Castolin Eutectic®
Eutectic Castolin

High Performance, Atomized Nickel-Alloy Powder Designed for Use with a Multitude of Thermal Spray Processes

Eutectic 23045

- Extremely durable coatings with a variety of uses
- Controlled composition based on AMS 4775C
- Precise particle sizing ensures coating consistency

Eutectic 23045

Eutectic 23045 is a premium high performance atomized nickel alloy powder optimized to produce hard, durable, abrasion, and friction resistant coatings with a multitude of thermal spray process equipment.

Controlled composition based on AMS 4775C and precise particle sizing ensures consistent deposition, fusing and hardness.

TECHNICAL DATA

Typical Values*	
Typical Macro-Hardness:	58 HRC
Shrinkage on fusing:	17 - 20%
Typical density:	7.6 g/cc
Approximate Thermal Expansion:	200-1000°F: 7.4 x $^{10\text{-}6}$/°F 1000-1400°F: 7.2 x $^{10\text{-}6}$/°F 1400-1800°F: 8.0 x $^{10\text{-}6}$/°F
Hall Flow Rate:	17 seconds
Bulk Density:	4.0 g/cc
Powder Coverage:	0.042 lb/ ft² @ 0.001"
Approximate Melting Range:	Solidus: 1750°F (954°C) Liquidus: 1950°F (1065°C) Furnace Fusing: 2170°F (1188°C)

PROCEDURE FOR USE

Grinding Wheel Type: Green Silicon Carbide

Grit Size: 60 - 80 Grade: H (soft) Structure: 5

Bond Type:	Vitrified
Wheel Speed:	Use Manufacturer's Recommendation
Work Speed:	50 -65 surface feet per minute
Traverse Speed	Roughing: 5-15 inches per minute Finishing: 3-8 inches per minute
In-Feed	Roughing: 0.001 inches per pass Finishing: 0.0005 inches 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.

Recommended Parameters

TD 2000

Nozzle:	RL 210 or RL 201W
RotoJet:	RPA 3@ 30 psi air
Module Adaptor:	Yellow/Red
Oxygen:	50 psi / 30 flow (FM-1 flowmeter)
Acetylene:	12 psi / 60 flow (FM-1 flowmeter)
T-Valve Setting:	20 clicks
Coating Rate:	22 lb/hr
Spray Distance:	6 to 7 inches

TD 3000

Nozzle:	RL 200
Oxygen:	50 psi / 32 flow
Acetylene:	12 psi / 48 flow
Carrier Gas:	Ni @ 55 psi
Terometer:	130
Coating Rate:	20 lb/hr
Spray Distance:	6 to 8 inches
Deposit Efficiency:	90%

TYPICAL APPLICATIONS

- Brake drums for centrifugal spearators
- Super heater nozzles
- Pump impellers
- Pump seal areas

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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