

SIGMALINE™ 523

DESCRIPTION

Two-component, solvent-free, polyamine-cured epoxy coating

PRINCIPAL CHARACTERISTICS

- Solvent-free coating for the protection of pipes against the effects of potable water
- Resistant against bacterial attack
- Fast-curing, especially when applied to preheated substrates
- Can be applied to rotating pipes at a dry film thickness (DFT) up to 600 µm (24.0 mils) at a substrate temperature of 50°C (122°F) and up to 900 µm (36.0 mils) at a substrate temperature of 10°C (50°F), by twin-feed, hot, airless spray equipment
- Approved for drinking water up to 60°C (140°F) according to BS6920 (yellow only)

COLOR AND GLOSS LEVEL

- Yellow, redbrown
- Gloss

BASIC DATA AT 20°C (68°F)

| Data for mixed product | |
|--------------------------------|---|
| Number of components | Two |
| Mass density | 1.5 kg/l (12.5 lb/US gal) |
| Volume solids | 100% |
| VOC (Supplied) | Directive 1999/13/EC, SED: max. 29.0 g/kg max. 42.0 g/l (approx. 0.4 lb/US gal) |
| Recommended dry film thickness | 300 - 600 µm (12.0 - 24.0 mils) per coat |
| Theoretical spreading rate | 1.7 m ² /l for 600 µm (67 ft ² /US gal for 24.0 mils) 3.3 m ² /l for 300 µm (134 ft ² /US gal for 12.0 mils) |
| Dry to touch | 3 hours |
| Overcoating Interval | Minimum: 30 minutes See overcoating tables |
| Full cure after | 60 hours |
| 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

SIGMALINE™ 523

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; blast cleaned to ISO-Sa2½, blasting profile 50 – 100 µm (2.0 – 4.0 mils)
 - An even pipe temperature ensures an even curing and appearance (flow and gloss)
-

Substrate temperature

- Substrate temperature during application and curing should be above 10°C (50°F)
 - Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
 - Substrate temperature during automatic application between 35°C (95°F) and 50°C (122°F) is recommended, which will ensure good curing and appearance
-

INSTRUCTIONS FOR USE

Mixing ratio by volume: base to hardener 66.7:33.3 (2:1)

- No thinner should be added
 - Application with twin-feed hot airless spray equipment
-

Induction time

None

Pot life

4 minutes at 60°C (140°F)

Note: See ADDITIONAL DATA – Pot life

Application

- Because SIGMALINE 523 will be applied in a one coat operation it is necessary to check the specified DFT by measuring the wet film thickness (WFT)
 - Weld seams may need a thicker coat to obtain the specified DFT alongside the welds
 - For a good intercoat adhesion it is necessary that a coated surface which should be repaired or completely recoated is roughened up by means of sweep blasting or abrading
-

SIGMALINE™ 523

Airless spray

- Twin-feed, hot airless spray
- Pumping viscosity is achieved at 40°C (104°F) to 60°C (140°F)
- Temperature in the mixing unit must be between 55°C (131°F) and 65°C (149°F)

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.58 – 0.79 mm (0.023 in – 0.031 in)

Nozzle pressure

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

Brush/roller

- Only for touch-up and spot repair

Recommended thinner

No thinner should be added

Notes:

- Pot life at 20°C (68°F) is approx. 30 min.
- Substrate temperature should be above 15°C (59°F)

Cleaning solvent

THINNER 90-53 or THINNER 90-83

Cleaning procedures

- Parts of the spraying equipment containing mixed base and hardener must be cleaned immediately after completion of the job or during any interruption
- Mixed material will become insoluble within a few minutes after mixing at 60°C (140°F)

ADDITIONAL DATA

| Spreading rate and film thickness | |
|-----------------------------------|---|
| DFT | Theoretical spreading rate |
| 300 µm (12.0 mils) | 3.3 m ² /l (134 ft ² /US gal) |
| 500 µm (20.0 mils) | 2.0 m ² /l (80 ft ² /US gal) |
| 600 µm (24.0 mils) | 1.7 m ² /l (67 ft ² /US gal) |

