

SIGMAGUARD CSF 585

6 pages

August 2009
Revision of July 2009

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|--|---|
| DESCRIPTION | two component solvent free amine cured epoxy coating |
| PRINCIPAL CHARACTERISTICS | <ul style="list-style-type: none"> - tankcoating for drinking water - can be applied by single feed airless spray equipment - reduced explosion risk and fire hazard - good visibility in confined spaces due to light colour - approved for drinking water by: KIWA Holland - for other approvals see sheet 1882 |
| COLOURS AND GLOSS | blue, white - gloss |
| BASIC DATA AT 20°C | (1 g/cm ³ = 8.25 lb/US gal; 1 m ² /l = 40.7 ft ² /US gal) (data for mixed product) |
| Mass density | 1.3 g/cm ³ |
| Volume solids | 100% |
| VOC (supplied) | max. 5 g/kg (Directive 1999/13/EC, SED) max. 6 g/l (approx. 0.1 lb/gal) see information sheet 1411 |
| Recommended dry film thickness | 250 - 400 µm depending on system |
| Theoretical spreading rate | 3.3 m ² /l for 300 µm * |
| Touch dry after | 5 hours |
| Overcoating interval | min. 24 hours * max. 20 days * |
| Full cure after | 12 days * (data for components) |
| Shelf life (cool and dry place) | at least 12 months * see additional data |
| RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES | <ul style="list-style-type: none"> - steel; blast cleaned to ISO-Sa2½, blasting profile 50 - 100 µm - substrate temperature must be above 10°C and at least 3°C above dew point during application and curing - if a holding primer is required SigmaGuard 215 (dft of 75 µm) can be used |
| INSTRUCTIONS FOR USE | <p>mixing ratio by volume: base to hardener 77.5 : 22.5</p> <ul style="list-style-type: none"> - the temperature of the mixed base and hardener should preferably be at least 20°C - at lower temperature the viscosity will be too high for spray application - no thinner should be added - for recommended application instructions: see working procedure |
| Induction time | allow induction time before use 10°C - 15 min. |
| Pot life | approx. 90 minutes at 20°C * * see additional data |

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AIRLESS SPRAY

- use heavy duty single feed airless spray equipment preferably 60:1 pump ratio and suitable high pressure hoses
 - in-line heating or insulated hoses may be necessary to avoid cooling down of paint in hoses at low air temperature
 - application with 45:1 airless spray equipment is possible provided in-line heated high pressure hoses are used
 - in case of using 45:1 airless spray equipment the paint must be heated to approx. 30°C in order to obtain the right application viscosity
 - length of hoses should be as short as possible
- no thinner should be added
 approx. 0.53 mm (= 0.021 in)
 at 20°C (paint temperature) min. 28 MPa (= approx. 280 bar; 4000 p.s.i.)
 at 30°C (paint temperature) min. 22 MPa (= approx. 220 bar; 3000 p.s.i.)

Recommended thinner
 Nozzle orifice
 Nozzle pressure

BRUSH/ROLLER

Recommended thinner

for stripe coating and spot repair only
 no thinner should be added

CLEANING SOLVENT

Thinner 90-83 (preferred) or Thinner 90-53

- all application equipment must be cleaned immediately after use
- paint inside the spraying equipment must be removed before the pot life time has been expired

SAFETY PRECAUTIONS

for paint and recommended thinners see safety sheets 1430, 1431 and relevant material safety data sheets

although this is a solvent free paint, care should be taken to avoid inhalation of spray mist as well as contact between the wet paint and exposed skin or eyes

- no solvent present; however, spray mist is not harmless, a fresh air mask should be used during spraying
- ventilation should be provided in confined spaces to maintain good visibility

ADDITIONAL DATA

Film thickness and spreading rate

| | | | |
|--|-----|-----|-----|
| theoretical spreading rate m ² /l | 4.0 | 3.3 | 2.5 |
| dft in µm | 250 | 300 | 400 |

max. dft when brushing:

