

## The NanoSteel® Company SHS 9172 HVOF Steel Alloy, Atomized Powder

Category: Metal, Ferrous Metal, Alloy Steel, Other Engineering Material, Ceramic/Metallic Coating

## **Material Notes:**

Coating Description: SHS 9172 HVOF is an iron based steel alloy with a nanoscale microstructure that features exceptional resistance to wear, abrasion, impact, corrosion and high temperature oxidation. SHS 9172 HVOF is also a coating alternative to electrolytic hard chromium. Key Performance Characteristics Exceptional abrasion resistance for a metallic material Significant corrosion and high temperature oxidation resistance Coatings provide hardness, corrosion and wear resistance superior to hard chromeCan be finished to very high surface specifications as a replacement for hard chromeApplication Process: High Velocity Oxygen Fuel (HVOF) thermal spraying Information Provided by The NanoSteel Company, Inc.

## Order this product through the following link:

http://www.lookpolymers.com/polymer\_The-NanoSteel-Company-SHS-9172-HVOF-Steel-Alloy-Atomized-Powder.php

Physical Properties	Metric	English	Comments
Density	7.59 g/cc	0.274 lb/in³	Coating Property
Porosity	<= 5.0 %	<= 5.0 %	Coating Property

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	1000 - 1100	1000 - 1100	kg/mm <sup>2</sup> ; HV300

Component Elements Properties	Metric	English	Comments	
Boron, B	<= 5.0 %	<= 5.0 %		
Carbon, C	<= 4.0 %	<= 4.0 %		
Chromium, Cr	<= <b>25</b> %	<= 25 <b>%</b>		
Iron, Fe	>= 28 %	>= 28 %		
Manganese, Mn	<= 3.0 %	<= 3.0 %		
Molybdenum, Mo	<= 6.0 %	<= 6.0 %		
Niobium, Nb (Columbium, Cb)	<= 12 %	<= 12 %		
Silicon, Si	<= 2.0 %	<= 2.0 %		
Tungsten, W	<= 15 %	<= 15 %		

Descriptive Properties	Value	Comments
Impact Resistance	No delamination/cracking at 480 in-lbs	Drop Impact Testing
Wear Resistance Mass Loss (g)	0.07	2000 cycles; ASTM G65-04 Procedure B



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