



A Hard Nickel-Chromium Coating
for Resistance to Abrasion

Eutectic®

29021



- Excellent grind finish capability
- Low coefficient of friction
- High compressive strength
- Excellent resistance to mild abrasion
- Best suited for shaft repair applications

Eutectic® 29021

Eutectic 29021 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 29021 coatings for shaft repair applications where resistance to abrasion is required. Coatings of 29021 should be applied over a bond coating of 50000.

TECHNICAL DATA

Typical Coating Properties

Hardness:	HRC 32-35
Coating Density:	8.67 g/cc
Max. Service Temperature:	1000°F (538°C)
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"
Porosity:	5%

Typical Powder Properties

Composition:	Nickel, Chromium, Boron, Silicon, Iron, with Aluminum
Hall Flow Rate:	17 seconds / 50 grams
Melting Point:	2025°F (1107°C)

(Note – Aluminum Constituent melts at 1220°F (660°C))

PROCEDURE FOR USE

Grind Finish Only

(Do Not use coolant unless coating is sealed)

Coatings of 29021 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.

Recommended Parameters

TD 2000

Nozzle:	RL 200
RotoJet:	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
Spray Rate:	18.0 lb/hr
Spray Distance:	7 to 9 inches

TD 3000

Nozzle:	RL 210W RPA-3 @ 20 psi air
Oxygen:	50 psi / 38 flow
Acetylene:	12 psi / 60 flow
Carrier Gas:	(Ar or N ₂) 55 psi / 37 flow
Terometer:	Adjust to achieve spray rate
Spray Rate:	15 lb/hr
Spray Distance:	8 to 10 inches
Deposit Efficiency:	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

TYPICAL APPLICATIONS

- Impellor shafts
- Fan shafts
- Spindles
- Machine element repair

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 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 website for Material Safety Data Sheet (MSDS) information. DISREGARDING THESE INSTRUCTIONS MAY BE HAZARDOUS TO YOUR HEALTH.



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