A Hard Nickel-Chromium Coating for Resistance to Abrasion

Eutectic® 19910




COATING

- Excellent Grind Finish Capability
- Low Coefficient of Friction
- High Compressive Strength
- Excellent Resistance to Mild Abrasion
- Best Suited For Shaft Repair Applications

Castolin Eutectic®
Eutectic Castolin

DESCRIPTION:

Eutectic 19910 is a uniquely formulated Nickel Chromium composite powder designed for use through the TeroDyn 2000, 3000 or the CDS 8000 combustion systems. It is essentially a NiCrBSi powder with aluminum to enhance bonding. The coatings produced are moderately hard, resistant to a broad range of corrosive environments and have excellent grind finish capability. Use 19910 coatings for shaft repair applications where resistance to abrasion is required. **Coatings of 19910 should be applied over a bond coating of 50000.**

TECHNICAL DATA:

Coating Properties:

Typical Hardness: HRC 32 – 35
Coating Density: 8.67 g/cc (0.313 lb/in^3)
Maximum Service Temperature:1,000 F
Typical Grind Finish: < 32 Microinches aa
Thickness Limitation: 0.100 inches (shaft repair)
Bonding: Use Bond Coat of 50000, 21021 or 21031
Coating Weight: 0.045 lb/ft^2 - 0.001 inch
Porosity: 5%

Powder Properties:

Typical Composition: Nickel, Chromium, Boron, Silicon, Iron with Aluminum
Hall Flow Rate: 17 Seconds/50 grams
Melting Point: 2025° F
(*Note – Aluminum Constituent melts at 1220°F*)

PROCEDURE FOR USE:

Grind finish only **(do not use coolant unless coating is sealed)**
Coatings of 19910 are best finished by grinding. Optimal results are achieved using nominal 60 – 100 grit aluminum oxide or silicon carbide wheels.

Super finishes are possible using silicon carbide or diamond cloth with a mineral base hydraulic oil or kerosene. Polishing the ground coating with successively finer grit papers (240 – 1200) will also produce super fine finishes.

TYPICAL APPLICATIONS:

- Impellor Shafts
- Fan Shafts
- Spindles
- Machine Element Repair

RECOMMENDED SPRAY PARAMETERS:

TD 2000	
Nozzle	RL 200 RPA-3@20 psi air
Module Adaptor	Yellow/Red
Oxygen	50 psi / 35 flow (FM-1 flowmeter)
Acetylene	12 psi / 75 flow (FM-1 flowmeter)
T-Valve Setting	14-16 clicks
Coating Rate	18.0 lbs/hr
Spray Distance	7-9 inches

TD 3000	
Nozzle	RL 210W RPA-3@20 psi air
Oxygen	50 psi/38 flow (3310 flowmeter)
Acetylene	12 psi/60 flow (3310 flowmeter)
Carrier Gas	(Ar or N2) 55 psi / 37 flow
Terometer	Adjust to achieve spray rate
Coating Rate	15 lbs/hr
Spray Distance	8-10 inches
Deposit Effic.	85%

CDS 8000	
Flame Setting	N
Container Setting	4
Air/Torch	0-15 psi
Air/Extension	15 psi
Terometer	125
Spray Distance	8 inches
Vc Rotation	65 sfpm
Advance in Rev.	0.1

YOUR RESOURCE FOR PROTECTION, REPAIR AND JOINING SOLUTIONS

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