DIMETCOTE® 21-5

DESCRIPTION

Water based inorganic zinc silicate primer

PRINCIPAL CHARACTERISTICS

- Zero VOC formulation
- >85% zinc in dry film
- Provides outstanding corrosion resistance
- Tough and abrasion resistant
- Resistant to dry temperature up to 750°F(399°C)
- Excellent corrosion protection suitable for C5 environments as per ISO12944

COLOR AND GLOSS LEVEL

- Gray
- Flat

BASIC DATA AT 68°F (20°C)

Data for mixed product	
Number of components	Two
Volume solids	62 ± 4%
VOC (Supplied)	max. 0.0 lb/US gal (approx. 0 g/l) China GB 30981-2020 (tested) 21.0 g/l (approx. 0.2 lb/gal)
Temperature resistance (Continuous)	To 750°F (399°C)
Recommended dry film thickness	2.0 - 5.0 mils (50 - 125 µm) depending on system
Theoretical spreading rate	497 ft^2/US gal for 2.0 mils (12.4 m^2/l for 50 µm)
Shelf life	Base: at least 24 months when stored cool and dry Hardener: at least 24 months when stored cool and dry

Notes:
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time
- Color will drift at elevated temperatures
- Applications up to 6.0 mils (150 µm) are acceptable with random spot readings up to 9.0 mils (225 µm). For high temperature applications, a maximum of 3.0 mils (75 µm) is allowed

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Coating performance is prpoportional to the degree of surface preparation.

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Steel

- Round off all rough welds and sharp edges. Remove weld spatter
- For new condition steel, abrasive blast to an SSPC SP-10 or higher to achive an angular anchor profile of 1.0 - 3.0 mils.
- For previously coated steel or steel with SSPC initial condition B or C, abrasive blast to SSPC SP-5 cleanliness.
- Higher surface profiles up to 5 mils (125 µm) are acceptable, but the product must be applied in a thickness great enough to achieve a minimum of 2.5 mils (65 µm) dry film thickness
- Maintain relative humidity below 70% during blasting and prior to application
- Apply this product as soon as possible after blasting to avoid rusting and contamination. Do not wait more than 6 hours between blasting and 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

Atmospheric exposure conditions

- Ambient temperature should be between 40 °F (5 °C) and 120 °F (49 °C)
- Maximum 85% relative humidity during application and curing

Note: Note that curing times can double between 70% and 85% relative humidity. Low humidity conditions are favorable for water based inorganic zinc coatings.

Substrate temperature and application conditions

- Surface temperature during application should be between 40°F (4°C) and 130°F (54°C)
- Surface temperature during application should be at least 5°F (3°C) above dew point

SYSTEM SPECIFICATION

- Primers: Direct to metal
- Topcoats: PSX 700, AMERLOCK 2/400 VOC, AMERCOAT 385, AMERCOAT 370, AMERCOAT epoxies, AMERCOAT 741

INSTRUCTIONS FOR USE

- Only mix full kits
- Pre-mix base component with a pneumatic air mixer at moderate speeds to homogenize the container. Add powder component slowly under agitation until fully mixed. Strain the mixture from one container to another through a 30 mesh filter/strainer to remove any undispersed lumps.

Pot life

8 hours at 70°F (21°C)

Note: See ADDITIONAL DATA – Pot life

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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: When dry though, measure the dry film thickness. If film thickness is lower than specified, apply additional material as soon as possible, but not to exceed 24 hours from the previous application. Ensure any dry spray is removed
- Repair: For aged inorganic zinc coatings, spot blast rusted areas in accordance with the surface preparation instructions before touching up with this product. When blasting is not practical, Amercoat 68 HS or Dimetcote 302 H may be used for repair

Material temperature

Material temperature during application should be between 40°F (4°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
- Maintain continuous agitation to keep zinc in suspension
- Hoses should normally be kept as short as possible

Recommended thinner

Tap water (normally no thinner required)

Volume of thinner

0 - 5%

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
- Maintain continuous agitation to keep zinc in suspension
- Hoses should normally be kept as short as possible

Recommended thinner

Tap water (normally no thinner required)

Volume of thinner

0 - 5%

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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

Tap water

Volume of thinner

0 – 5%

Cleaning solvent

Tap water

Note: All application equipment must be cleaned immediately after use

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	**Theoretical spreading rate**
1.0 mils (25 µm)	1010 ft^2/US gal (24.8 m^2/l)
3.0 mils (75 µm)	336 ft^2/US gal (8.2 m^2/l)

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Overcoating interval for various DFT's at maximum 70% relative humidity					
Overcoating with...	**Interval**	**40°F (4°C)**	**50°F (10°C)**	**70°F (21°C)**	**90°F (32°C)**
Itself at 3 mils dft	Minimum Maximum	22 minutes Extended	13 minutes Extended	6 minutes Extended	3 minutes Extended
Approved coatings over 21-5 at 3 mils dft	Minimum Maximum	3 days Extended	48 hours Extended	24 hours Extended	12 hours Extended
Approved coatings over 21-5 at 6 mils dft	Minimum Maximum	5 days Extended	3 days Extended	36 hours Extended	24 hours Extended
Cure to non-immersion water contact (water rinsing) at 3 mils	Minimum Maximum	3 days N/A	48 hours N/A	24 hours N/A	12 hours N/A
Cure to non-immersion water contact (water rinsing) at 6 mils	Minimum Maximum	5 days N/A	3 days N/A	36 hours N/A	24 hours N/A
Cure to solvent splash and spill @ 3 mils	Minimum Maximum	24 hours N/A	16 hours N/A	8 hours N/A	4 hours N/A
Cure to solvent splash and spill @ 6 mils	Minimum Maximum	48 hours N/A	32 hours N/A	16 hours N/A	9 hours N/A

Notes:

- 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.
- Cure to non-immersion water contact indicates the degree of curing that allows for rinsing with water to remove alkaline salts. Steel should be allowed to dry thorougly after rinsing.

Curing time for DFT up to 3.0 mils (75 µm)		
Substrate temperature	**Dry to touch**	**Dry to handle**
40°F (4°C)	5 minutes	22 minutes
50°F (10°C)	4 minutes	13 minutes
70°F (21°C)	3 minutes	6 minutes
90°F (32°C)	2 minutes	3 minutes

Pot life (at application viscosity)	
Mixed product temperature	**Pot life**
50°F (10°C)	12 hours
70°F (21°C)	8 hours
90°F (32°C)	5 hours

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Product Qualifications

- SSPC Paint 20, Type IC, Level 1
- RCSC Class B slip coefficient for high strenght bolted connections
- Zinc dust meets ASTM D520 type 2 standards
- AASHTO M300

SAFETY PRECAUTIONS

- See Safety Data Sheet and product label for complete safety and precaution requirements
- This is a solvent-borne paint and care should be taken to avoid inhalation of spray mist or vapor, as well as contact between the wet paint and exposed skin or eyes

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

• EXPLANATION TO PRODUCT DATA SHEETS	INFORMATION SHEET	1411

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Packaging: Available in 1-gallon and 5-gallon kits

Product code	Description
DI2154-A	Liquid
DI2154-P	Zinc Powder