

# PPG STEELGUARD™ 652

## DESCRIPTION

One-component, thin-film, waterborne intumescent coating for fire protection of structural steelwork

## PRINCIPAL CHARACTERISTICS

- Provides up to 120 minutes protection from cellulosic fires
- On-site application
- Up to 700 µm (28.0 mils) DFT in a single coat
- Suitable for Interior General Purpose environments, no topcoat is required
- Independently tested and certified to: UL263, CAN/ULC-S101, UL2431 II-A-3 Classification

## COLOR AND GLOSS LEVEL

- White
- Matt

## BASIC DATA AT 20°C (68°F)

| Data for product                      |   |
|---------------------------------------|---|
| <b>Number of components</b>           | One   |
| <b>Mass density</b>                   | 1.41 kg/l (11.77 lb/US gal)   |
| <b>Volume solids</b>                  | 70 ± 3%   |
| <b>VOC (Supplied)</b>                 | Directive 2010/75/EU, SED: max. 0.2 g/kg<br>EUR Directive: 2004/42/EEC(140) 3 g/l |
| <b>Recommended dry film thickness</b> | 200 - 700 µm (8.0 - 28.0 mils) per coat   |
| <b>Theoretical spreading rate</b>     | 1.00 m²/l for 700 µm (40 ft²/US gal for 28.0 mils)                                |
| <b>Dry to touch</b>                   | 1 hour  |
| <b>Overcoating Interval</b>           | Minimum: 3 hours<br>Maximum: Unlimited  |
| <b>Shelf life</b>                     | At least 12 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
- The required dry film thickness must be in accordance with the approval certification
- Materials should be stored in dry conditions, out of direct sunlight and at temperature between 10°C (50°F) and 30°C (86°F). Shelf life may be reduced by storage at low temperatures, material must not be allowed to freeze.

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## RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Approved primer must be sound, dry, free from any contamination and the surface prepared in accordance with STEELGUARD 652 APPLICATION GUIDELINES

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### Substrate temperature and application conditions

- Substrate temperature during application and curing should be between 10°C (50°F) and 40°C (104°F)
- Substrate temperature during application and curing should be at least 3°C (37°F) above dew point
- Ambient temperature during application and curing should be between 10°C (50°F) and 40°C (104°F)
- Relative humidity during application and curing should not exceed 80%

Note:

- Over application will extend drying/curing times. Care should be taken in areas such as flange/web interfaces as excessive film build can result in small hairline cracks. This cracking will not affect the fire performance of the material.

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## INSTRUCTIONS FOR USE

- Application should be in accordance with STEELGUARD 652 APPLICATION GUIDELINES
- Stir thoroughly until homogeneous and free of lumps
- Adding too much water results in reduced sag resistance and slower cure
- Must be protected from freezing at all times during storage and/or transport

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## Airless spray

### **Recommended thinner**

Tap water (normally no thinner required)

### **Volume of thinner**

0 – 5%

### **Nozzle angle**

20° – 50°, depending on shape of steel parts

### **Nozzle orifice**

Approx. 0.43 – 0.53 mm (0.017 – 0.021 in)

### **Nozzle pressure**

20.0 MPa (approx. 200 bar; 2901 p.s.i.)

### Notes:

- External fluid uptake pipe filter is recommended
- All filters, including surge bottle and gun filters to be removed
- See STEELGUARD 652 APPLICATION GUIDELINES for full details.

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## Brush/roller

- For small areas only (touch up and repair)

### **Recommended thinner**

No thinner should be added

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## Cleaning solvent

- Tap water

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## ADDITIONAL DATA

| Spreading rate and film thickness |  |
|-----------------------------------|--|
| DFT                               | Theoretical spreading rate                           |
| 200 µm (8.0 mils)                 | 3.50 m <sup>2</sup> /l (140 ft <sup>2</sup> /US gal) |
| 400 µm (16.0 mils)                | 1.75 m <sup>2</sup> /l (70 ft <sup>2</sup> /US gal)  |
| 500 µm (20.0 mils)                | 1.40 m <sup>2</sup> /l (56 ft <sup>2</sup> /US gal)  |
| 700 µm (28.0 mils)                | 1.00 m <sup>2</sup> /l (40 ft <sup>2</sup> /US gal)  |

Note:

- Maximum DFT when brushing: 400 µm (16.0 mils)

| Overcoating interval for DFT up to 700 µm (28.0 mils) |          |             |             |             |              |
|---|----------|-------------|-------------|-------------|--------------|
| Overcoating with...                                   | Interval | 10°C (50°F) | 20°C (68°F) | 30°C (86°F) | 40°C (104°F) |
| itself  | Minimum  | 4 hours     | 3 hours     | 2 hours     | 1.5 hours    |
|   | Maximum  | Unlimited   | Unlimited   | Unlimited   | Unlimited    |
| approved topcoats                                     | Minimum  | 24 hours    | 20 hours    | 18 hours    | 14 hours     |
|   | Maximum  | Unlimited   | Unlimited   | Unlimited   | Unlimited    |

Notes:

- Prior to application of a topcoat, the applicator must ensure that the specified dry film thickness has been achieved
- All overcoating times have been measured at an intumescent WFT of 1000 µm (approx. 700 µm DFT) under controlled temperature and relative humidity below 80%. Higher thicknesses will take longer to cure.
- The system should be dry to handle and coating thickness gauge should not leave an indentation on the surface prior to applying subsequent coats. Curing time(s)/overcoating interval(s) may be extended at higher applied DFT's and/or there is a change in environmental conditions.

| Curing time for DFT up to 700 µm (28.0 mils) |              |
|--|--------------|
| Substrate temperature                        | Dry to touch |
| 10°C (50°F)                                  | 1.5 hours    |
| 20°C (68°F)                                  | 1 hours      |
| 30°C (86°F)                                  | 30 minutes   |
| 40°C (104°F)                                 | 10 minutes   |

Note:

- All curing times have been measured at an intumescent WFT of 1000 µm (approx. 700 µm DFT) under controlled temperature and relative humidity below 80%. Higher thicknesses will take longer to cure.

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## SAFETY PRECAUTIONS

- Read all label and Safety Data Sheet (SDS) information prior to use
- Although this is a waterborne paint, care should be taken to avoid inhalation of spray mist, as well as contact between the wet paint and exposed skin or eyes

## 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.

## WARRANTY

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