



**AMERON**  
INTERNATIONAL

Performance Coatings & Finishes

# Dimetcote® 21-5

*Water-based inorganic zinc silicate primer*

## Application Instructions

Refer to Product Data Sheet for properties and uses.

Adhere to all instructions, precautions, conditions and limitations during storage, handling, application and drying periods to obtain maximum performance. For conditions outside the requirements or limitations, contact your Ameron representative.

### Surface Preparation

Coating performance is proportional to the degree of surface preparation. Surface must be clean, free of moisture, grease or other contaminants. Round off all rough welds and sharp edges, remove weld spatter.

**Steel** – uncoated, without pits or depressions, SSPC-SP10.  
– previously painted or pitted, SSPC-SP5.

Blast to achieve a 1 to 2 mils (25 to 50 microns) anchor profile as indicated by a Keane-Tator Surface Profile Comparator, Testex Tape or similar device. Rougher profiles are acceptable, but require increased film thickness for equivalent protections. Remove abrasive residue or dust from surface.

Apply Dimetcote 21-5 as soon as possible to avoid rusting or other recontamination. Do not leave blasted steel uncoated overnight. Spot blast to remove any contamination; solvent wiping is not satisfactory.

### Topcoating

Dimetcote 21-5 surface must be clean and dry before topcoating. Water soluble contaminants may be washed off with water. Remove grease and similar contaminants with an emulsion type cleaner or neutral detergent. Rinse with clean water and allow to dry. Solvent wiping is not satisfactory as contamination may only be spread and not removed. In some cases a mist coat/full coat technique may be required to prevent application bubbling.

### Application Equipment

The following is a guide; suitable equipment from other manufacturers may be used. Changes in pressure, hose and tip size may be needed for proper spray characteristics.

**Conventional spray** – Industrial equipment such as DeVilbiss MBC 510 with a heavy mastic spring, leather packing and a Clemtex ZS-5110 sprayhead with a DeVilbiss 64 air cap needs to be used 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 such as a Graco Husky with recirculating lines can be used.

**Airless spray** – Equipment such as a Speeflo 914-315 14:1, Alaskan PZ or Nordson Commander equipped with water-resistant seals and check valves should be used. A 30 mesh in-line filter with Speeflo's 801-385 H-Gun PZ is recommended. For best application results use a 0.019- to 0.027-inch spray tip with a 0.028- to 0.036-inch preorifice.

**Power mixer** – Jiffy Mixer

## Environmental Conditions

| Temperature   | °F          | °C      |
|---|-------------|---------|
| air   | 40 to 120   | 4 to 49 |
| surface   | 40 to 130   | 4 to 54 |
| Relative humidity during application and initial drying maximum | 85% at 70°F |         |

*Surface temperatures must be at least 5°F (3°C) above dew point to prevent condensation. At freezing temperatures surface must be free of ice.*

## Application Procedure

1. Flush all equipment with fresh water before use.
  2. Stir liquid with a power mixer.  
*Dimetcote 21-5 standard liquid is clear. The light gray liquid is cloudy when stirred (white pigment) and the green liquid is cloudy when stirred (yellow pigment).*
  3. Discard desiccant bag from powder and gradually stir powder into liquid. Continue stirring until powder is well dispersed and mixture free of lumps. Do not mix more material than will be used within 8 hours at 70°F. Do not reverse order nor vary proportions.
- | Pot life (hours) | °F/°C |       |       |
|------------------|-------|-------|-------|
|                  | 90/32 | 70/21 | 50/10 |
|                  | 5     | 8     | 12    |
4. **Do not thin for any reason.**
  5. Strain mixture through 30 mesh screen to prevent possible clogging of equipment.
  6. Continue slow stirring during application to maintain material uniformity.
  7. Apply a wet coat in even parallel passes, overlap each pass 50 percent to avoid pinholes, holidays or bare areas.
  8. Insure proper thickness on welds, cutouts, sharp edges, rivets, bolts and corners as cracking may occur with excessive thickness.
  9. Keep pressure pot at approximately same elevation as spray gun for proper material delivery to gun.
  10. When dry through, check film thickness with a non destructive dry film thickness gauge. Recoat when dry to handle if greater thickness is required. Normal recommended thickness is 3 mils (75 microns). Allowable range is 2 to 12 mils (50 to 300 microns).

