DSP 3

DESCRIPTION

Two-component, water based inorganic zinc silicate pre-construction primer

PRINCIPAL CHARACTERISTICS

- Zero VOC formulation
- >65% zinc in dry film
- Provides outstanding corrosion resistance
- Excellent water resistance
- Suitable for high speed welding
- Provides protection for extended periods

COLOR AND GLOSS LEVEL

- Gray
- Flat

BASIC DATA AT 68°F (20°C)

Data for mixed product	
Number of components	Two
Volume solids	62 ± 2%
VOC (Supplied)	max. 0.0 lb/US gal (approx. 0 g/l)
Recommended dry film thickness	0.5 - 0.7 mils (13 - 18 µm) depending on system
Theoretical spreading rate	1421 ft^2/US gal for 0.7 mils (34.8 m^2/l for 18 µm)
Shelf life	Liquid: at least 24 months when stored cool and dry Powder: at least 24 months when stored cool and dry

Notes:
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time
- Higher film thickness is possible, however high speed welding performance is adversely affected by higher film thicknesses

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Coating performance is, in general, proportional to the degree of surface preparation

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Steel

- Round off all rough welds and sharp edges. Remove weld spatter
- Abrasive blast with an angular abrasive to an SSPC SP-10 cleanliness or higher. Achieve a surface profile of 1.0 – 2.0 mils (25 – 50 µm)
- Higher surface profiles up to 3.5 mils (89 µm) are acceptable, but the product must be applied in a thickness great enough to achieve a minimum of 0.7 mils (18 µm) dry film thickness
- Apply this product to the specified thickness as soon as possible after the surface is prepared
- Maintain relative humidity below 70% during blasting and prior to application
- Do not leave blasted steel uncoated overnight. Keep moisture, oil, grease, or other organic matter off surface before coating. Take care not to touch blasted surfaces

Substrate temperature and application conditions

- Surface temperature during application should be between 50°F (10°C) and 130°F (54°C)
- Surface temperature during application should be at least 5°F (3°C) above dew point
- Ambient temperature during application and curing should be between 50°F (10°C) and 100°F (38°C)
- Relative humidity during application and curing should not exceed 85%

SYSTEM SPECIFICATION

- Primers: Direct to metal
- Topcoats: AMERCOAT Epoxies, PITTGUARD Epoxies

Note: A wet-on-wet mist coat/full coat application technique is required to avoid application bubbling. Lightly rub dry spray from the surface prior to topcoating.

SECONDARY SURFACE PREPARATION

- Atmospheric service: Power wash with clean water to remove zinc salts, and other surface contaminants. Allow to dry thoroughly. Power tool clean weld areas to SSPC SP-11 standards. Immersion service – Power wash with clean water to remove alkaline salts formed during curing
- Immersion service: Power wash with clean water to remove alkaline salts formed during curing. Lightly sweep blast the surface and spot blast weld and burn back areas to an SSPC SP-10 condition. Anti-corrosive system should have a minimum dry film thickness of 10 mils (250 µm)

INSTRUCTIONS FOR USE

- Only mix full kits. Pre-mix liquid component with a power agitator and sift in zinc powder slowly under agitation. Strain mixture through a 30-mesh strainer prior to spraying to remove any undispersed lumps.
- Maintain agitation as needed throughout application to prevent settling of the zinc

Pot life

12 hours at 70°F (21°C)

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Application

- Area should be sheltered from airborne particulates and pollutants
- Ensure good ventilation during application and curing
- Provide shelter to prevent wind from affecting spray patterns
- Curing in stagnant air conditions will lead to a smooth, glazed finish that will require abrading prior to overcoating
- Mist spray: A mist coat / full coat application technique is required when topcoating to prevent application bubbling. Lightly rub dry spray from the surface prior to overcoating
- Repair: Spot blast rusted areas in accordance with the surface preparation instructions before touching up with this product

Material temperature

Material temperature during application should be between 50°F (10°C) and 90°F (32°C)

