STEELGUARD® 951

DESCRIPTION

Two-component, 100% solids, epoxy intumescent passive fire protective coating for structural steelwork from cellulosic fires

PRINCIPAL CHARACTERISTICS

- Provides up to 240 minutes protection from cellulosic fires
- Highly durable, chemically resistant epoxy intumescent coating suitable for internal and external use
- Excellent corrosion protection suitable for X environments without topcoat as per EAD 350402-00-1106
- Excellent corrosion protection suitable for C5 environments without topcoat as per ISO12944
- Excellent corrosion protection suitable for C3 environments without primer & topcoat as per ISO12944
- Application using hopper-fed plural PFP spray equipment, larger heated plural PFP spray equipment or modified single leg airless spray equipment
- Direct-to-Metal application over properly prepared, lightly gingered steel where the end use is classified as interior conditioned or general-purpose space
- High quality finish
- No reinforcing mesh required
- Up to 3500 µm (138.0 mils) target DFT in a single coat
- Rapid cure and fast overcoating
- Low VOC / LEED credit contributor
- Independently tested and approved in accordance to recognized national and international fire & corrosion standards including: EN13381-8; BS476; ISO12944; GB14907, ASTM E119, UL 263, CAN/ULC-S101, UL-2431-IA Classification
- CE marked product, ETA 22/0790

COLOR AND GLOSS LEVEL

- Light gray
- Matt
- Suitable for use with a wide range of topcoats in a range of colors and gloss levels

BASIC DATA AT

Data for mixed product	
Number of components	Two
Mass density	1.0 kg/m2 (8.35 lb/US gal) Applied density per unit area and thickness 0.001m (IMO MSC 307(88) Marine FTP code 2010)
Volume solids	100%
VOC (Supplied)	EUR Directive: 2004/42/IIA(i)(500) 0 g/l EPA Method 24: 41.0 g/ltr (0.3 lb/USgal)
Recommended dry film thickness	300 - 3500 µm (12.0 - 140.0 mils) per coat
Shelf life	Base: at least 12 months when stored cool and dry Hardener: at least 12 months when stored cool and dry

Notes:

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- Material should be stored in dry conditions, out of direct sunlight and at temperatures above 0°C (32°F) and below 30°C (85°F)
- The applied density is dependent upon many variables such as temperature, test method, application method and equipment
- Required dry film thickness must be in accordance with requirements of fire approval certification
- Apply appropriate loss/wastage factor

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Approved primer must be sound, dry and free from any contamination and surface prepared in accordance with STEELGUARD 951 APPLICATION GUIDELINES
- Suitable for galvanized steel prepared in accordance with STEELGUARD 951 APPLICATION GUIDELINES

Substrate temperature and application conditions

- The following conditions are considered the extremes at which STEELGUARD 951 can be applied and cured (all values applicable during application and curing):
- Substrate temperature: Minimum 5°C (41°F) and at least 3°C (5°F) above dew point and not above 60°C (140°F)
- Relative humidity: Maximum 70%
- Environment temperature: Above 10°C (50°F) and not above 45°C (120°F)

Note:

- The STEELGUARD 951 APPLICATION GUIDELINES should be consulted for the optimum and preferred environmental conditions. Environmental conditions must be monitored throughout the working shift as well as during curing times since weather conditions can vary greatly. Where the optimum environmental conditions cannot be met or maintained or the environmental conditions are expected to deviate from the extremes as set forth above, advice should be sought from PPG.

