

A Hot Process Multi-Component, Nickel-Base Alloy Powder

Eutalloy® 10009



COATING

- Non-magnetic and non-sparking deposits
- Excellent wear and corrosion control
- Precise particle sizing ensures consistent deposition, fusing and hardness
- Designed to be applied and fused using the Eutalloy or Ultrajet Eutalloy thermal spray processes



DESCRIPTION:

Eutalloy 10009 is a multi-component nickel-base alloy powder used to produce hard, low friction overlay deposits for wear or corrosion control. Composition based on AMS 4775C and precise particle sizing ensures consistent deposition, fusing and hardness. It is a hot process powder designed to be applied and fused using the Eutalloy or Ultrajet Eutalloy thermal spray processes. For applications on surfaces of steels, stainless steels, cast irons and nickel-base alloy that are subject to abrasion, metal to metal wear or in some cases corrosion. Resists softening at elevated temperatures and will not scale even when subjected to "red heats". Exceptionally dense, smooth deposits permit very thin passes. Deposits are non-magnetic and non-sparking. For applications that require very heavy buildup Eutectic 10185 can be used as a cushion layer.

APPLICATIONS:

- Cams Screws • Ceramic die cutters • Camshafts
- Ball joints • Plug gauges • Molds Nozzles
- Mandrels Tool rests • Valve seats • Tappets

FINISHING PROCEDURE:

Grinding Wheel Type: Green Silicon Carbide
Grit Size: 60 - 80
Grade: H (soft)
Structure: 5
Bond Type: Vitriified
Wheel Speed: Use Manufacturer's Recommendation
Work Speed: 50 -65 surface feet per minute
Traverse Speed: Roughing, 5-15" per minute Finishing, 3-8" per minute
In-Feed: Roughing, 0.001" per pass Finishing, 0.0005" per pass or less
Coolant: Flood coolant with rust inhibitors in 2-5% concentration

Notes: 1. Before grinding, all edges and ends of coating must be chamfer ground. 2. Frequently dress the grinding wheel face to reduce friction and heat.

HEALTH & SAFETY:

Observe normal spraying practices, respiratory protection and proper air flow pattern advised. For general spray practices, see AWS Publications AWS C2.1-73, "Recommended Safe Practices for Thermal Spraying and AWS TSS-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

TECHNICAL DATA:

Powder Properties

Magnetic Properties: This alloy contains enough Chromium, Boron, and Silicon to make it non-magnetic (ie Primarily Austenitic Structure).

Hall Flow Rate: 15 seconds

Bulk Density: 4.3 g/cc

Approximate Melting Range: Solidus, 1750°F (954°C)
Liquidus, 1950°F (1066°C)

Powder Coverage: 50 inch² per pound, 1/16" thick

Coating Properties

Hardness: Rockwell C scale 59

Density: 7.6 g/cc

Approximate Thermal Expansion: 200-1000°F $7.4 \times 10^{-6}/F$
1000-1400°F $7.2 \times 10^{-6}/F$
1400-1800°F $8.0 \times 10^{-6}/F$

Electrical Conductivity: Should be similar to NiChrome (80/20) alloy

Maximum Service Temperature: 1000°F (538°C)

Wear Resistance (ASTM G-65 Schedule A volume loss): 20-35 mm³

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