Air spray

- Ensure equipment is completely clean and free of any solvent based thinners. Industrial equipment such as DeVilbiss MBC 510 with a 64 air cap. Use a heavy mastic spring and leather packing to avoid sticking and packing of the fluid needle and tip. A pressure pot with variable speed agitator, oil and water trap and separate air and fluid regulators should be used. Instead of a pressure pot, a low pressure feed pump with recirculating lines can be used. Limit fluid hose length to 50 feet. Promptly flush/clean with clean water after use

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.070 in (1.8 mm)

Notes:

- If necessary, thin with clean water at a maximum of 2 ounces per gallon
- Automatic spray: An Accuspray HVLP Automatic spray head model #55ZZ or equivalent is recommended

Airless spray

- Ensure equipment is completely clean and free of any solvent based thinners. Dedicated airless equipment is highly recommended. WIWA Model # 34020 20:1 pump with integral agitated feed tank. WIWA 500F spray gun. A 0.021 tip size is recommended. Use a 1/4" fluid line with a maximum of 50 feet. Avoid delays in spraying and recirculate or flush line as needed to prevent settling. Adjust pressure as needed. Flush thoroughly with clean water immediately after use

Recommended thinner

No thinner should be added

Nozzle orifice

0.021 in (approx. 0.53 mm)

Note: If necessary, thin with clean water at a maximum of 2 ounces per gallon

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Brush/roller

- Use a high-quality natural-bristle brush. Brush application is only recommended for small touch-up and/or repair areas. Roller application is not recommended

Recommended thinner

No thinner should be added

Note: If necessary, thin with clean water at a maximum of 2 ounces per gallon

Cleaning solvent

Tap water

ADDITIONAL DATA

Overcoating interval for DFT up to 0.7 mils (18 µm)				
Overcoating with...	**Interval**	**50°F (10°C)**	**70°F (21°C)**	**90°F (32°C)**
approved topcoats	Minimum Maximum	48 hours Unlimited	24 hours Unlimited	12 hours Unlimited
itself	Minimum Maximum	4 hours 48 hours	1.5 hours 24 hours	1 hour 12 hours
Cure to water insolubility (protect from rain)	Minimum Maximum	12 hours N/A	4 hours N/A	2 hours N/A

Notes:

- Overcoating times valid for a relative humidity of maximum 70%
- Surface must be clean and dry. Surface must be power washed as needed to remove all surface contaminants including zinc salts and alkaline salts formed during the curing process. In all cases, it is necessary to rinse the steel to remove alkaline salts prior to exterior storage. It is highly advisable to rinse the steel prior to topcoating when steel will be subject to ponding water or condensation from high humidity conditions in service. Rinsing should be done with clean water until the surface pH is 8 or lower as measured in several locations. Water rinsing can take place after the cure to water insolubility time is reached. If surface glaze develops during cure, it is necessary to abrade the surface prior to topcoating. All dry spray must be removed from the surface by screening or light abrading.

Curing time for DFT up to 0.7 mil (17 µm)			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
50°F (10°C)	10 minutes	35 minutes	3 days
70°F (21°C)	2 minutes	6 minutes	24 hours
90°F (32°C)	1 minute	2 minutes	12 hours

Note: Curing times valid for a relative humidity of maximum 70%

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Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
50°F (10°C)	16 hours
70°F (21°C)	12 hours
90°F (32°C)	8 hours

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective and Marine Coatings to supply the same product on a worldwide basis. However, slight modification of the product is sometimes necessary to comply with local or national rules/circumstances. Under these circumstances an alternative product data sheet is used.

REFERENCES

• CONVERSION TABLES	INFORMATION SHEET	1410
• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411
• SAFETY INDICATIONS	INFORMATION SHEET	1430
• SAFETY IN CONFINED SPACES AND HEALTH SAFETY, EXPLOSION HAZARD – TOXIC HAZARD	INFORMATION SHEET	1431

WARRANTY

LIMITATIONS OF LIABILITY

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Packaging: Available in 5-gallon kits

Product code	Description
DP3-A	Liquid
DP3-P	Zinc Powder