SIGMAZINC 109 HS

Globally Available

4 pages

December 2009
Revision of September 2009

DESCRIPTION

two component high solids polyamide adduct cured zinc 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 and ISO 12944.5

COLOURS AND GLOSS

grey, reddish grey - flat

BASIC DATA AT 20°C

(1 g/cm³ = 8.25 lb/US gal; 1 m²/l = 40.7 ft²/US gal)
(data for mixed product)

Mass density	2.8 g/cm³
Volume solids	66 ± 2%
VOC (supplied)	max. 106 g/kg (Directive 1999/13/EC, SED) max. 299 g/l (approx. 2.5 lb/gal)
Recommended dry film thickness	60 - 150 µm depending on system
Theoretical spreading rate	11.0 m²/l for 60 µm *
Touch dry after	2.5 hours *
Overcoating interval	min. 4 hours * max. several months *
Full cure after	7 days
	(data for components)
Shelf life (cool and dry place)	at least 12 months

* see additional data

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- **for immersion exposure:**
  - steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm
  - steel with approved zinc silicate shop primer; pretreated according to SPSS-Ss
- **for atmospheric exposure conditions:**
  - steel; blast cleaned to ISO-Sa2½, blasting profile 40 - 70 µm
  - steel with approved zinc silicate shop primer; pretreated according to SPSS or powertool cleaned to SPSS-Pt3
- substrate temperature should be above 5°C and at least 3°C above dew point

INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 80 : 20

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

Induction time: none

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Pot life	8 hours at 20°C

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 MPa (= approx. 150 bar; 2130 p.s.i.)

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
Nozzle pressure	0.3 - 0.6 MPa (= approx. 3 - 6 bar; 43 - 85 p.s.i.)

BRUSH/ROLLER

Recommended thinner	Thinner 91-92
Volume of thinner	0 - 10%

CLEANING SOLVENT Thinner 90-53

SAFETY PRECAUTIONS

for paint and recommended thinners see safety 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 vapour as well as contact between the wet paint and exposed skin or eyes

ADDITIONAL DATA

Film thickness and spreading rate

theoretical spreading rate m²/l	11.0	8.8	6.6	4.4
dft in µm	60	75	100	150

Overcoating table for dft 100 µm

substrate temperature	10°C	20°C	30°C	40°C
minimum interval	8 hours	4 hours	3 hours	2 hours
maximum interval	3 months when free from zinc salts and contamination			

– 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

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– 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
– before overcoating visible surface contamination must be removed by high pressure water cleaning, sweep blasting or mechanical cleaning

Curing table for dft up to 100 µm

substrate temperature	touch dry	dry to handle	full cure
10°C	5 hours	6 hours	20 days
15°C	3 hours	4 hours	10 days
20°C	2.5 hours	3 hours	7 days
30°C	1 hour	1.5 hour	5 days

– SigmaZinc 109 HS can be applied at temperatures between 5°C and 10°C, but the curing rate will be very low
– 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 sheets 1433 and 1434)

Worldwide availability

Whilst it is always the aim of PPG Protective & Marine Coatings to supply the same product on a worldwide basis, 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	see information sheet 1411
Safety indications	see information sheet 1430
Safety in confined spaces and health safety	
Explosion hazard - toxic hazard	see information sheet 1431
Safe working in confined spaces	see information sheet 1433
Directives for ventilation practice	see information sheet 1434
Cleaning of steel and removal of rust	see information sheet 1490

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The information in this data sheet is based upon laboratory tests we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the Sigma Coatings products made by PPG Protective & Marine Coatings, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge are reliable. The products and information are designed for users having the requisite knowledge and industrial skills and it is the end-user's responsibility to determine the suitability of the product for its intended use.

PPG Protective & Marine Coatings has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. PPG Protective & Marine Coatings does therefore not accept any liability arising from loss, injury or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

The data contained herein are liable to modification as a result of practical experience and continuous product development.
This data sheet replaces and annuls all previous issues and it is therefore the user's responsibility to ensure that this sheet is current prior to using the product.

The English text of this document shall prevail over any translation thereof.

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