# SIGMAZINC™ 109 ME

## DESCRIPTION

Two-component, zinc-rich, polyamide-cured 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
- Topcoats must be unsaponifiable
- Complies with the compositional requirements of SSPC-Paint 20, Level 1 and BS5493, which means zinc content is higher than 90% in dried film

## COLOR AND GLOSS LEVEL

- Gray, reddish gray
- Flat

## BASIC DATA AT 20°C (68°F)

| Data for mixed product | |
|---|---|
| **Number of components** | Two |
| **Mass density** | 2.9 kg/l (24.5 lb/US gal) |
| **Volume solids** | 62 ± 2% |
| **VOC (Supplied)** | Directive 2010/75/EU, SED: max. 129.0 g/kg<br>max. 378.0 g/l (approx. 3.2 lb/US gal)<br>China GB 30981-2020 (tested) 409.0 g/l (approx. 3.4 lb/gal) |
| **Recommended dry film thickness** | 40 - 75 µm (1.6 - 3.0 mils) depending on surface preparation |
| **Theoretical spreading rate** | 15.5 $m^2$/l for 40 µm (622 $ft^2$/US gal for 1.6 mils)<br>8.3 $m^2$/l for 75 µm (331 $ft^2$/US gal for 3.0 mils) |
| **Dry to touch** | 20 minutes |
| **Overcoating Interval** | Minimum: 8 hours<br>Maximum: 3 months |
| **Full cure after** | 7 days |
| **Shelf life** | Base: at least 24 months when stored cool and dry<br>Hardener: at least 24 months when stored cool and dry |

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

**Substrate conditions**

- Steel; blast cleaned to ISO-Sa2½, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- For maintenance and repair in atmospheric service, the product can be applied over surfaces prepared in accordance with SSPC SP-2 or SSPC SP-3 (hand and power tool cleaning).

**Substrate temperature and application conditions**

- Substrate temperature during application and curing should be above 5°C (41°F)
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point

## INSTRUCTIONS FOR USE

**Mixing ratio by volume: base to hardener 80:20 (4:1)**

- The temperature of the mixed base and hardener should preferably be above 15°C (59°F), otherwise extra thinner may be required to obtain application viscosity
- Adding too much thinner results in reduced sag resistance and slower cure
- Thinner should be added after mixing the components

**Induction time**

None

**Pot life**

24 hours at 20°C (68°F)

Note: See ADDITIONAL DATA – Pot life

**Air spray**

**Recommended thinner**

THINNER 91-92

**Volume of thinner**

5 - 10%, depending on required thickness and application conditions

**Nozzle orifice**

1.8 – 2.2 mm (approx. 0.070 – 0.087 in)

**Nozzle pressure**

0.3 - 0.6 MPa (approx. 3 - 6 bar; 44 - 87 p.s.i.)

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**Airless spray**

**Recommended thinner**
THINNER 91-92

**Volume of thinner**
5 - 10%, depending on required thickness and application conditions

**Nozzle orifice**
Approx. 0.43 – 0.48 mm (0.017 – 0.019 in)

**Nozzle pressure**
15.0 MPa (approx. 150 bar; 2176 p.s.i.)

**Brush/roller**

**Recommended thinner**
THINNER 91-92

**Volume of thinner**
0 – 5%

**Cleaning solvent**
THINNER 90-53

## ADDITIONAL DATA

| Spreading rate and film thickness | |
|---|---|
| **DFT** | **Theoretical spreading rate** |
| 40 µm (1.6 mils) | 15.5 $m^2/l$ (622 $ft^2$/US gal) |
| 75 µm (3.0 mils) | 8.3 $m^2/l$ (331 $ft^2$/US gal) |

| Overcoating interval for DFT up to 75 µm (3.0 mils) | | | | |
|---|---|---|---|---|
| **Overcoating with...** | **Interval** | **10°C (50°F)** | **20°C (68°F)** | **30°C (86°F)** |
| various two-pack epoxy coatings | Minimum | 10 hours | 8 hours | 6 hours |
| | Maximum | 3 months | 3 months | 3 months |

Notes:
- Zinc rich primers can form zinc salts on the surface; preferably 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 of 14 days can be tolerated, but in industrial or marine conditions this interval should be reduced to the practical minimum
- Before overcoating any visible surface contamination must be removed by sandwashing, sweep blasting or mechanical cleaning
- When a longer overcoating interval is required, it is recommended to overcoat SIGMAZINC 109 ME as soon as possible with SIGMACOVER 522

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| Curing time for DFT up to 75 µm (3.0 mils) | | |
|---|---|---|
| **Substrate temperature** | **Dry to touch** | **Full cure** |
| 10°C (50°F) | 45 minutes | 20 days |
| 15°C (59°F) | 30 minutes | 10 days |
| 20°C (68°F) | 20 minutes | 7 days |
| 30°C (86°F) | 10 minutes | 5 days |

Notes:
- SIGMAZINC 109 ME can be applied at temperatures down to 5°C (41°F), but the curing rate will be very slow
- For such applications alternative zinc rich primers are recommended: SIGMAZINC 19, SIGMAZINC 158 and SIGMAZINC 160 for systems exposed to atmospheric conditions, SIGMAGUARD 750 for systems exposed to immersed conditions
- Adequate ventilation must be maintained during application and curing

| Pot life (at application viscosity) | |
|---|---|
| **Mixed product temperature** | **Pot life** |
| 20°C (68°F) | 24 hours |
| 35°C (95°F) | 6 hours |

## 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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