

SIGMAZINC™ 109 HS

OVERVIEW

- Place of origin: Indonesia
- Gloss level: Flat
- Dry to touch: 2.5 hours
- Number of components: 2
- Color: Gray, reddish gray

PRODUCT DETAIL

DESCRIPTION

Two-component, high solids polyamide adduct cured zinc rich epoxy primer

PRINCIPAL CHARACTERISTICS

- Designed as a system primer for various paint systems
- Excellent anticorrosive properties
- Quick-drying, can be overcoated after a short interval
- Can serve as a holding primer for various maintenance systems for a total repair
- Very good primer for systems with high solids epoxy buildcoats
- Complies with SSPC-Paint 20 level 2 and ISO 12944.5

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	2.8 kg/l (23.4 lb/US gal)
Volume solids	66 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 106.0 g/kg max. 299.0 g/l (approx. 2.5 lb/US gal)
Recommended dry film thickness	50 - 150 µm (2.0 - 6.0 mils) depending on system
Theoretical spreading rate	11.0 m ² /l for 60 µm (441 ft ² /US gal for 2.4 mils)
Dry to touch	2.5 hours
Overcoating Interval	Minimum: 4 hours See overcoating tables
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
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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; pretreated according to SPSS-Ss

Atmospheric exposure conditions

- Steel; blast cleaned to ISO-Sa2½, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Steel with approved zinc silicate shop primer pretreated according to SPSS or power tool cleaned to SPSS-Pt3

Substrate temperature

- 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: 6 hours at 20°C (68°F)

Air spray

Recommended thinner: THINNER 91-92

Volume of thinner: 0 - 15%, 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.)

Airless spray

Recommended thinner: THINNER 91-92

Volume of thinner: 0 - 15%, 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 – 10%

Cleaning solvent: THINNER 90-53

ADDITIONAL DATA

Spreading rate and film thickness	
DFT	Theoretical spreading rate
60 µm (2.4 mils)	11.0 m ² /l (441 ft ² /US gal)
75 µm (3.0 mils)	8.8 m ² /l (353 ft ² /US gal)
100 µm (4.0 mils)	6.6 m ² /l (265 ft ² /US gal)
150 µm (6.0 mils)	4.4 m ² /l (176 ft ² /US gal)

Overcoating interval for DFT up to 100 µm (4.0 mils)					
Overcoating with...	Interval	10°C (50°F)	20°C (68°F)	30°C (86°F)	40°C (104°F)
subsequent coating	Minimum	8 hours	4 hours	3 hours	2 hours
	Maximum	3 months	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
- In clean exterior conditions, a maximum interval of 3 months can be tolerated, but in industrial or marine conditions this interval should be reduced to the practical minimum
- An interval of several months can be allowed under clean interior exposure conditions
- Before overcoating visible surface contamination must be removed by high-pressure water cleaning, sweep blasting or mechanical cleaning

Curing time for DFT up to 100 µm (4.0 mils)			
Substrate temperature	Dry to touch	Dry to handle	Full cure
10°C (50°F)	5 hours	6 hours	20 days
15°C (59°F)	3 hours	4 hours	10 days
20°C (68°F)	2.5 hours	3 hours	7 days
30°C (86°F)	1 hour	1.5 hours	5 days

Notes:

- SIGMAZINC 109 HS can be applied at temperatures between 5°C (41°F) and 10°C (50°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)

Pot life (at application viscosity)	
Mixed product temperature	Pot life
10°C (50°F)	12 hours
20°C (68°F)	6 hours
30°C (86°F)	4.5 hours
40°C (104°F)	3 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.