

# SIGMAZINC™ 100

## OVERVIEW

- Place of origin: Indonesia
- Gloss level: Flat
- Dry to touch: 1 hours
- Number of components: 2
- Color: Gray

## PRODUCT DETAIL

### DESCRIPTION

Two component polyamide cured zinc epoxy primer

### PRINCIPAL CHARACTERISTICS

- Designed as a system primer for various paint systems
- Good corrosion prevention properties
- Quick drying, can be overcoated after a short interval even if at low temperature
- Good low temperature drying the subsequent coat must be unsaponifiable

### COLOR AND GLOSS LEVEL

- Gray
- Flat

### BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	2.0 kg/l (20.0 lb/US gal)
Volume solids	58 ± 2%
VOC (Supplied)	3.4 lb/us gal – 420 g/L
Recommended dry film thickness	35 - 75 µm (2.0 - 4.0 mils) depending on blasting profile
Theoretical spreading rate	16.6 m <sup>2</sup> /l @ DFT35µm; 77.3 m <sup>2</sup> /l @ DFT75µm
Dry to touch	1 hour
Overcoating Interval	See table
Full cure after	7 days
Shelf life	Binder: at least 12 months when stored cool and dry Pigment: at least 12 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

### RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

#### Immersion exposure

- Steel; blast cleaned to ISO-Sa2½, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Steel with approved zinc silicate shop primer; sweep blasted to SPSS-Ss, welds, rusty and damaged areas blast cleaned to ISO-Sa2½

- Existing pipelines may have to be cleaned first by scraper pigs and solvents

**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

**Substrate temperature and application conditions**

- Substrate temperature during application and curing down to -18°C (0°F) is acceptable; provided the substrate is free from ice and dry
  - Substrate temperature during application up to 55°C (131°F) is acceptable
  - 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%

**Pot life: 12 hours**

**Air 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:** 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

**Airless spray**

**Recommended thinner:** Sigma thinner 91-92

**Volume of thinner:** 0~20%, depending on required thickness and application conditions

**Nozzle orifice:** 1,8~2.2mm

**Nozzle pressure:** 0.3~0.6Mpa (approx. 3~6bar, 43~85psi)

**Brush/roller**

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

**Cleaning solvent:** THINNER 90-53, THINNER 90-58 (AMERCOAT 12) OR THINNER 21-06 (AMERCOAT 65)d

**Upgrading**

- This is only valid for spray application
- If the DFT is below specification and an extra coat of DIMETCOTE 9 / SIGMAZINC 9 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
40 µm	14.5 m <sup>2</sup> /l
50 µm	11.6 m <sup>2</sup> /l
60 µm	9.7 m <sup>2</sup> /l
75 µm	7.7 m <sup>2</sup> /l

**Notes:**

- Maximum DFT when brushing: 35 µm (1.4 mils)
- Above 150 µm (6.0 mils) mudcracking can occur
- Highly pigmented zinc silicate primers produce dry films with void spaces in between the particles

Overcoating table	
Substrate Temperature	Minimum interval
-5°C	45 hours
0°C	20 hours
5°C	12 hours
10°C	5 hours
15°C	4 hours

- Zinc rich primers can form zinc salts on the surface; preferable they should not be weathered for long periods before overcoating
- An interval of several months can be allowed, under clean interior exposure conditions
- In clean exterior conditions a maximum interval 14 days can be tolerated, but in industrial or marine conditions this interval should be reduced to the practical minimum
- When a long overcoating interval is required, it is recommended to overcoat Sigmazinc 100 within two days with Sigmacover 522
- Before overcoating visible surface contamination must be removed by high pressure water cleaning, sweep blasting or mechanical cleaning
- This product is capable of curing at temperatures below 0 °C. however, it should not be applied at temperatures below 0°C where there is a possibility of ice formation on the substrate.

Substrate Temperature	Touch dry	Dry to handle	Full cure
-5°C	8 hours	24 hours	21 days
0°C	4 hours	12 hours	14 days
5°C	2 hours	8 hours	10 days
10°C	1 hours	4 hours	7 days
15°C	40 minutes	3 hours	5 days

- If the application temperature is over 15o C, it should be changed to normal version
- Adequate ventilation must be maintained during application and curing

Overcoating interval for DFT up to 100 µm (4.0 mils)					
Overcoating with...	Interval	0°C (32°F)	10°C (50°F)	20°C (68°F)	30°C (86°F)
recommended topcoats	Minimum	48 hours	36 hours	24 hours	18 hours
	Maximum	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 / SIGMAZINC 9 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

Curing time for DFT up to 75 µm (3.0 mils)		
Substrate temperature	Dry to handle	Full cure
0°C (32°F)	2 hours	4 days
10°C (50°F)	1 hour	3 days
20°C (68°F)	30 minutes	46 hours
30°C (86°F)	20 minutes	36 hours

**Notes:**

- DIMETCOTE 9 / SIGMAZINC 9 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
20°C (68°F)	8 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.