Note: Maximum DFT when brushing: 250 µm (10.0 mils)



SIGMALINE™ 523

Curing time for DFT up to 600 µm (24.0 mils)

| Substrate temperature | Dry to touch | Dry to handle | Full cure |
|-----------------------|--------------|---------------|-----------|
| 10°C (50°F) | 8 hours | 12 hours | 7 days |
| 20°C (68°F) | 3 hours | 5 hours | 60 hours |
| 30°C (86°F) | 1 hour | 3 hours | 24 hours |
| 40°C (104°F) | 45 minutes | 1.5 hours | 12 hours |
| 50°C (122°F) | 30 minutes | 1 hour | 6 hours |

Notes:

- Curing temperature below 10°C (50°F) is not recommended
- 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 |
|---------------------------|------------|
| 20°C (68°F) | 30 minutes |
| 50°C (122°F) | 8 minutes |
| 60°C (140°F) | 4 minutes |
| 70°C (158°F) | 2 minutes |

Note: For a repair set of 1 liter (0.264 US gallon) and for small quantities in hose and mixing chamber

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION 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
- Protective clothing and spray masks should be provided to avoid any dermatitic or toxic hazard

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.

SIGMALINE™ 523

REFERENCES

| | | |
|--|-------------------|------|
| • 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 |

WARRANTY

PPG warrants (i) its title to the product, (ii) that the quality of the product conforms to PPG's specifications for such product in effect at the time of manufacture and (iii) that the product shall be delivered free of the rightful claim of any third person for infringement of any U.S. patent covering the product. THESE ARE THE ONLY WARRANTIES THAT PPG MAKES AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, UNDER STATUTE OR ARISING OTHERWISE IN LAW, FROM A COURSE OF DEALING OR USAGE OF TRADE, INCLUDING WITHOUT LIMITATION, ANY OTHER WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE OR USE, ARE DISCLAIMED BY PPG. Any claim under this warranty must be made by Buyer to PPG in writing within five (5) days of Buyer's discovery of the claimed defect, but in no event later than the expiration of the applicable shelf life of the product, or one year from the date of the delivery of the product to the Buyer, whichever is earlier. Buyer's failure to notify PPG of such non-conformance as required herein shall bar Buyer from recovery under this warranty.

LIMITATIONS OF LIABILITY

IN NO EVENT WILL PPG BE LIABLE UNDER ANY THEORY OF RECOVERY (WHETHER BASED ON NEGLIGENCE OF ANY KIND, STRICT LIABILITY OR TORT) FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO, ARISING FROM, OR RESULTING FROM ANY USE MADE OF THE PRODUCT. The information in this sheet is intended for guidance only and is based upon laboratory tests that PPG believes to be reliable. PPG may modify the information contained herein at any time as a result of practical experience and continuous product development. All recommendations or suggestions relating to the use of the PPG product, whether in technical documentation, or in response to a specific inquiry, or otherwise, are based on data, which to the best of PPG's knowledge, is reliable. The product and related information is designed for users having the requisite knowledge and industrial skills in the industry and it is the end-user's responsibility to determine the suitability of the product for its own particular use and it shall be deemed that Buyer has done so, as its sole discretion and risk. PPG has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. Therefore, PPG does not accept any liability arising from any loss, injury or damage resulting from such use or the contents of this information (unless there are written agreements stating otherwise). Variations in the application environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results. This sheet supersedes all previous versions and it is the Buyer's responsibility to ensure that this information is current prior to using the product. Current sheets for all PPG Protective & Marine Coatings Products are maintained at www.ppgpmc.com. The English text of this sheet shall prevail over any translation thereof.

The PPG Logo, Bringing innovation to the surface., and all other trademarks herein are property of the PPG group of companies.



**PPG Protective &
Marine Coatings**

Bringing innovation to the surface.™