

SIGMAWELD™ 160

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)
- 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, American Bureau of Shipping and China Classification Society for use as a prefabrication primer
- Fumes analyzed by Schweisstechnische Lehr- und Versuchsanstalt and comply with BRD 2009

COLOR AND GLOSS LEVEL

- Gray, reddish gray, gray green
- Flat

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.3 kg/l (10.8 lb/US gal)
Volume solids	30 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 428.0 g/kg UK PG 6/23(92) Appendix 3: max. 645.0 g/l (approx. 5.4 lb/US gal)
Recommended dry film thickness	15 - 20 µm (0.6 - 0.8 mils) depending on system
Theoretical spreading rate	20.0 m ² /l for 15 µm (802 ft ² /US gal for 0.6 mils)
Dry to touch	4 minutes at 25 °C (77°F)
Overcoating Interval	Minimum: 3 days Maximum: 6 months
Shelf life	Binder: at least 9 months when stored cool and dry Paste: at least 12 months when stored cool and dry

Notes:

- See ADDITIONAL DATA - Curing time
- See ADDITIONAL DATA - Overcoating intervals



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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 15 µm (0.6 mil), corresponds to as measured on a smooth test panel
- Minimum thickness for a closed film is 15 µm (0.6 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

- 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%

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

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-Ss (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



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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
- 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)

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.)

Cleaning solvent

THINNER 90-53

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ADDITIONAL DATA

Curing time for DFT up to 20 µm (0.8 mil)	
Substrate temperature	Dry to touch
25°C (77°F)	4 minutes
40°C (104°F)	3 minutes

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

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

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