New Guard Coatings Group

A global reputation to protect.

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This information is not exhaustive and it is the user's responsibility to ensure that this data sheet is the most current by contacting their local New Guard Coatings Group branch prior to using the coating/product.

SIGMAWELD™ 165

DESCRIPTION

Two-component, moisture-curing, zinc (ethyl) silicate prefabrication primer

PRINCIPAL CHARACTERISTICS

- Suitable for automatic application on shot blasted steel plates
- Fast drying properties
- Good cutting and excellent welding properties, including MIG/MAG welding in various positions (either automatic or manual welding)
- Provides corrosion protection up to 9 months, when applied at a DFT of 13 µm (0.5 mil) (depending on exposure conditions and blasting profile)
- Can be used as a first coat in various paint systems
- Suitable for sea water immersion in combination with controlled cathodic protection systems
- Excellent thermal stability minimizes heat damage during hot work procedures
- No adherence of weldspatter at surrounding primed surface
- Approved by Lloyd's Register of Shipping for use as a prefabrication primer

COLOR AND GLOSS LEVEL

- Gray, reddish gray
- Flat

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.4 kg/l (11.7 lb/US gal)
Volume solids	30 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 428.0 g/kg max. 645.0 g/l (approx. 5.4 lb/US gal)
Recommended dry film thickness	13 µm (0.5 mils)
Theoretical spreading rate	23.1 m^2/l for 13 µm (962 ft^2/US gal for 0.5 mils)
Dry to touch	6 minutes
Overcoating Interval	Minimum: 3 days Maximum: 9 months
Shelf life	Binder: at least 12 months when stored cool and dry Paste: at least 12 months when stored cool and dry

Notes:
- See ADDITIONAL DATA – Curing time
- Longer overcoating intervals can be permitted when the primer is still in sound condition

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Substrate conditions

- Steel; shot blast cleaned to ISO-Sa2½, blasting profile 30 – 75 µm (1.2 – 3 mils)
- On steel blasted to above profile, the recommended DFT of 13 µm (0.5 mil), corresponds to 15 µm (0.6 mil) as measured on a smooth test panel
- Minimum thickness for a closed film is 13 µm (0.5 mil) measured on a smooth test panel
- Dust quantity rating "1 for dust size class "3", "4" or "5", lower dust size classes to be removed if visible on the surface to be coated without magnification (ISO 8502-3:1992)

Substrate temperature and application conditions

- Substrate temperature during application should not exceed 50°C (122°F)
- Substrate temperature during application should be at least 3°C (5°F) above dew point
- Relative humidity during curing should be above 50% and below 85%

SYSTEM SPECIFICATION

- PREFABRICATION PRIMERS – SYSTEM SHEET 3015

SECONDARY SURFACE PREPARATION

- During storage and construction, contamination of the prefabrication primer should be limited
- After fabrication, surface defects should be treated according to the scheme hereafter
- Where two possible surface treatments are indicated, the choice of treatment is dependent on the location and on the system to be applied (see SYSTEM SHEETS)
- The preferred pre-treatment for optimal results is shown; other possibilities are indicated in brackets

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Secondary surface preparation		
Area	**Immersed exposure conditions**	**Atmospheric exposure conditions**
Contamination	To be removed	to be removed
Weldseams	ISO 8501-3 grade P2 and cleanliness ISO Sa 2 ½ (SPSS-Pt3)	SPSS-Pt2
Burned	ISO 8501-3 grade P2 and cleanliness ISO Sa 2 ½ (SPSS-Pt3)	SPSS-Ss (SPSS-Pt2)
Damaged corroded	ISO 8501-3 grade P2 and cleanliness ISO Sa 2 ½ (SPSS-Pt3)	SPSS-Ss (SPSS-Pt2)
White rust	ISO 8501-3 grade P2 and cleanliness ISO Sa 2 ½ (SPSS-Pt3)	SPSS-ID Pt1 (SCAP)

Notes:
- Cleaning by silicon carbide impregnated abrasive pad
- Dust quantity rating "1" for dust size class "3", "4" or "5", lower dust size classes to be removed if visible on the surface to be coated without magnification (ISO 8502-3)
- The back of welded plate may show discoloration (especially on plate where fillets have been welded on, this is not to be confused with burned areas and does not require special treatment
- Burned through areas may be present (this happens especially when welding thin steel) and these should then be treated as per 'burned areas' above

INSTRUCTIONS FOR USE

Mixing ratio by volume: binder to paste 55:45

- The temperature of the mixture of binder and paste should preferably be above 15°C (59°F)
- Stir the paste thoroughly before adding the binder
- Gradually add one-third of the binder to the pigment paste
- Stir thoroughly until homogeneous
- Add remaining binder and continue stirring until the mixture is homogeneous
- Strain the mixture through a 30–60 mesh screen
- Mixed paint is ready for use
- Some addition of thinner (THINNER 90-53) might be necessary depending on routing, line speed and steel temperature
- Agitate continuously during application

Pot life

24 hours at 20°C (68°F)

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Air spray

Recommended thinner
THINNER 90-53

Volume of thinner
0 - 35%, depending on required thickness and application conditions

Nozzle orifice
1.0 - 1.5 mm (approx. 0.040 - 0.060 in)

Nozzle pressure
0.3 MPa (approx. 3 Bar; 44 p.s.i.)

Airless spray

Recommended thinner
THINNER 90-53

Volume of thinner
0 - 35%, depending on required thickness and application conditions

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

Nozzle pressure
8.0 - 12.0 MPa (approx. 80 - 120 bar; 1161 - 1741 p.s.i.)

Note: Depending on exact application conditions a different thinner may be required to ensure optimal application properties. Consult the PPG Protective & Marine Coatings representative in your area when required.

Cleaning solvent
THINNER 90-53

ADDITIONAL DATA

Curing time for DFT up to 13 µm (0.5 mil)	
Substrate temperature	**Dry to touch**
20°C (68°F)	6 minutes
40°C (104°F)	3 minutes

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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

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
• 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

WARRANTY

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