



TH205 Nickel Aluminum

DESCRIPTION

TH205 is a solid wire specifically designed for arc spray systems. It is self-bonding to most materials and requires minimal surface preparation. Bond strengths in excess of 9000 psi can be achieved on clean smooth surfaces. Roughening of the surface by machining, grit blasting or grinding can increase the bond strength up to 9800 psi. TH205 exhibits good resistance to high temperature oxidation and abrasion, and excellent resistance to impact and bending. It is a self-bonding, one step material and is also suitable for the build-up and dimensional restoration of nickel based alloys. TH205 is widely used as a bond coat for subsequent thermal spray topcoats and as a one-step build up material for dimensional restoration of aircraft engines.

TYPICAL DEPOSIT CHARACTERISTICS:

- Bond Strength 10,000 psi
- Typical Hardness HRB 75
- Deposit Rate 18 lbs./hr./150-200 Amps
- Deposit Efficiency 70%
- Wire Coverage 2 sq. ft./lbs. @ 12 mils
- Surface Texture Variable
- Machinability Good

SURFACE PREPARATION:

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 aluminum oxide, rough grind, or rough machine in a lathe. *Thermion recommends a 3.5 mil minimum anchor tooth profile.

Applications:

- Bond coat
- Dimensional Restoration

NOMINAL CHEMICAL COMPOSITION (wt. %):

Al	Ni
5.0	Bal

RECOMMENDED SPRAY PARAMETERS:

Diameter	Air Pressure	Voltage	Amperage	Standoff
1/16" (1.6mm)	80-100 psi	28-32	100-300	4-7" (10-17cm)

Parameters are typical and may vary depending on equipment used.

STANDARD SIZES & PACKAGING:

Diameter	Packaging
1/16 (1.6mm)	25#