

### Vecalloy M Amorphous TWAS Wire

**Scoperta Inc.**

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**PRODUCT OVERVIEW**

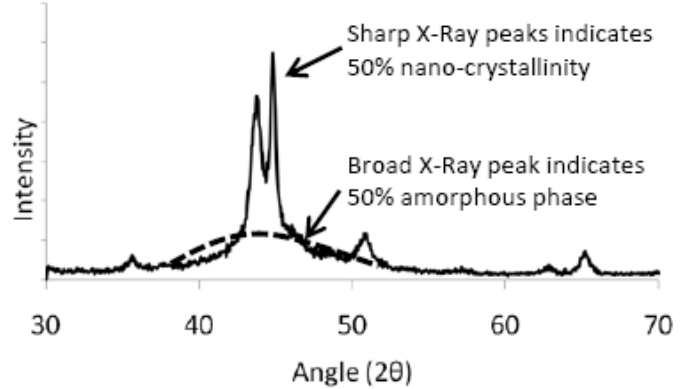
Scoperta Vecalloy Amorphous TWAS wire is available in .045, 1/16, 1/8 inch diameter wires and is designed for twin wire arc spray (TWAS) systems. The coating is iron-based, >50% amorphous as deposited, and provides exceptional wear and corrosion resistance.

Vecalloy is suited for applications in which wear and corrosion combine to create conditions that challenge conventional solutions. Examples of such environments include:

- Severe abrasive environment such as oil sand, mining, and construction.
- Sliding wear surfaces such as materials handling and energy production.
- Salt fog environments such as shipboard and dockside protective non-skid surfaces.

Scoperta's materials offer physical properties that offer superior performance: strength, hardness, elasticity, wear and corrosion resistance that drive value to its end users. This provides Scoperta's materials with a lower cost relative to traditional alloy solutions that Scoperta displaces.

Theoretical Density:	8 g/cc
Particle Hardness:	1100 Vickers
Adhesion Bond Strength:	5000 psi ASTM C633
% Amorphous, As-Deposited:	>50%
Melting Temperature, °F(°C):	2012 (1100)
Porosity, As-Deposited:	<1.5%
Corrosion Resistance:	Excellent ASTM B117, ASTM G35
Wear Resistance:	Superior or similar to WC ASTM G65, ASTMG77
Chemical Composition (wt. %):	
C <5%	B <4%
Cr <15%	Ni <8%
Nb <10	Fe Bal.
Particle CTE:	5.7 x 10 <sup>-6</sup>



**X-Ray Diffraction Spectrum of As-Sprayed Coating**

**Deposition Parameters\***

<b>Vecalloy TWAS</b>	<b>TAFA 8830/8835</b>
Atomizing Air Pressure	50-75 psi
Nozzle Cap	Blue
Nozzle Positioner	Long +
Arc load Volts	29-32
Current, Amps	175-250
Standoff Inches	4
Recommended Coating Thickness per pass, mil	1.2-1.3
Coating Texture, u-inch	<300
Spray Rate, lbs/hr	16
Spray Rate, lbs/hr/100 Amps	8
Deposit Efficiency	>75%
Wire Size, inch	1/16
Coverage	0.7 oz/ft <sup>2</sup> /.001"

Parameters available upon request for other TWAS systems.

\*These parameters are a starting point. Always observe industry standard safety procedures and equipment with approved eye, ear, and respiratory protection in place. Read and understand the MSDS. Do not operate equipment in a manner not approved by manufacturer.