

PPG DIMETCOTE® 9-80

DESCRIPTION

Two-component, fast curing moisture-curing zinc (ethyl) silicate coating, cured at low relative humidity

PRINCIPAL CHARACTERISTICS

- Anticorrosive primer for structural steel
- Suitable as a system primer in various paint systems based on unsaponifiable binders
- Meets the requirements of ISO 12944 C5 VH and CX standards
- Complies with the requirements of System 3, Norm NRF-053-PEMEX-2006 and Specification ET-053-PEMEX-2019
- When suitably topcoated provides excellent corrosion protection for steel substrates up to 560°C (1072°F)
- Complies with the compositional requirements of SSPC-Paint 20, Level 2
- The zinc dust used in this product complies with minimum ASTM D520 Type II
- In combination with PPG DIMETCOTE 9-80P ZINC DUST, a version with 65% solids by volume is available, which complies with RP-4B MOD. according to the NRF 053-PEMEX-2006 standard and the ET-053-PEMEX 2019 specification.

COLOR AND GLOSS LEVEL

- Gray
- Flat

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.9 kg/l (16.0 lb/US gal)
Volume solids	60 ± 2%
VOC (Supplied)	ASTM D 3960: max. 537 g/l (4.5 lb/US gal)
Recommended dry film thickness	50 - 75 µm (2.0 - 3.0 mils) depending on system
Theoretical spreading rate	7.9 m ² /l for 75 µm (322 ft ² /US gal for 3.0 mils)
Dry to touch	15 minutes
Overcoating Interval	Minimum: 5 hours at 40% relative humidity Maximum: Unlimited
Full cure after	6 hours
Shelf life	Binder: at least 9 months when stored cool and dry Pigment: at least 24 months when stored pigment moisture free

Notes:

- Dry film thicknesses above 100 µm (4.0 mils) can cause mudcracking
- Store PPG DIMETCOTE 9-80 in a dry place as close to room temperature as possible. Storage temperature should be between 5°C and 35°C (41°F and 95°F)



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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Immersion exposure

- Steel; blast cleaned to ISO-Sa3 or minimum SSPC-SP5, blasting profile 40 – 64 µm (1.6 – 2.5 mils)
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Atmospheric exposure conditions

- Steel; blast cleaned to ISO-Sa2½ or minimum SSPC-SP10, blasting profile 40 – 65 µm (1.6 – 2.6 mils)
 - Steel with zinc silicate shop primer; pretreated according to ISO Sa1 (SSPC SP7)
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Substrate temperature and application conditions

- Substrate temperature during application up to 55°C (131°F) is acceptable
 - Substrate temperature during application and curing should be at least 3°C (37°F) above dew point
 - Relative humidity during curing should be above 40%
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SYSTEM SPECIFICATION

Carbon Steel

- PPG DIMETCOTE 9-80: 50 to 75 µm (2.0 to 3.0 mils) DFT
 - Approved systems for atmospheric protection include SIGMAFAST 278, AMERLOCK 2, and RA-26 MOD. (available only in Mexico) as buildcoats, with SIGMADUR 550, SIGMADUR 550H, PSX 700, and U-21 (available only in Mexico) as topcoats
 - Approved systems for high temperature protection include HI-TEMP 1027, SIGMATHERM 540, and RE-30 B MOD. (available only in Mexico) as topcoats
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INSTRUCTIONS FOR USE

- Use PPG DIMETCOTE 9-80P ZINC DUST when a specification of min. 65% in volume solids must be met (same curing times apply to this version)
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Mixing ratio by volume: binder to zinc powder 85:15

- Many of PPG's zinc silicates are supplied as two-pack materials consisting of a container with pigmented binder and a container containing a bag of zinc powder.
- To ensure proper mixing of both components, the instructions given below must be followed
- To avoid lumps in the paint do not add the binder to the zinc powder
- [1] Take the bag with zinc powder out of the container
- [2] Shake the binder in the container a few times to reach a certain degree of homogenization
- [3] Pour about 2/3 of the binder into the empty container
- [4] With the container now reduced in weight and containing more free space, shake it vigorously to obtain a homogeneous mix with no deposits left on the bottom, and add this to the container
- [5] Add the zinc powder gradually to the pigmented binder in the container and, at the same time, continuously stir the mixture by using a mechanical mixer (keep the speed low)
- [6] Stir the zinc dust powder thoroughly through the binder (high speed) and keep stirring until a homogeneous mixture is obtained
- [7] Strain mixture through a 30 – 60 mesh screen
- [8] Agitate continuously during application (low speed). The use of a dedicated pump with a constant agitation for a zinc silicate coating is recommended

Notes:

- At application temperature above 30°C (86°F) addition of max. 5% by volume of THINNER 21-25 may be necessary
 - At application temperature below 15°C (59°F) addition of max. 5% by volume of THINNER 21-06 may be necessary
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Pot life

6 hours at 25°C (77°F)

Note:

- See ADDITIONAL DATA – Pot life
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Air spray

Recommended thinner

THINNER 21-06, THINNER 21-25 for >30°C (86°F)

Volume of thinner

0 - 5%, 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.)

Note:

- A dedicated pump for a zinc silicate coating with constant agitation must be used
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Airless spray

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.48 – 0.64 mm (0.019 – 0.025 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
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Brush/roller

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

Recommended thinner

THINNER 21-06, THINNER 21-25 for >30°C (86°F)

Volume of thinner

0 – 5%

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

Cleaning solvent

- THINNER 21-06

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	Theoretical spreading rate
50 µm (2.0 mils)	11.8 m ² /l (481 ft ² /US gal)
75 µm (3.0 mils)	7.9 m ² /l (322 ft ² /US gal)
100 µm (4.0 mils)	5.9 m ² /l (240 ft ² /US gal)

Notes:

- Maximum DFT when brushing: 35 µm (1.4 mils)
- Above 100 µm (4.0 mils) mudcracking can occur
- Highly pigmented zinc silicate primers produce dry films with void spaces in between the particles

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Overcoating interval for DFT up to 75 µm (3.0 mils) at 20° C (68° F)				
Overcoating with...	Interval	40% RH	50% RH	60% RH
recommended topcoats	Minimum	5 hours	4 hours	3.5 hours
	Maximum	Unlimited	Unlimited	Unlimited

Notes:

- 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 no dissolving of the coating should be observed
- A mist coat / full coating application technique is required when topcoating to prevent application bubbling. Ensure dry spray is removed from the surface
- DIMETCOTE 9-80 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 (RH < 40%) or when reduced overcoat times are desired, curing container 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

Curing times at 3.0 mils (75 µm) DFT and 40% relative humidity		
Substrate temperature	Full cure	Dry to handle
10°C (50°F)	10 hours	45 minutes
20°C (68°F)	5 hours	15 minutes
30°C (86°F)	4 hours	10 minutes

Notes:

- DIMETCOTE 9-80 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 40%
- Adequate ventilation must be maintained during application and curing

Pot life (at application viscosity)	
Mixed product temperature	Pot life
25°C (77°F)	6 hours



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SAFETY PRECAUTIONS

- 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
- See Safety Data Sheet and product label for complete safety and precaution requirements

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & 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

- Information sheet | Explanation of product data sheets

WARRANTY

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