SIGMAWELD™ 199 US

DESCRIPTION

Two-component, moisture-curing low 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 regular, smooth weld seams
- Low fume release during welding and cutting
- No adherence of weldspatter at surrounding primed surface
- Excellent thermal stability minimizes heat damage during hot work procedures
- Can be used as a first coat in various paint systems
- Suitable for sea water immersion in combination with controlled cathodic protection systems
- Approved by Lloyd's Register of Shipping for use as a prefabrication primer
- Qualification for MIL-PRF-23236D
- Meets NSF Standard 61 for potable water (in Green)

COLOR AND GLOSS LEVEL

- Green and Gray (Redbrown on request).
- Flat

Note:

- This product is not controlled for color. Actual color is greatly affected by the particle size of the zinc dust, and batches may range from green to olive-yellow in color. This batch-to-batch variation is normal, and does not affect the performance of the product.

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	12.5 lb/US gal (1.5 kg/l)
Volume solids	30 ± 2%
VOC (Supplied)	EPA Method 24: 5.1 lb/US gal (611.0 g/l)
Recommended dry film thickness	18 µm (0.7 mils)
Theoretical spreading rate	687 ft^2/US gal for 0.7 mils (17.6 m^2/l for 17 µm)
Dry to touch	6 minutes
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

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Notes:

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

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

Atmospheric exposure conditions

- Relative humidity during curing should be above 50% and below 85%

Substrate conditions

- Steel: blast cleaned to SSPC-SP10 (ISO-Sa2½), blasting profile 1.6 – 2.8 mils (40 – 70 µm)
- On steel blasted to above profile, the recommended DFT of 0.7 mil (18 µm), corresponds to 0.8 mil (20 µm) as measured on a smooth test panel
- Minimum thickness for a closed film is 0.6 mil (15 µm) measured on a smooth test panel
- Dust quantity on the surface to be coated must not exceed rating "1" for dust size class "3", "4" or "5" (ISO 8502-3-2017). Lower dust size classes (“1” and/or “2”) to be removed if visible without magnification.

Substrate temperature

- When applying to surfaces below 104°F (40°C) the surface temperature during application should be at least 5°F (3°C) above dew point
- Substrate temperature during automatic application above 86°F (30°C) is recommended

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 below table)
- 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	SSPC-SP10 (SSPC-SP3)	SSPC-SP3
Burned	SSPC-SP10 (SSPC-SP3)	SSPC-SP7, SSPC-SP3
Damaged corroded	SSPC-SP10 (SSPC-SP3)	SSPC-SP7, SSPC-SP3
White rust	SSPC-SP3 (SCAP)	SSPC-SP2 (SCAP)

Notes:

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- SCAP: 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 8502-3:1992)
- 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 2:1

- The temperature of the mixture of binder and paste should preferably be above 60°F (16°C)
- 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 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 68°F (20°C)

Air spray

Recommended thinner

No thinner should be added

Nozzle orifice

0.079 in (approx. 2.0 mm)

Nozzle pressure

Atomizing pressure 44 - 50 p.s.i. (3.0 - 3.5 bar); Fluid pressure as required

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Airless spray

Recommended thinner

No thinner should be added

Nozzle orifice

0.017 - 0.021 in (approx. 0.43 - 0.53 mm)

Nozzle pressure

1140 - 1700 p.s.i. (approx. 79 - 117 bar; 7.9 - 11.7 MPa)

Cleaning solvent

- THINNER 90-53

ADDITIONAL DATA

Overcoating interval for DFT up to 18 µm (0.7 mils)		
Overcoating with...	**Interval**	**68°F (20°C)**
subsequent coating	Minimum	3 days
	Maximum	6 months

Note:

- Longer overcoating intervals can be permitted when primer is still in sound condition

Curing time for DFT up to 18 µm (0.7 mils)	
Substrate temperature	**Dry to touch**
68°F (20°C)	6 minutes
104°F (40°C)	3 minutes

Product Qualifications

- Qualified for ANSI/NSF Standard 61 (potable water) in Green. For NSF application instructions, please visit their website.

SAFETY PRECAUTIONS

- Read all label and Safety Data Sheet (SDS) information prior to use
- 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

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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.

REFERENCES

- Information sheet | Explanation of product data sheets

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AVAILABILITY OF PACKAGING

Depending on specific country of application the following versions are available:

Product	Color
6W177924	Redbrown Paste
6W1783572	Gray Paste
6W198403B	Binder

Notes:

- A kit includes a 5-gallon can of paste and a 5-gallon can of binder
- A kit yields 4.755 gallons