



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

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

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

Alloy Type

50 – 60% Wc suspended in a Ni + Cr + 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