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SIGMASHIELD™ 460 LT

DESCRIPTION
Two-component, high solids glass flake reinforced polyamine adduct epoxy coating

PRINCIPAL CHARACTERISTICS
• Excellent abrasion and impact resistance
• Cures at temperatures down to -10°C (14°F)
• Long-term protection at areas subject to heavy wear and tear
• Excellent resistance to corrosion
• Suitable for use on ice-going vessels
• Very low water permeability, due to glass flake barrier
• Resistant to splash and spillage of a wide range of chemicals

COLOR AND GLOSS LEVEL
• Black (other (light) colors on request)
• Gloss

BASIC DATA AT 10°C (50°F)

<table>
<thead>
<tr>
<th>Data for mixed product</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of components</td>
<td>Two</td>
</tr>
<tr>
<td>Mass density</td>
<td>1.5 kg/l (12.5 lb/US gal)</td>
</tr>
<tr>
<td>Volume solids</td>
<td>81 ± 2%</td>
</tr>
<tr>
<td>VOC (Supplied)</td>
<td>Directive 1999/13/EC, SED: max. 150.0 g/kg max. 224.0 g/l (approx. 1.9 lb/US gal)</td>
</tr>
<tr>
<td>Recommended dry film thickness</td>
<td>250 - 400 µm (10.0 - 16.0 mils) depending on system</td>
</tr>
<tr>
<td>Theoretical spreading rate</td>
<td>3.2 m²/l for 250 µm (130 ft²/US gal for 10.0 mils) 2.0 m²/l for 400 µm (81 ft²/US gal for 16.0 mils)</td>
</tr>
<tr>
<td>Overcoating Interval</td>
<td>Minimum: 16 hours  Maximum: 14 days</td>
</tr>
<tr>
<td>Full cure after</td>
<td>7 days</td>
</tr>
<tr>
<td>Shelf life</td>
<td>Base: at least 24 months when stored cool and dry  Hardener: at least 24 months when stored cool and dry</td>
</tr>
</tbody>
</table>

Notes:
- See ADDITIONAL DATA – Spreading rate and film thickness
- See ADDITIONAL DATA – Overcoating intervals
- See ADDITIONAL DATA – Curing time
SIGMASHIELD™ 460 LT

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

**Substrate conditions**
- Steel; blast cleaned to ISO-Sa2½, blasting profile 40 – 70 µm (1.6 – 2.8 mils)
- Suitable primer must be dry and free from any contamination
- At freezing temperatures surface must be free from ice

**Substrate temperature and application conditions**
- Substrate temperature during application and curing should be between -10°C (14°F) and 15°C (59°F)
- Ambient temperature during application at -10°C (14°F) is acceptable; however, curing to hardness takes longer and complete cure will be reached when the temperature increases
- Substrate temperature during application and curing should be at least 3°C (5°F) above dew point
- Relative humidity during application and curing should not exceed 85%

INSTRUCTIONS FOR USE

**Mixing ratio by volume: base to hardener 75:25 (3:1)**
- The temperature of the mixed base and hardener should preferably be above 5°C (41°F), otherwise extra thinner may be required to obtain application viscosity
- Adding too much thinner results in reduced sag resistance and slower cure
- Very good mechanical mixing of base and hardener is essential
- Thinner should be added after mixing the components
- Filters should be removed from spray equipment

**Induction time**
None

**Pot life**
1 hour at 10°C (50°F)

Note: See ADDITIONAL DATA – Pot life

**Air spray**

**Recommended thinner**
THINNER 91-92

**Volume of thinner**
5 - 10%, depending on required thickness and application conditions

**Nozzle orifice**
1.5 – 2.0 mm (approx. 0.060 – 0.079 in)

**Nozzle pressure**
0.3 - 0.4 MPa (approx. 3 - 4 bar; 44 - 58 p.s.i.)
SIGMASHIELD™ 460 LT

Airless spray

Recommended thinner
THINNER 91-92

Volume of thinner
0 - 5%, depending on required thickness and application conditions

Nozzle orifice
Approx. 0.53 – 0.79 mm (0.021 – 0.031 in)

Nozzle pressure
19.0 - 22.5 MPa (approx. 190 - 225 bar; 2756 - 3264 p.s.i.)

Brush/roller
- Brush application only
- Only for touch-up and repair
- Due to thixotropy, it is difficult to obtain a smooth film by brush, although this does not affect performance

Cleaning solvent
THINNER 90-53

ADDITIONAL DATA

<table>
<thead>
<tr>
<th>Spreading rate and film thickness</th>
<th>Theoretical spreading rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFT 250 µm (10.0 mils)</td>
<td>3.2 m²/l (130 ft²/US gal)</td>
</tr>
<tr>
<td>DFT 400 µm (16.0 mils)</td>
<td>2.0 m²/l (81 ft²/US gal)</td>
</tr>
</tbody>
</table>

Note: Maximum DFT when brushing: 80 µm (3.1 mils)

Overcoating interval for DFT up to 400 µm (16.0 mils)

<table>
<thead>
<tr>
<th>Overcoating with...</th>
<th>Interval</th>
<th>-10°C (14°F)</th>
<th>0°C (32°F)</th>
<th>5°C (41°F)</th>
<th>10°C (50°F)</th>
<th>15°C (59°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>itself</td>
<td>Minimum</td>
<td>3 days</td>
<td>36 hours</td>
<td>28 hours</td>
<td>16 hours</td>
<td>12 hours</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>28 days</td>
<td>28 days</td>
<td>28 days</td>
<td>14 days</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Note: Surface should be dry and free from chalking and contamination
Curing time for DFT up to 400 µm (16.0 mils)

<table>
<thead>
<tr>
<th>Substrate temperature</th>
<th>Dry to handle</th>
<th>Service- water immersion</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10°C (14°F)</td>
<td>3 days</td>
<td>N/A</td>
</tr>
<tr>
<td>0°C (32°F)</td>
<td>36 hours</td>
<td>18 days</td>
</tr>
<tr>
<td>5°C (41°F)</td>
<td>28 hours</td>
<td>10 days</td>
</tr>
<tr>
<td>10°C (50°F)</td>
<td>16 hours</td>
<td>7 days</td>
</tr>
<tr>
<td>15°C (59°F)</td>
<td>12 hours</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Note: Adequate ventilation must be maintained during application and curing (please refer to INFORMATION SHEETS 1433 and 1434)

Pot life (at application viscosity)

<table>
<thead>
<tr>
<th>Mixed product temperature</th>
<th>Pot life</th>
</tr>
</thead>
<tbody>
<tr>
<td>5°C (41°F)</td>
<td>2 hours</td>
</tr>
<tr>
<td>10°C (50°F)</td>
<td>1 hour</td>
</tr>
</tbody>
</table>

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

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.

REFERENCES

- 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
- 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
- RELATIVE HUMIDITY – SUBSTRATE TEMPERATURE – AIR TEMPERATURE
  INFORMATION SHEET 1650
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