100 µm

measuring wet film thickness

- a deviation is often obtained between the measured apparent wft and the real applied wft
- this is due to the thixotropy and the surface tension of the paint which retards the release of air trapped in the paint film for some time
- a practical recommendation is to apply a wft which is equal to the specified dft plus 60 µm

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measuring dry film thickness

- because of low initial hardness the dft cannot be measured for some days (depending on ambient temperature) after application due to the penetration of the measuring device into the paint film
- the dft should be measured using a calibration foil of known thickness placed in between the coating and the measuring device

Overcoating table for SigmaGuard CSF 585 for dft up to 300 µm (for spot repair and stripe coating only)

| substrate temperature | 10°C | 20°C | 30°C | 40°C |
|-----------------------|---------|----------|----------|----------|
| minimum interval | 4 days | 24 hours | 16 hours | 10 hours |
| maximum interval | 28 days | 20 days | 14 days | 14 days |

- surface should be dry and free from any contamination

Curing table for dft up to 300 µm

| substrate temperature | dry to handle | full cure for drinking water |
|-----------------------|---------------|------------------------------|
| 10°C * | 4 days | 20 days |
| 20°C | 1 day | 12 days |
| 30°C | 16 hours | 7 days |
| 40°C | 10 hours | 5 days |

* for the first 24 hours the maximum RH must be 50% or lower

- adequate ventilation must be maintained during application and curing (please refer to sheets 1433 and 1434)
- SigmaGuard CSF 585 must not be applied at temperatures below 10°C
- for drinking water tanks, a tankwash should be carried out after full cure and before the tank goes into service
- for storage and transport of drinking water the recommended working procedure should be followed

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WASHING PROCEDURE

The recommended washing procedure must be applied after completion of the application.

Sufficient time for full-curing and ventilation must be allowed in accordance with the recommendations as stated in the latest Product Data Sheets and working procedure.

Always an adequate washing procedure should be followed.

Several adequate washing procedures are available and may be used (see e.g. washing procedure described in relevant certificate).

Example of adequate washing procedures:

- 1.- after full curing of the system as per the latest PDS, the tank should be filled completely with fresh tap water
 - the fresh tap water should remain in the tanks at least 4 full days
 - afterwards all tank compartments such as inner hull sides, bottom and deck-heads etc. should be thoroughly washed using high pressure water
 - after washing, the tanks should be thoroughly drained
 - after this procedure the tanks will be fit to carry drinking water

- 2.- all personnel should wear watertight suits, boots and gloves properly cleaned with a sodium hypochlorite solution (1% active chlorine per liter)
 - all tank sides, bottom and deckheads etc. should be brush cleaned or high-pressure spray cleaned with 1% active chlorine solution as above
note: this can also be done by butterworth washing
 - all parts should be high pressure cleaned with tap water and tanks drained
 - concentrated active chlorine solution should be sprinkled on bottom; approx. 1 ltr/10 m²
 - tanks should be filled with tap water to a depth of approx. 20 cm and the water should remain in the tank for at least 2 hours (max. 24 hours)
 - tanks should be thoroughly flushed out with tap water
 - depending upon local regulations it may be necessary to take water samples, after filling tank completely, to check on bacteria
 - after this procedure the tanks will be fit to carry drinking water

Pot life (at application viscosity)

| | |
|------|---------|
| 20°C | 90 min. |
| 30°C | 60 min. |

- due to exothermic reaction, temperature during and after mixing may increase

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DISCLAIMER

- SigmaGuard CSF 585 is especially developed for the storage and transport of drinking water and is approved for purpose in accordance with the requirements of the relevant certificate (See sheet 1882).
- In order to fulfill the requirements it is important that the coating is well ventilated during application and curing and that the coating has received full curing.
- Furthermore the recommended washing procedure should be followed before exposure to drinking water, in line with our latest datasheet and working procedure. After the washing procedure PPG Protective & Marine Coatings does not accept any responsibility or liability for any odour, taste or contamination imparted to the drinking water from the washing products retained in the coating.

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 |
| Specification for mineral abrasives | see information sheet 1491 |

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LIMITATION OF LIABILITY

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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| | PDS | 7785 |
| 219191 | blue | 1000002200 |
| 219190 | white | 7000002200 |