

The NanoSteel® Company SHS 9172 TWAS Steel Alloy, Cored Wire

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

Material Notes:

Coating Description: SHS 9172 TWAS is an iron based steel alloy with a nanoscale microstructure that features exceptional wear, corrosion and high temperature oxidation resistance in severe abrasion and fine particle erosion environments.

Key Performance Characteristics

Excels in extreme environments where severe abrasion is encountered

Significant ability to withstand corrosion and high temperature oxidation

Exceptional wear resistance in applications involving fine particle abrasion and erosion

Superior bond strength and toughness

Application Process: Twin Wire Arc Spraying (TWAS)

Information Provided by The NanoSteel Company, Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_The-NanoSteel-Company-SHS-9172-TWAS-Steel-Alloy-Cored-Wire.php

Physical Properties	Metric	English	Comments
Density	7.68 g/cc	0.277 lb/in³	Coating Property
Porosity	<= 5.0 %	<= 5.0 %	Coating Property

Mechanical Properties	Metric	English	Comments
Vickers Microhardness	975 - 1025	975 - 1025	kg/mm²; HV300
Adhesive Bond Strength	41.4 - 55.2 MPa @Thickness 0.508 mm	6000 - 8000 psi @Thickness 0.0200 in	1018 steel; ASTM C633-01

Component Elements Properties	Metric	English	Comments
Boron, B	<= 5.0 %	<= 5.0 %	
Carbon, C	<= 4.0 %	<= 4.0 %	
Chromium, Cr	<= 25 %	<= 25 %	
Iron, Fe	>= 38 %	>= 38 %	
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
Deposition Efficiency (%)	80	Coating Property

Descriptive Properties	Value	Comments
	lamination/cracking at 480 in-lbs	Testing
Wear Resistance Mass Loss (g)	0.17	2000 cycles; ASTM G65-04 Procedure B

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