

## The NanoSteel® Company SHS 9800 GMAW OAW Steel Alloy, Cored Wire

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

### Material Notes:

**Coating Description:** SHS 9800 GMAW OAW is an iron based steel alloy with a near nanoscale (submicron) microstructure that includes chromium, molybdenum and niobium in the material chemistry, resulting in an overlay wear solution well suited for the toughest jobs in the most extreme service environments. **Key Performance Characteristics:** 66-71 HRc single and double pass weld deposits Exceptional resistance to severe sliding abrasion Provides longer lasting wear life than most chrome carbide and complex carbide alloys Improved impact resistance results from complex borocarbide phases surrounded by ductile phases that form during welding SHS 9800 GMAW OAW is a multicomponent steel alloy with a unique uniform glass-forming melt chemistry that allows high undercooling to be achieved during welding. This results in considerable refinement of the crystalline microstructure down to a near nanosize (submicron) range. Unlike conventional weld overlay materials which are macrocomposites containing hard particles and general carbides in a binder, the refined microstructure of SHS 9800 does not incorporate distinct hard particles in a binder and is a uniformly hard matrix when welded. This allows SHS 9800 to provide vastly improved hardness and wear resistance that lasts significantly longer than conventional macrocomposites. Additionally, SHS 9800 is an iron-based alloy without tungsten carbide particulates. **Application Process:** GMAW OAW Weld Overlay for Hardfacing Information Provided by The NanoSteel Company, Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_The-NanoSteel-Company-SHS-9800-GMAW-OAW-Steel-Alloy-Cored-Wire.php](http://www.lookpolymers.com/polymer_The-NanoSteel-Company-SHS-9800-GMAW-OAW-Steel-Alloy-Cored-Wire.php)

Physical Properties	Metric	English	Comments
Density	7.36 g/cc	0.266 lb/in <sup>3</sup>	Weld Deposit Property

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	66 - 71	66 - 71	

Component Elements Properties	Metric	English	Comments
Aluminum, Al	<= 5.0 %	<= 5.0 %	
Boron, B	<= 7.0 %	<= 7.0 %	
Carbon, C	<= 2.0 %	<= 2.0 %	
Chromium, Cr	<= 21 %	<= 21 %	
Iron, Fe	>= 49 %	>= 49 %	
Manganese, Mn	<= 2.0 %	<= 2.0 %	
Molybdenum, Mo	<= 6.0 %	<= 6.0 %	
Niobium, Nb (Columbium, Cb)	<= 6.0 %	<= 6.0 %	
Silicon, Si	<= 2.0 %	<= 2.0 %	

Descriptive Properties	Value	Comments
Impact Resistance	Passed multiple impacts at 165 ft-lbs	Drop Impact Testing
Wear Resistance Mass Loss (g)	0.07-0.13	6000 cycles; ASTM G65-04 Procedure A

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China