

STEELGUARD™ 549

(STEELGUARD™ FM 549)

DESCRIPTION

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

PRINCIPAL CHARACTERISTICS

- Provides up to 120 minutes protection from cellulosic fires
- Off-site or on-site application
- Up to 1500 µm (60.0 mils) DFT in a single coat
- Suitable for C1 and C2 internal environments (ISO 12944); for dry internal (C1) environments no topcoat is required
- Tested and assessed to international and national standards such as BS 476-20/21, AS 1530:4 and certified with various national requirements

COLOR AND GLOSS LEVEL

- White
- Matt

BASIC DATA AT 20°C (68°F)

| Data for product | |
|--------------------------------|---|
| Number of components | One |
| Mass density | 1.30 kg/l (10.85 lb/US gal) |
| Volume solids | 68 ± 3% |
| VOC (Supplied) | Directive 1999/13/EC, SED: max. 293.0 g/kg UK PG 6/23(92) Appendix 3: max. 325.0 g/l (approx. 2.7 lb/US gal) |
| Recommended dry film thickness | 200 - 1500 µm (8.0 - 60.0 mils) per coat |
| Theoretical spreading rate | 0.97 m ² /l for 700 µm (39 ft ² /US gal for 28.0 mils) |
| Dry to touch | 30 minutes |
| Overcoating Interval | Minimum: 6 hours Maximum: Unlimited |
| Shelf life | At least 18 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

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- Approved primer must be sound, dry and free from any contamination



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Substrate temperature and application conditions

- Substrate temperature during application and curing should be between 5°C (41°F) and 40°C (104°F)
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Ambient temperature during application and curing should be between 5°C (41°F) and 40°C (104°F)
- Relative humidity during application and curing should not exceed 85%

INSTRUCTIONS FOR USE

- Stir thoroughly until homogeneous and free of lumps
- Adding too much thinner results in reduced sag resistance and slower cure

Airless spray

Recommended thinner

THINNER 21-06 (normally no thinner required)

Volume of thinner

0 - 5%

Nozzle angle

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

Nozzle orifice

Approx. 0.48 – 0.64 mm (0.019 – 0.025 in)

Nozzle pressure

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

Notes:

- All filters, including surge bottle and gun filters to be removed
- External fluid uptake pipe filter is recommended

Brush/roller

- For small areas only (touch up and repair)

Recommended thinner

No thinner should be added

Cleaning solvent

THINNER 21-06

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ADDITIONAL DATA

| Spreading rate and film thickness | |
|-----------------------------------|--|
| DFT | Theoretical spreading rate |
| 200 µm (8.0 mils) | 3.40 m ² /l (136 ft ² /US gal) |
| 400 µm (16.0 mils) | 1.70 m ² /l (68 ft ² /US gal) |
| 700 µm (28.0 mils) | 0.97 m ² /l (39 ft ² /US gal) |
| 1000 µm (40.0 mils) | 0.68 m ² /l (27 ft ² /US gal) |
| 1500 µm (60.0 mils) | 0.45 m ² /l (18 ft ² /US gal) |

Note: Maximum DFT when brushing: 300 µm (12.0 mils)

| Overcoating interval for DFT up to 700 µm (28.0 mils) | | | | | | |
|---|----------|------------|-------------|-------------|-------------|-------------|
| Overcoating with... | Interval | 5°C (41°F) | 10°C (50°F) | 15°C (59°F) | 20°C (68°F) | 30°C (86°F) |
| itself | Minimum | 12 hours | 10 hours | 8 hours | 6 hours | 4 hours |
| | Maximum | Unlimited | Unlimited | Unlimited | Unlimited | Unlimited |

| Overcoating interval for DFT up to 1000 µm (40.0 mils) | | | | | | |
|--|----------|------------|-------------|-------------|-------------|-------------|
| Overcoating with... | Interval | 5°C (41°F) | 10°C (50°F) | 15°C (59°F) | 20°C (68°F) | 30°C (86°F) |
| STEELGUARD 2458 | Minimum | 4 hours | 2 hours | 1.5 hours | 1 hour | 45 minutes |
| | Maximum | Unlimited | Unlimited | Unlimited | Unlimited | Unlimited |
| other approved topcoats | Minimum | 5 days | 3 days | 60 hours | 48 hours | 36 hours |
| | Maximum | Unlimited | Unlimited | Unlimited | Unlimited | Unlimited |

| Curing time for DFT up to 700 µm (28.0 mils) | |
|--|--------------|
| Substrate temperature | Dry to touch |
| 5°C (41°F) | 2 hours |
| 10°C (50°F) | 1.5 hours |
| 15°C (59°F) | 1 hour |
| 20°C (68°F) | 30 minutes |
| 30°C (86°F) | 20 minutes |

Note: Drying times may vary considerably depending on ambient conditions, A/V m⁻¹ (Hp/A) of section and applied film thickness

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SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets
- This is a solvent-borne paint and care should be taken to avoid inhalation of spray mist or vapor, as well as contact between the wet paint and exposed skin or eyes

REFERENCES

| | | |
|--|-------------------|------|
| • STEELGUARD™ APPLICATION GUIDELINES | INFORMATION SHEET | 1222 |
| • STEELGUARD™ QUALIFIED PRIMERS | INFORMATION SHEET | 1224 |
| • STEELGUARD™ QUALIFIED TOPCOATS | INFORMATION SHEET | 1226 |
| • CONVERSION TABLES | INFORMATION SHEET | 1410 |
| • 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 |
| • CLEANING OF STEEL AND REMOVAL OF RUST | INFORMATION SHEET | 1490 |
| • SPECIFICATION FOR MINERAL ABRASIVES | INFORMATION SHEET | 1491 |
| • RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE | INFORMATION SHEET | 1650 |

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