



**FUSION™ W** is a Flux cored hardsurfacing wire containing 50-60% cast tungsten carbide suspended in a nickel alloy matrix. It has a combination of toughness and wear resistance, due to the heterogeneous weld metal composed of tungsten carbides distributed in a hard and very tough matrix. Unlike many others, this welding wire has exceptional wetting characteristics. It performs best in applications that endure extreme abrasion combined with or without corrosion.

### Typical Deposit Characteristics

<b>Abrasion Resistance</b>	Excellent	
<b>Hardness</b>	Tungsten carbides: 2000 - 2500 HV	Ni matrix: 400 - 450 HV
<b>Impact Resistance</b>	Moderate	
<b>Deposit Layers</b>	1 Layer Average (2 Layers Depending on Application)	
<b>Position</b>	Flat, horizontal, and vertical (using stacking technique)	
<b>Surface Cross Checks</b>	With cracks	
<b>Machinability</b>	Material is too hard to be machined. Recommended for grinding only.	
<b>Hot Wear Applications</b>	1110° F (600° C) Maximum	

**It is critical to weld FUSION™ W using low heat input / weld settings to help prevent the tungsten carbides from going into solution and / or sinking to the bottom of the weld.**

### Operational Characteristics / Welding Parameters

<b>Diameter</b>	1/16"
<b>Current, Amp DCEP</b>	110 – 175A
<b>Wire Feed Speed</b>	75 – 130 ipm
<b>Voltage</b>	16 – 22
<b>Wire Extension, in</b>	.75" – 1.25"
<b>Shielding Gas</b>	98% Ar + 2% O <sub>2</sub> - <b>OR</b> - 100% Ar - <b>OR</b> - 75% AR + 25% CO <sub>2</sub>

### Alloy Type

50 – 60% Wc suspended in a Ni + Si + B Matrix

### Typical Applications

- Brick/Clay Mill Augers
- Earth Moving Equipment
- Rubber Mixers
- Fan Components
- Earth Drilling Tools
- Mining Equipment

### Standard Sizes & Packaging

Diameter: 1/16"  
 Packaging: 33 lbs. Spools