

Industeel TENASTEEL® Cold Work Tool Steel

Category : Metal , Ferrous Metal , Carbon Steel , High Carbon Steel , Tool Steel

Material Notes:

Description: TENASTEEL is a cold work tool steel, combining a high wear resistance together with a very high toughness. Its other advantages are a good machinability in the as-delivery condition and a particularly high resistance to thermal softening. The steel is delivered in the soft annealed condition with a maximum hardness of 250 HB. TENASTEEL is specially designed to replace D2 type steels widely used by toolmakers but suffering from an excessive brittleness. Thanks to its chemistry increasing resistance to softening during tempering, TENASTEEL is especially suited for all processes of surface treatment and coatings commonly used in the market, including nitriding processes involving high temperatures. Information provided by manufacturer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Industeel-TENASTEEL-Cold-Work-Tool-Steel.php

Physical Properties	Metric	English	Comments
Density	7.75 g/cc	0.280 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Brinell	<= 250	<= 250	Typical in annealed condition
Hardness, Rockwell C	60	60	Heat Treated
Modulus of Elasticity	205 GPa	29700 ksi	Typical
Compressive Strength	2300 MPa	334000 psi	Typical
Charpy Impact, Unnotched	25.0 J	18.4 ft-lb	Typical

Thermal Properties	Metric	English	Comments
CTE, linear	10.2 Åµm/m-Å°C	5.67 Åµin/in-Å°F	
	@Temperature 20.0 - 100 Å°C	@Temperature 68.0 - 212 Å°F	
	11.3 Åµm/m-Å°C	6.28 Åµin/in-Å°F	
	@Temperature 20.0 - 200 Å°C	@Temperature 68.0 - 392 Å°F	
	11.9 Åµm/m-Å°C	6.61 Åµin/in-Å°F	
	@Temperature 20.0 - 300 Å°C	@Temperature 68.0 - 572 Å°F	
Specific Heat Capacity	0.460 J/g-Å°C	0.110 BTU/lb-Å°F	
	@Temperature 20.0 Å°C	@Temperature 68.0 Å°F	
	21.0 W/m-K	146 BTU-in/hr-ft ² -Å°F	

Thermal Properties	Metric	English	Comments
	@ Temperature 20.0 °C	@ Temperature 68.0 Å°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	1.0 %	1.0 %	
Chromium, Cr	7.5 %	7.5 %	
Iron, Fe	88.245 - 88.25 %	88.245 - 88.25 %	As remainder
Manganese, Mn	0.35 %	0.35 %	
Molybdenum, Mo	2.6 %	2.6 %	
Sulfur, S	<= 0.0050 %	<= 0.0050 %	
Vanadium, V	0.30 %	0.30 %	

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