Drying time (ASTM D1640) @ 70% RH\* (minutes)

|        | °F/°C |       |       |      |
|--------|-------|-------|-------|------|
|        | 90/32 | 70/21 | 50/10 | 40/4 |
| touch  | 2     | 3     | 4     | 5    |
| handle | 3     | 6     | 13    | 22   |
| recoat | 3     | 6     | 13    | 22   |

**Time to water insolubility @ 70% RH\* (hours)**

|          |     |       |     |       |
|----------|-----|-------|-----|-------|
| @ 3 mils | 1/4 | 1/2   | 3/4 | 1     |
| @ 6 mils | 1/2 | 1 1/2 | 2   | 3     |
| @ 9 mils | 3/4 | 2     | 3   | 4 1/2 |

**Topcoat (min hours)**

|          |    |    |     |     |
|----------|----|----|-----|-----|
| @ 3 mils | 12 | 24 | 48  | 72  |
| @ 6 mils | 24 | 36 | 72  | 120 |
| @ 9 mils | 36 | 72 | 120 | 180 |

**Cure for continuous water contact (non-immersion)**

| @ 70% RH* (hours) |    |    |     |     |
|-------------------|----|----|-----|-----|
| @ 3 mils          | 12 | 24 | 48  | 72  |
| @ 6 mils          | 24 | 36 | 72  | 120 |
| @ 9 mils          | 36 | 72 | 120 | 180 |

**Cure for solvent splash and spill resistance**

| @ 70% RH* (hours) |    |    |    |    |
|-------------------|----|----|----|----|
| @ 3 mils          | 5  | 8  | 16 | 24 |
| @ 6 mils          | 9  | 16 | 32 | 48 |
| @ 9 mils          | 12 | 24 | 48 | 72 |

\*Above 70% relative humidity up to the maximum of 90%, time will double.

11. Touch up random pinholes, holidays, small damaged or bare areas by brush when film is dry to handle. Larger areas should be sprayed.
12. Ventilate with clean air during the application and curing following final coat. Ventilating air temperature and relative humidity between coats must be such that condensation will not form on the surface between coats. The surface must be free of moisture when the next coat is applied.

*Caution – In confined areas or under stagnant air conditions, glazing of the Dimetcote 21-5 surface may occur. Lightly blast to roughen the surface before topcoating.*

13. Clean equipment immediately after use with fresh water.

## Warranty

Ameron warrants its products to be free from defects in material and workmanship. Ameron's sole obligation and Buyer's exclusive remedy in connection with the products shall be limited, at Ameron's option, to either replacement of products not conforming to this warranty or credit to Buyer's account in the invoice amount of the nonconforming products. Any claim under this warranty must be made by Buyer to Ameron in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life, or one year from the delivery date, whichever is earlier. Buyer's failure to notify Ameron of such nonconformance as required herein shall bar Buyer from recovery under this Warranty.

**Ameron makes no other warranties concerning the product. No other warranties, whether express, implies, or statutory, such as warranties of merchantability or fitness for a particular purpose, shall apply. In no event shall Ameron be liable for consequential or incidental damages.**

Any recommendation or suggestion relating to the use of the products made by Ameron, whether in its technical literature, or in response to specific inquiry, or otherwise, is based on data believed to be reliable; however, the products and information are intended for use by Buyers having requisite skill and know-how in the industry, and therefore it is for Buyer to satisfy itself of the suitability of the products for its own particular use and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results.

## Safety Precautions

Read each component's material safety data sheet before mixing. Mixed material has hazards of each component. Safety precautions must be strictly followed during storage, handling and use.

**CAUTION – Improper use and handling of this product can be hazardous to health.**

**Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: implementation of proper ventilation, use of proper lamps, wearing of proper protective clothing and masks, tenting and proper separation of application areas. Consult your supervisor. Proper ventilation and protective measures must be provided during application and drying to keep spray mist and vapor concentrations within safe limits and to protect against toxic hazards. Necessary safety equipment must be used and ventilation requirements carefully observed, especially in confined or enclosed spaces, such as tank interior and buildings.**

**This product is to be used by those knowledgeable about proper application methods. Ameron makes no recommendation about the types of safety measures that may need to be adopted because these depend on application environment and space, of which Ameron is unaware and over which it has no control.**

**If you do not fully understand these warnings and instructions or if you cannot strictly comply with them, do not use the product.**

**Note:** Consult Code of Federal Regulations Title 29, Labor, parts 1910 and 1915 concerning occupational safety and health standards and regulations, as well as any other applicable federal, state and local regulations on safe practices in coating operations.

***This product is for industrial use only. Not for residential use.***

## Limitation of Liability

Ameron's liability on any claim of any kind, including claims based upon Ameron's negligence or strict liability, for any loss or damage arising out of, connected with, or resulting from the use of the products, shall in no case exceed the purchase price allocable to the products or part thereof which give rise to the claim. **In no event shall Ameron be liable for consequential or incidental damages.**



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