

# PPG STEELGUARD® 652 G

## DESCRIPTION

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

## PRINCIPAL CHARACTERISTICS

- Provides up to 180 minutes protection from cellulosic fires
- On-site application
- Up to 700 µm (28.0 mils) DFT in a single coat
- Independently tested and approved in accordance to China national standard GB14907

## COLOR AND GLOSS LEVEL

- White
- Matt

## BASIC DATA AT 20°C (68°F)

Data for product	
Number of components	One
Mass density	1.41 kg/l (11.77 lb/US gal)
Volume solids	70 ± 3%
VOC (Supplied)	EPA Method 24: 0.0 lb/US gal (3.1 g/l)
Recommended dry film thickness	200 - 700 µm (8.0 - 28.0 mils) per coat
Theoretical spreading rate	1.00 m <sup>2</sup> /l for 700 µm (40 ft <sup>2</sup> /US gal for 28.0 mils)
Dry to touch	1 hour
Overcoating Interval	Minimum: 3 hours Maximum: Unlimited
Shelf life	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.

## RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

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

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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 G 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:

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

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## Brush/roller

- For small areas only (touch up and repair)

## Recommended thinner

No thinner should be added

## Cleaning solvent

- Tap water

## 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
- The system should be dry to handle and coating thickness gauge should not to 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.
- 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.



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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.

## SAFETY PRECAUTIONS

- 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
- 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.

## WARRANTY

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