Castolin Eutectic®
Eutectic Castolin

A Nickel-Molybdenum, Steel Alloy Powder

Eutectic® 29077

- High compressive strength
- Excellent build-up capabilities
- Good machinability
- Designed to work with thermal spray and non-transferred arc plasma applications

Eutectic® 29077

Eutectic 29077 is a nickel-molybdenum low alloy steel powder suitable for use with the TeroDyn® 2000, TeroDyn® 3000 and conventional non-transferred arc plasma systems.

Eutectic 29077 is a moderately hard powder that is economical to apply as a thick deposit on both outside diameter and inside diameter applications. As a result, coatings of 29077 are well suited for a broad range of reclamation applications.

Eutectic 29077 is suitable for use as a single coating or as a build-up material. In all cases a suitable bond coating such as ProXon 21021 or ProXon 21031 should be applied. Coatings of 29077 can be readily machined with conventional carbide tooling.

TECHNICAL DATA

Typical Powder Properties	
Hall Flow Rate:	26 seconds/50 grams
Bulk Density:	2.9 g/cc
Chemistry:	Low Alloy Steel with Ni and Mb
Melting Point:	Approx. 2500°F (1373°C)
Typical Coating Properites	
Macro-Hardness:	HRB 98
Coating Density:	7.5 g/cc (0.271 lb/in^3)
Porosity:	3% - 5%
Bond Strength:	> 3,000 (21021 bond layer)
Max.Service Temperature:	800°F (427°C)
Shrinkage:	Low
Finish:	Machine with carbide tooling

PROCEDURE FOR USE

Single Point Turning

(Do Not use coolant unless coating

Tool: Carbide, ISO K01

Rake Angle: -5°

Turning Speed: 100 SFPM

	Cross-Feed	In-Feed
Roughing	0.002 - 0.007 inch/rev	0.01 - 0,04 inches
Finishing	0.002 - 0.007 inch/rev	0.002 - 0.005 inches

Single Point Turning

(Do Not use coolant unless coating is sealed)

Wheel Specification: 11 C 80 F 13 V Pmf (for 16» wheel)

Wheel Speed: 5000 - 6000 RPM

	Cross-Feed	In-Feed
Roughing	75% of the wheel width per revolution	Generally less than 0.005"
Finishing	12.5% of the wheel width per revolution	Should never exceed 0.001" to 0.002"

Coolant: Coating should be sealed so that coolant can be used.

Recommended Parameters

Requires a bond coat of UltraBond 5000

TD 2000

Nozzle:	RL 200
RotoJet:	Optional RPA-2 @ 30 psi Air
Module Adaptor:	Yellow/Red
Oxygen:	50 psi / 35 flow
Acetylene:	12 psi / 75 flow
T-Valve Setting:	16 - 18 clicks
Coating Rate:	16 lb/hr
Deposit Efficiency:	95%

TD 3000

Nozzle:	RL 210 or RL 210W
RotoJet:	RPA-3 @ 25 psi air
Oxygen:	50 psi / 36 flow
Acetylene:	12 psi / 60 flow
Terometer:	150
Coating Rate:	20 lbs/hr
Spray Distance:	8 - 10 inches
Carrier Gas:	Nitrogen @ 55psi/40flow

TYPICAL APPLICATIONS

- Pump Impellers
- Guides
- Cushion Layer / Build-Up Coating
- Starter Motor Shafts
- Journals

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

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