

SUPREME STEEL INDUSTRIES



AISI Type T1 Tungsten-Alloy High-Speed-Tool Steel (UNS T12001)

Categories: [Metal, Ferrous Metal, Tool Steel](#)

Material Notes: Fe-18W-1.1V-4.13Cr-0.76C

Key Words: UNS T12001

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

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Physical Properties	Metric	English	Comments
Density	8.67 g/cc	0.313 lb/in ³	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	83 - 85	83 - 85	
	30	30	
	@Temperature 649 °C	@Temperature 1200 °F	
	54	54	
	@Temperature 538 °C	@Temperature 1000 °F	
	80	80	
	@Temperature 427 °C	@Temperature 800 °F	
	83	83	
	@Temperature 316 °C	@Temperature 600 °F	
	84.5	84.5	
@Temperature 204 °C	@Temperature 400 °F		
85.5	85.5		
@Temperature 93.3 °C	@Temperature 200 °F		
88	88		
@Temperature -17.8 °C	@Temperature 0.000 °F		
Hardness, Vickers	310	310	
	@Temperature 649 °C	@Temperature 1200 °F	
	590	590	
	@Temperature 538 °C	@Temperature 1000 °F	
	700	700	
	@Temperature 427 °C	@Temperature 800 °F	
	780	780	
	@Temperature 316 °C	@Temperature 600 °F	
	815	815	
	@Temperature 204 °C	@Temperature 400 °F	
850	850		
@Temperature 93.3 °C	@Temperature 200 °F		
880	880		
@Temperature -17.8 °C	@Temperature 0.000 °F		

Thermal Properties	Metric	English	Comments
CTE, linear	9.70 µm/m-°C	5.39 µin/in-°F	
Thermal Conductivity	20.0 W/m-K	139 BTU-in/hr-ft ² -°F	

Processing Properties	Metric	English	Comments
Processing Temperature	540 - 565 °C	1000 - 1100 °F	Tempering Temperature
	1280 - 1300 °C	2300 - 2370 °F	Hardening Temperature
Annealing Temperature	870 - 900 °C	1600 - 1650 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.75 %	0.75 %	
Chromium, Cr	4.13 %	4.13 %	
Iron, Fe	78.02 %	78.02 %	As Balance
Tungsten, W	18 %	18 %	
Vanadium, V	1.1 %	1.1 %	

Descriptive Properties	
Quench Medium	O, A, S

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