



TH221 Nickel Aluminum

DESCRIPTION

TH221 is a cored wire specifically designed for both, arc spraying and flame spraying. It is self-bonding to most materials and requires minimal surface preparation. Bond strengths in excess of 9000 psi can be achieved on grit blasted surfaces. TH221 exhibits good resistance to high temperature oxidation and abrasion, and excellent resistance to impact and bending. TH221 can be machined and ground to a finish of 5 micro inches. TH221 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 9100 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
20.0	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#