



An Easy-to-Machine, One-Step, Iron-Nickel-
Aluminum-Molybdenum Powder

ProXon®

21023



- Outstanding machinability
- Excellent oxidization resistance
- High quality coatings with minimum operator technique dependence
- May be used for bond coat for nickel-chromes, carbides or stainless steels

ProXon® 21023

ProXon 21023 is an iron - nickel - aluminum - molybdenum composite powder designed for use with both Plasma spray and Combustion spray processes. Coatings of 21023 exhibit excellent self-bonding properties and are suitable for use as a one-step product. Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition.

Coatings of 21023 are recommended to satisfy a number of broad requirements:

Machinability - Exhibits better machinability and less tool wear than similar coatings.

Oxidation Resistance - Coatings are resistant to oxidizing atmospheres up to a maximum temperature of 1500°F.

Bond Coating - May be used as a bond coat for nickel - chromes, carbides or stainless steels.

TECHNICAL DATA

Typical Values	
Hardness:	87 HRB ±5
Surface Roughness:	As-Sprayed 50 - 800 µin AA Finished 20 - 40 µin AA
Density:	6.7 g/cc
Porosity:	Less than 5%
Bond Strength (ASTM C-633):	LCS - Ground: 4000 psi LCS - Grit Blasted 6000 psi
Max. Service Temperature:	1500°F (≈816°C)
Hall Flow Rate:	22 seconds
Bulk Density:	3.1 g/cc
Powder Coverage:	0.041 lb/ft ² @ 0.001"

PROCEDURE FOR USE:

Recommended Method: Single Point Turning

Cutting Tool: Kennametal Type K7B or equivalent

Work Speed: Up to 200 SFPM

Traverse Speed Roughing: Up to 0.007 inch per revolution

Finishing: 0.002 inch per revolution

In-Feed Roughing: Up to 0.030 inch

Finishing: <0.003 inch

Coolant: None*

**For immersion service coating should be sealed with SealTec LT or Rotoguard Solution. Sealing should be done prior to machining. A second coat of sealer may be applied after machining if desired. Machining should be done without coolant unless coating is sealed.*

Coating & Spray Parameters

TD 2000

Nozzle: RL 210W

RotoJet: RPA-3 20 psi on Bond, 40 psi Build-up

Module Adaptor: Yellow/Red

Oxygen: 50 psi / 35 flow (FM-1 flowmeter)

Acetylene: 12 psi / 75 flow (FM-1 flowmeter)

T-Valve Setting: 5 on Bond, 12 on Build-up

Coating Rate: 5 lb/hr Bond, 10 lb/hr Build-up

Spray Distance: 6 to 8 inches

Deposit Efficiency: 90%

TD 3000

Nozzle: RL 210W

RotoJet: RPA-3 10 psi on Bond, 20 psi Build-up

Oxygen: 50 psi / 38 flow (3310 flowmeter)

Acetylene: 12 psi/60 flow (3310 flowmeter)

Terometer: Adjust to achieve spray rate

Carrier Gas: (Ar or N₂) 55 psi / 37 flow

Spray Rate: 5 lb/hr Bond, 15 lb/hr Build-up

Spray Distance: 7 to 9 inches

Deposit Efficiency: 85%

TYPICAL APPLICATIONS

- Salvage and build-up of carbon steel and stainless steel parts
- Exhaust mufflers and heat treating fixtures
- Press fits and bearing seats to resist fretting wear

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 T5S-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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