



Atomized Zinc Powder Suitable
for use as an Anodic Coating
to Resist Galvanic Corrosion

CorResist[®]

29230



- High purity levels increase service life
- Excellent base for top coats of sealer or paint
- Greater coating thicknesses than galvanizing
- Sacrificial coatings in marine industrial environments

CorResist® 29230

CorResist 29230 powder is a high purity atomized Zinc powder suitable for use as an anodic coating to resist galvanic corrosion on steel or to provide EMI / RFI shielding. Coatings are applied by thermal spray equipment such as the TeroDyn®2000 or TeroDyn 3000 systems when equipped with the low temperature LT Accessory Air Shroud Package.

29230 powder is suitable for use as specified in ASTM A780 "Standard Practice for Repair of Damaged Hot-Dip Galvanized Coatings". It will provide sacrificial protection in wet marine, industrial environments (PH 6 - 12) or immersion in water at temperatures less than 140°F (60°C). For higher temperatures or immersion in salt water use Eutectic 1961 aluminum coatings. Zinc Powders are not self-bonding and require an SSPC 5 Blast finish using an angular aluminum oxide or chilled iron grit. A 24 to 40 grit size is usually capable of producing the 1 - 3 mil blast profile which is required for good mechanical bonding to the substrate. Avoid use in strong acids or caustics. For best results seal coating with SealTec®-LT or RotoGuard® Solution.

PROCEDURE FOR USE

TD 2000 (Acetylene Fuel)

| | |
|-----------------|------------------|
| Nozzle: | LT 250 |
| LT Air Shroud: | 30 psi |
| Module Adaptor: | 5 |
| Oxygen: | 50 psi / 28 flow |
| Acetylene: | 12 psi / 32 flow |
| Spray Rate: | 20 lb/hr |
| Spray Distance: | 7 to 9 inches |
| T-Valve | 40 clicks |

TD 2000 (Propylene Fuel)

| | |
|-----------------|------------------|
| Nozzle: | LT 260P |
| LT Air Shroud: | 50 psi |
| Module Adaptor: | 5 |
| Oxygen: | 80 psi / 24 flow |
| Acetylene: | 30 psi / 24 flow |
| Spray Rate: | 20 lb/hr |
| Spray Distance: | 10 to 12 inches |
| T-Valve | 15 clicks |

TD 2000 (Propane Fuel)

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|-----------------|------------------|
| Nozzle: | LT 260P |
| LT Air Shroud: | 35 psi |
| Module Adaptor: | 5 |
| Oxygen: | 80 psi / 30 flow |
| Acetylene: | 15 psi / 24 flow |
| Spray Rate: | 20 lb/hr |
| Spray Distance: | 7 to 8 inches |
| T-Valve | 40 clicks |

TD 2000 (Fan Attachment)

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|-----------------|------------------|
| Nozzle: | LT 250 |
| LT Air Shroud: | 45 psi |
| LT Fan | 8* psi |
| Module Adaptor: | 5 |
| Oxygen: | 50 psi / 30 flow |
| Acetylene: | 12 psi / 48 flow |
| Spray Rate: | 20 lb/hr |
| Spray Distance: | 7 to 9 inches |
| T-Valve | 40 clicks |

* Provides a 3 - 4 inch wide spray pattern.

TD 3000

| | |
|---------------------------|------------------|
| Nozzle: | LT 250 |
| LT Air Shroud: | 40 psi |
| Oxygen: | 50 psi / 30 flow |
| Acetylene: | 12 psi / 32 flow |
| Carrier Gas (Ar or Nit.): | 55 psi / 50 flow |
| Terometer: | 150** |
| Spray Rate: | 20 lb/hr |
| Spray Distance: | 9 to 12 inches |
| Air Vibrator: | 20 psi |

** Adjust as needed to achieve 20 lbs/hr.

TECHNICAL DATA

| Typical Powder Properties | |
|--------------------------------|--|
| Hall Flow Rate: | 28 seconds |
| Bulk Density: | 3.0 g/cc |
| Powder Coverage: | 0.055 lbs/ft ² @ 0.001 inch |
| Typical Coating Properties | |
| Hardness: | Rockwell RH40 |
| Dry Conditions: | 230°F (110°C) max. service temp. |
| Wet Conditions: | 140°F (60°C) max. service temp. |
| Bond Strength: | > 1500 psi |
| Porosity: | 5% |
| Surface Roughness: | 500 - 800 Micro-Inches AA |
| Thickness Limit: | None |
| Density: | 6.3 g/cc |
| Melting Point: | 787°F (419°C) |
| Surface Resistivity @ 3-5 mil: | < 20 milliohm/ft ² Signal attenuation reduction of 60 to 90 db |

ADVANTAGES VS. HOT-DIP GALVANIZING

1) Coatings of CorResist 29230 provide longer service life because:

a) 29230 coatings have a higher purity level. Zinc coatings applied by hot-dip galvanizing have a lower zinc content due to significant iron contamination of the molten zinc. Higher purity levels produce a longer service life.

b) Coatings of 29230 can be applied to a greater thickness than galvanizing. Typically for cathodic protection of steel structures, zinc is applied to a thickness in the 8 to 10 mil range.

c) Coatings of 29230 provide an excellent base for subsequent topcoats of a sealer or paint system which are both decorative and provide an effective barrier to corrosion.

2) Galvanized surfaces do not provide a good base for subsequent paint or sealer systems. Thermal spray coatings of 29230 can be applied to large structures "in-situ": areas which cannot be galvanized without complete disassembly.

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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