

# SIGMAZINC™ 109

## 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
- Can also serve as a holding primer for various maintenance systems when a short overcoating interval is required
- Topcoats must be unsaponifiable
- Certificate for welding: see sheet {1880}
- Complies with the compositional requirements of SSPC-Paint 20, Level 1 and BS5493

## COLOR AND GLOSS LEVEL

- Gray
- Flat

## BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	2.7 kg/l (22.5 lb/US gal)
Volume solids	46 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 174.0 g/kg UK PG 6/23(92) Appendix 3: max. 469.0 g/l (approx. 3.9 lb/US gal)
Recommended dry film thickness	25 - 40 µm (1.0 - 1.6 mils) depending on surface preparation
Theoretical spreading rate	11.5 m <sup>2</sup> /l for 40 µm (461 ft <sup>2</sup> /US gal for 1.6 mils)
Dry to touch	10 minutes
Overcoating Interval	Minimum: 6 hours Maximum: 3 months
Full cure after	7 days
Shelf life	Base: at least 24 months when stored cool and dry 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)
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### 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
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## INSTRUCTIONS FOR USE

### Mixing ratio by volume: base to hardener 75:25 (3:1)

- 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
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### Induction time

None

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### Pot life

48 hours at 20°C (68°F)

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### 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.)

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**Brush/roller****Recommended thinner**

THINNER 91-92

**Volume of thinner**

0 – 5%

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**Cleaning solvent**

THINNER 90-53

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**ADDITIONAL DATA**

Spreading rate and film thickness	
DFT	Theoretical spreading rate
25 µm (1.0 mils)	18.4 m <sup>2</sup> /l (738 ft <sup>2</sup> /US gal)
40 µm (1.6 mils)	11.5 m <sup>2</sup> /l (461 ft <sup>2</sup> /US gal)

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Overcoating interval for DFT up to 40 µm (1.6 mils)				
Overcoating with...	Interval	10°C (50°F)	20°C (68°F)	30°C (86°F)
itself	Minimum	8 hours	6 hours	4 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 as soon as possible with SIGMACOVER 522

Curing time for DFT up to 40 µm (1.6 mils)		
Substrate temperature	Dry to touch	Full cure
10°C (50°F)	30 minutes	20 days
15°C (59°F)	20 minutes	10 days
20°C (68°F)	10 minutes	7 days
30°C (86°F)	8 minutes	5 days

**Notes:**

- SIGMAZINC 109 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 (please refer to INFORMATION SHEETS 1433 and 1434)

## 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.

# SIGMAZINC™ 109

## 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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