



High Performance
Nickel Atomized Powder

RotoTec

5319SF



- Extremely durable coating with a variety of uses
- Controlled composition based on AWS A5.13
- Precise particle sizing ensures coating consistency

RotoTec 5319SF

RotoTec 5319SF is a high performance atomized nickel alloy powder optimized to produce a durable, abrasion, and friction resistant machinable coating using TeroDyn and CastoDyn thermal spray process equipment. Controlled composition based on AWS A5.13 and precise particle sizing ensures consistent deposition, fusing and hardness.

TECHNICAL DATA

Typical Values	
Macrohardness:	44 HRC
Coating Density:	7.6 g/cc
Shrinking on Fusing:	17-20%
Max. Service Temperature:	1000°F (538°C)
Hall Flow Rate:	17 seconds
Bulk Density:	4.0 g/cc
Powder Coverage:	0.042 lb/ft ² @ 0.001"
Melting Range:	
	Solidus: 1780°F (971°C)
	Liquidus: 2120°F (1160°C)
	Furnace Fusing: 2150°F (1177°C)

PROCEDURE FOR USE:

Finishing Procedure: Machinable with cutting tools, mirror finish by grinding.

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

Coolant: Flood coolant with rust inhibitors in 2-5% concentration

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

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 200
RotoJet: RPA 3@ 15 psi air
Module Adaptor: Yellow/Red-4
Oxygen: 50 psi / 30 flow (FM-1 flowmeter)
Acetylene: 12 psi / 60 flow (FM-1 flowmeter)
T-Valve Setting: 20 clicks
Coating Rate: 24 lbs/hr
Spray Distance: 6 to 8 inches

TD 3000

Nozzle: RL 200
Oxygen: 50 psi / 32 flow (3310 flowmeter)
Acetylene: 12 psi / 48 flow (3310 flowmeter)
Carrier Gas: Ni @ 55 psi
Terometer: 130
Coating Rate: 20 lbs/hr
Spray Distance: 6 to 8 inches

CDS 8000

Flame Setting: Neutral
Mounting: 4
Compressed Air Torch: 0-1
Compressed Air Ext. Neck: 1
Spray Distance: 4-6 inches
Vc Rotation: 150"/min.
Advance/Rev.: 1/8"

TYPICAL APPLICATIONS

- Gas Plungers

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.



Eutectic Corporation:
N94 W14355 Garwin Mace Dr.
Menomonee Falls WI, 53051 USA
+1 800. 558. 8524 • eutectic.com

Eutectic Canada:
428, rue Aimé-Vincent Vaudreuil-Dorion,
Québec J7V 5V5 Canada
+1 800. 361. 9439 • eutectic.ca



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