

DIMETCOTE® 9 - 67 / SIGMAZINC™ 158 S

DESCRIPTION

Two-component, moisture-curing zinc (ethyl) silicate primer

PRINCIPAL CHARACTERISTICS

- Anticorrosive primer for structural steel
- Suitable as a system primer in various paint systems based on unsaponifiable binders
- Galvanic action eliminates sub-film corrosion
- Can withstand substrate temperatures from -90°C (-130°F) up to 400°C (750°F), under normal atmospheric exposure conditions
- Good low-temperature curing
- Good impact and abrasion resistance
- Complied with ASTM D520 Type II zinc dust
- Complies with the compositional requirements of SSPC-Paint 20, Level 3
- Must not be used for immersion in alkaline (more than pH 9) or acidic (less than pH 5.5) liquids

COLOR AND GLOSS LEVEL

- Grey
- Flat

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.9 kg/l (16.1 lb/US gal)
Volume solids	65 ± 2%
VOC (Supplied)	max. 597.0 g/l (approx. 5.0 lb/US gal)
Recommended dry film thickness	75 - 100 µm (3.0 - 4.0 mils) depending on system
Theoretical spreading rate	8.7 m ² /l for 75 µm (348 ft ² /US gal for 3.0 mils)
Dry to touch	15 minutes
Overcoating Interval	Minimum: 24 hours Maximum: Unlimited
Full cure after	46 hours
Shelf life	Binder: at least 9 months when stored cool and dry Pigment: at least 24 months when stored pigment moisture free

Notes:

- See ADDITIONAL DATA - Spreading rate and film thickness
- See ADDITIONAL DATA - Overcoating intervals
- See ADDITIONAL DATA - Curing time



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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Atmospheric exposure conditions

- Steel; blast cleaned to ISO-Sa2½ or minimum SSPC SP-6, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Steel with approved zinc silicate shop primer; pretreated to SPSS-Pt3
- Weathered galvanized steel; blast cleaned to remove rust, to roughen the surface and to remove any zinc salts, which might be present

Substrate temperature and application conditions

- Ambient temperature during application and curing should be between -5°C (23°F) and 50°C (122°F)
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Relative humidity during curing should be above 50%

INSTRUCTIONS FOR USE

Mixing ratio by volume: binder to zinc powder 87.2:12.8

- Add the zinc powder gradually to the pigmented binder in the drum and, at the same time, continuously stir the mixture by using a mechanical mixer
- Stir the zinc dust powder thoroughly through the binder
- To avoid lumps in the paint do not add the binder to the zinc powder
- Strain the mixture through a 30–60 mesh screen
- Agitate continuously during application

Note: At application temperature above 30°C (86°F) addition of max 10% by volume of THINNER 90-53 may be necessary

Induction time

None

Pot life

12 hours

Note: See ADDITIONAL DATA – Pot life



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Air spray

Recommended thinner

THINNER 90-53

Volume of thinner

0 - 10%, depending on required thickness and application conditions

Nozzle orifice

2.0 mm (approx. 0.079 in)

Nozzle pressure

0.3 MPa (approx. 3 Bar; 44 p.s.i.)

Airless spray

Recommended thinner

THINNER 90-53, THINNER 21-06 (AMERCOAT 65), THINNER 21-25 (AMERCOAT 101) FOR > 60°F (15°C)

Volume of thinner

0 - 10%, depending on required thickness and application conditions

Nozzle orifice

Approx. 0.43 – 0.53 mm (0.017 – 0.021 in)

Nozzle pressure

9.0 - 12.0 MPa (approx. 90 - 120 bar; 1306 - 1741 p.s.i.)

Note: A dedicated pump for a zinc silicate coating with constant agitation must be used

Brush/roller

- Only for touch-up and spot repair
- Roller application is not recommended

Recommended thinner

THINNER 90-53

Volume of thinner

5 - 15%

Note: Apply a visible wet coat with a max. dft of 25 µm (1.0 mils) same for subsequent coats in order to obtain the required dft

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Cleaning solvent

THINNER 90-53

Upgrading

- This is only valid for spray application
- If the DFT is below specification and an extra coat of Dimetcote 9-67 has to be applied, it should be thinned down with 25 – 50% Thinner 90-53, in order to obtain a visible wet coat that remains wet for some time

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	Theoretical spreading rate
75 µm (3.0 mils)	8.7 m ² /l (348 ft ² /US gal)
100 µm (4.0 mils)	6.5 m ² /l (261 ft ² /US gal)

Note: Above 150 µm (6.0 mils) mudcracking can occur

Overcoating interval for DFT up to 100 µm (4.0 mils) and 50% relative humidity							
Overcoating with...	Interval	-5°C (23°F)	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
approved topcoats	Minimum	53 hours	48 hours	36 hours	24 hours	18 hours	15 hours
	Maximum	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited

Notes:

- For recoating with itself to take required dft, recommend to apply within 2 days before full cure. No minimum recoating interval limitation for itself.
- To confirm cure to topcoat, conduct a MEK rub test per ASTM D4752. A rating of 4 or higher is sufficient for topcoating
- For measuring of the curing, the MEK rub test according to ASTM 4752 is a suitable method: after 50 double rubs with a cloth soaked in MEK (or alternatively THINNER 90-53) no dissolving of the coating should be observed
- Curing/recoating time will be shortened by the increase of humidity, please contact regional technical service team for details
- A mist coat / full coating application technique is required when topcoating to prevent application bubbling. Ensure dry spray is removed from the surface
- DIMETCOTE 9-67 is a moisture curing zinc silicate, this means that it only cures after sufficient take up of water from the atmosphere during and after application; it is recommended that relative humidity and temperature are measured during the curing time
- When curing conditions are unfavorable or when reduced overcoat times are desired, curing can be accelerated 4 hours after application by: [1] Wetting or soaking with water, keeping the surface wet for the next 2 hours, followed by drying; [2] Wetting or soaking with a 0.5% ammonia solution, followed by drying
- Maximum interval is only unlimited when the surface is free from any contamination

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Curing time for DFT up to 100 µm (4.0 mils) and 50% relative humidity		
Substrate temperature	Dry to handle	Full cure
-5°C (23°F)	4 hours	4 days
0°C (32°F)	2 hours	3 days
10°C (50°F)	1 hour	48 hours
20°C (68°F)	30 minutes	36 hours
30°C (86°F)	20 minutes	24 hours
40°C (104°F)	15 minutes	16 hours

Notes:

- DIMETCOTE 9-67 is a moisture curing zinc silicate, this means that it only cures after sufficient take up of water from the atmosphere during and after application
- It is recommended that relative humidity and temperature are measured during the curing time
- Relative humidity during curing recommended to be above 50%
- Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)

Pot life (at application viscosity)	
Mixed product temperature	Pot life
0°C (32°F)	24 hours
10°C (50°F)	16 hours
20°C (68°F)	12 hours
30°C (86°F)	6 hours

SAFETY PRECAUTIONS

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



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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
• SAFE WORKING IN CONFINED SPACES	INFORMATION SHEET	1433
• DIRECTIVES FOR VENTILATION PRACTICE	INFORMATION SHEET	1434
• CLEANING OF STEEL AND REMOVAL OF RUST	INFORMATION SHEET	1490
• SPECIFICATION FOR MINERAL ABRASIVES	INFORMATION SHEET	1491
• RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE	INFORMATION SHEET	1650

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