in hardeningGood resistance to tempering backGood MachinabilitySimple heat treatmentSuitable for surface treatmentVANADIS 4 is especially suitable for very long run tooling where adhesive wear is the dominating problem. Its very good combination of extremely high wear resistance and toughness also make VANADIS 10 an interesting alternative in applications where tooling made of such materials as cemented carbide tends to chip or crack.Examples:Blanking and formingFine blankingBlanking of electrical sheetGasket stampingDeep drawingCold ForgingSlitting knives (paper and foil)Powder pressingGranulator knivesExtruder screws, etc

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Assab-Steels-VANADIS-10-Cold-Work-Steel.php](http://www.lookpolymers.com/polymer_Assab-Steels-VANADIS-10-Cold-Work-Steel.php)

Physical Properties	Metric	English	Comments
Density	7.42 g/cc	0.268 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	58	58	1020°C Austenitizing temperature, for tempering at 550°C
	60	60	1060°C Austenitizing temperature, for tempering at 550°C
	62	62	Hardened and tempered.
	62	62	1020°C Austenitizing temperature, for tempering at 300°C
	63	63	1020°C Austenitizing temperature, for tempering at 500°C
	63	63	1060°C Austenitizing temperature, for tempering at 300°C
	64	64	Holding time 30 minutes, Air cooling, 1000°C Austenitizing temperature
	65	65	1060°C Austenitizing temperature, for tempering at 500°C
	66	66	Holding time 30 minutes, Air cooling, 1050°C Austenitizing temperature
Modulus of Elasticity	234 GPa	33900 ksi	
Impact Test	17.5 J	12.9 ft-lb	tempering temperature of 475°C. Specimen size: 7x10x55 mm unnotched. Hardened at 1020°C. Quenched in air. Tempered twice
			tempering temperature of 275°C.

Mechanical Properties	Metric	English	Comments
	22.5 J	16.6 ft-lb	Specimen size: 7x10x55 mm unnotched. Hardened at 1020°C. Quenched in air. Tempered twice
	27.5 J	20.3 ft-lb	tempering temperature of 575°C. Specimen size: 7x10x55 mm unnotched. Hardened at 1020°C. Quenched in air. Tempered twice

Thermal Properties	Metric	English	Comments
CTE, linear	10.9 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	6.06 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 20.0 - 200 °C	@Temperature 68.0 - 392 °F	
	11.7 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	6.50 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@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	14.0 W/m-K	97.2 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
	17.0 W/m-K	118 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 200 °C	@Temperature 392 °F	
	19.0 W/m-K	132 BTU-in/hr-ft <sup>2</sup> -°F	
	@Temperature 400 °C	@Temperature 752 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	2.9 %	2.9 %	
Chromium, Cr	8.0 %	8.0 %	
Iron, Fe	76.3 %	76.3 %	
Manganese, Mn	0.50 %	0.50 %	
Molybdenum, Mo	1.5 %	1.5 %	
Silicon, Si	1.0 %	1.0 %	
Vanadium, V	9.8 %	9.8 %	

**Contact Songhan Plastic Technology Co.,Ltd.**

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215, Fengxian District, Shanghai City, China