INSTRUCTIONS FOR USE

- Application should be strictly in accordance with STEELGUARD 951 APPLICATION GUIDELINES
- Individual components must be stored for 24 hours minimum at 20-25°C (68-77°F) prior to use
- Stir individual components thoroughly until homogeneous and free of lumps

Mixing ratio

- By volume: base to hardener 3.0:1 (75.0:25.0)
- By weight: base to hardener 3.56:1 (78.07:21.93)

Notes:

- Tolerance +/- 5%
- When applying by single feed spray pump or trowel application, it is recommended that full kits are mixed

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Pot life

35 minutes at 20°C (68°F)

Airless spray – Plural component

Recommended thinner

No thinner should be added

Nozzle angle

40° for large flat surfaces

Nozzle orifice

Approx. 0.53 – 0.64 mm (0.021 – 0.025 in)

Nozzle pressure

23.0 MPa (approx. 230 bar; 3336 p.s.i.)

Notes:

- See STEELGUARD 951 APPLICATION GUIDELINES for full details
- Suitable insulated and/or heated hoses may be required depending on ambient environmental conditions
- Simplified plural machines with hoppers, or heated plural spray machines with pressurized tanks may be used

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Airless spray – Single feed pump

Recommended thinner

THINNER 91-92

Volume of thinner

0 - 7%

Nozzle angle

40° for large flat surfaces

Nozzle orifice

Approx. 0.53 – 0.64 mm (0.021 – 0.025 in)

Nozzle pressure

35.0 MPa (approx. 350 bar; 5077 p.s.i.)

Notes:

- See STEELGUARD 951 APPLICATION GUIDELINES for full details
- Material (mixed) temperature needs to be minimum 20°C (68°F) and no more than 45°C (80°F)
- The maximum length of the hoses should not exceed 15 m (49.2 ft)
- Use of spray equipment with a ratio of 70:1 is recommended
- Maximum WFT of 2000 µm (79.0 mils) achievable with material thinned by 7% by volume THINNER 91-92 at 23°C (74°F)

Trowel

Recommended thinner

THINNER 91-92

Volume of thinner

0 - 1%

Notes:

- See STEELGUARD 951 APPLICATION GUIDELINES for full details
- Recommend that only full kits are mixed and applied (avoid part kits to ensure correct mixing ratio)
- Recommend for small areas and touch-up only

Cleaning solvent

- THINNER 91-92

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ADDITIONAL DATA

Overcoating interval for up to a maximum DFT of 3500 µm (138.0 mils) unthinned						
Overcoating with...	**Interval**	**5°C (41°F)**	**10°C (50°F)**	**20°C (68°F)**	**30°C (86°F)**	**40°C (104°F)**
itself	Maximum	3 months	2 months	1 month	3 months	3 months
	Maximum	3 months	2 months	27 hours	17 hours	8 hours
approved topcoats	Maximum	2 months	2 months	1 month		
	Minimum	3 hours	2 hours			

Curing time for solvent-free application			
Substrate temperature	**Dry to touch**	**Dry to handle**	**Full cure**
5°C (41°F)	17 hours	27 hours	6 days
10°C (50°F)	11 hours	17 hours	4.5 days
15°C (59°F)	8 hours	11 hours	3.5 days
20°C (68°F)	5 hours	7 hours	60 hours
25°C (77°F)	3.5 hours	4.5 hours	48 hours
30°C (86°F)	2.5 hours	3 hours	36 hours
40°C (104°F)	1 hour	2 hours	24 hours

Notes:

- Adequate ventilation must be maintained during application and curing
- Curing times may vary depending on substrate, ambient and material temperature
- Curing time and overcoating times are using unthinned material. Thinned material will be extended.

SAFETY PRECAUTIONS

- 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
- Read all label and Safety Data Sheet (SDS) information prior to use

WORLDWIDE AVAILABILITY

It is always the aim of PPG Protective & 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.

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REFERENCES

- System sheet | PPG STEELGUARD | Approved primers
- System sheet | PPG STEELGUARD | Approved topcoats
- Information sheet | Explanation of product data sheets
- Guide | PPG STEELGUARD 951 | Application guidelines
- System sheet | PPG STEELGUARD | Systems and environments
- Guide | PPG STEELGUARD 951 | Mass density guidelines
- Guide | PPG STEELGUARD 951 | Secondary Attachments

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