

Crucible Steel CPM® S110V® Stainless Tool Steel

Category : Metal , Ferrous Metal , Martensitic , Stainless Steel , Tool Steel

Material Notes:

CPM S110V is a high alloy martensitic stainless tool steel produced by the Crucible Particle Metallurgy (CPM) process. CPM S110V contains a high volume fraction of both vanadium-rich and niobium-rich primary alloy carbides for exceptionally good wear resistance compared to other commercially available PM tool steels. It also offers better corrosion resistance than 440C or CPM S90V. CPM S110V is currently only available on special request in the as-HIP condition or as a clad layer on components. It is not available in forged or rolled bar lengths. The CPM process results in a fine and uniform carbide distribution in CPM S110V compared to conventionally produced high alloy tool steels which results in relatively good machining, grinding, and toughness characteristics despite the high alloy content. Information provided by Crucible Industries

Order this product through the following link:

http://www.lookpolymers.com/polymer_Crucible-Steel-CPM-S110V-Stainless-Tool-Steel.php

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	47.5	47.5	austenitized at 2150°F then quenched and tempered
	@Tempering Temp. 649 °C	@Tempering Temp. 1200 °F	
	53.5	53.5	austenitized at 2150°F then quenched and tempered
	@Tempering Temp. 593 °C	@Tempering Temp. 1100 °F	
	58.5	58.5	austenitized at 2150°F then quenched and tempered
	@Tempering Temp. 566 °C	@Tempering Temp. 1050 °F	
	60	60	austenitized at 2150°F then quenched and tempered
	@Tempering Temp. 260 °C	@Tempering Temp. 500 °F	
	60.5	60.5	austenitized at 2150°F then quenched and tempered
@Tempering Temp. 399 °C	@Tempering Temp. 750 °F		
60.5	60.5	austenitized at 2150°F then quenched and tempered	
@Tempering Temp. 551.7 °C	@Tempering Temp. 1025 °F		
61.5	61.5	austenitized at 2150°F then quenched and tempered	
@Tempering Temp. 538 °C	@Tempering Temp. 1000 °F		
63.5	63.5	austenitized at 2150°F then quenched and tempered	
@Tempering Temp. 524 °C	@Tempering Temp. 975 °F		

Component Elements Properties	Metric	English	Comments
Carbon, C	2.8 %	2.8 %	
Chromium, Cr	15.25 %	15.25 %	
Cobalt, Co	2.5 %	2.5 %	
Iron, Fe	65.2 %	65.2 %	as balance
Molybdenum, Mo	2.25 %	2.25 %	
Niobium, Nb (Columbium, Cb)	3.0 %	3.0 %	
Vanadium, V	9.0 %	9.0 %	

Descriptive Properties	Value	Comments
Corrosion Rate	0 mm/yr at 500°F	in dilute aqua regia
	1 mm/yr at 750°F	in dilute aqua regia
	7 mm/yr at 1025°F	in dilute aqua regia
	9 mm/yr at 975°F	in dilute aqua regia
Pitting Resistance	-150 mV	polarization curves in 5% NaCl, tempered at 1025°F
	200 mV	polarization curves in 5% NaCl, tempered at 500°F
Wear Resistance	29 mg	weight loss, 63 HRC
	45 mg	weight loss, 60 HRC

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