



Nickel-Aluminum Alloy Wire  
Made Exclusively for the  
Twin Wire Arc Spray Process

# **EuTronic® Arc 500 Wire**



- Self-bonding to most base metals
- Bond strength in excess of 9,000 psi
- Designed for maximum efficiency and productivity
- May be used as a bond layer for subsequent topcoats

# EuTronic® Arc 500AS

EuTronic Arc 500 is a nickel-aluminum alloy wire specifically designed for the twin wire arc process. It is self-bonding to most base metals and requires minimal surface preparation. Bond strengths in excess of 9,000 psi can be achieved on clean, smooth surfaces. Roughening the surface by machining, grinding or grit blasting can materially increase the bond strength.

Coatings of EuTronic Arc 500 will exhibit good resistance to oxidation and mild abrasion coupled with excellent resistance to impact and bending. Coatings can be machined and ground to a surface roughness of 10 micro-inches.

EuTronic Arc 500 can be applied to a wide range of base metal types including carbon steel, stainless steel, cast iron, aluminum and nickel-base alloys. EuTronic Arc 500 is not self-bonding to copper and tungsten base metals. Coatings are widely used as a bond layer for subsequent thermal spray topcoats and as a one-step build-up material for dimensional restoration.

## TECHNICAL DATA

Typical Values	
Nominal Hardness:	75 HRB (range 55-80 HRB parameter dependent)
Bond Strength:	9,500 psi (grit blasted surface)
Deposit Rate:	10 lb/hr/100 amps
Deposit Efficiency:	70%
Wire Coverage:	0.9 oz /ft <sup>2</sup> /mil (wire consumption)
Coating Density:	7.8 g/cc
Surface Texture:	Variable (dependent on spray parameters)
Coeff. of Thermal Expansion:	7 x 10 <sup>-6</sup> in/in -F (1000°F)
Melting Temperature:	2642°F (≈1450°C)
Wire Weight:	84 feet / lb @ 1/16 in. diam

## PROCEDURE FOR USE:

Surface should be clean, white metal, with no oxides (rust), dirt, grease, or oil on the surface to be coated.

*Note: It is best not to handle surfaces after cleaning.*

Recommended method of preparation is to grit blast with 24 mesh aluminium oxide, rough grind or rough machine in a lathe.

Please contact your Eutectic Surface Coatings Specialist for more information.

### Spray Parameters:

Air Pressure: \*50 – 60 psi  
Voltage: \*29-32  
Amperage: \*100-200  
Standoff: \*4-8 in. (10-20 cm)

*\*Parameters are typical and may vary depending on the equipment used. Contact your equipment manufacturer for optimum spray parameters.*

### Availability:

25 lb per spool @ 1/16" diameter  
Product Code: 500AS-16-11.34K

## TYPICAL APPLICATIONS

- Dimensional Restoration
- Bond Coating: recommended thickness: 0.004"-0.006"



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To ensure a safe work environment observe normal welding practices, provide appropriate eye, hearing, skin and respiratory protection and pay attention to air flow patterns. For general spray practices, see AWS Publications AWS C2. 1-73, "Recommended Safe Practices for Thermal Spraying" and AWS T55-85, "Thermal Spraying, Practice, Theory and Application." Thermal spraying is a completely safe process when performed in accordance with proper safety measures. Become familiar with local safety regulations before starting spray operations. DO NOT operate your spraying equipment or use the spray material supplied, before you have thoroughly read the equipment instruction manual. Refer to the Eutectic web site for Material Safety Data Sheet (MSDS) information. . DISREGARDING THESE INSTRUCTIONS MAY BE HAZARDOUS TO YOUR HEALTH.



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