



New Guard Coatings Group

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PPG AQUAWELD™ 100

(SIGMA AQUAWELD™ 100)

DESCRIPTION

Two-component, moisture-curing, waterborne 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
- Good thermal stability minimizes heat damage during hot work procedures
- For use in seawater immersion in combination with controlled cathodic protection systems; please contact your nearest PPG Protective & Marine Coatings sales office
- Certified by Lloyds Register and SLV

COLOR AND GLOSS LEVEL

- Redbrown
- Flat

BASIC DATA AT 20°C (68°F)

Data for mixed product	
Number of components	Two
Mass density	1.7 kg/l (14.2 lb/US gal)
Volume solids	30 ± 2%
VOC (Supplied)	Directive 1999/13/EC, SED: max. 40.0 g/kg max. 25.0 g/l (approx. 0.2 lb/US gal)
Recommended dry film thickness	18 µm (0.7 mils)
Theoretical spreading rate	16.7 m ² /l for 18 µm (687 ft ² /US gal for 0.7 mils)
Dry to touch	10 minutes
Overcoating Interval	Minimum: 7 days Maximum: 3 months
Shelf life	Binder: at least 12 months when stored cool and dry Powder: 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 40 – 70 µm (1.6 – 2.8 mils)
- Substrate must be dry, free from oil, grease and any contamination
- 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 and application conditions

- Substrate temperature during application should be between 25°C (77°F) and 40°C (104°F)
- Substrate temperature during automatic application should be between 30°C (86°F) and 35°C (95°F)
- Substrate temperature during application should be at least 3°C (5°F) above dew point
- Relative humidity during application and curing should be above 50%
- Relative humidity during application and curing should not exceed 85%

SYSTEM SPECIFICATION

- First coat shall be SIGMACOVER 280 or SIGMAPRIME 200 or other approved systems

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
- The atmospheric corrosive conditions to which the shop primer coated steel is exposed to in the given performance period should not exceed C3 corrosive atmosphere according to ISO 12944-2 and where appropriate steel plate atmospheric exposure should be minimized by shielding or internal storage to prolong the life time of the shop primer coated steel. When stored outside, ponding water must be prevented by stacking the plates in a slightly tilted position and capillary effects should be avoided by using spacers in between plates

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Secondary surface preparation		
Area	Immersed exposure conditions	Atmospheric exposure conditions
Contamination	To be removed	to be removed
Weldseams	ISO-Sa2½ (SPSS-Pt3)	SPSS-Pt2
Burned	ISO-Sa2½ (SPSS-Pt3)	SPSS-Ss (SPSS-Pt2)
Damaged corroded	ISO-Sa2½ (SPSS-Pt3)	SPSS-Ss (SPSS-Pt2)
White rust	SPSS-ID Pt2 (SCAP)	SPSS-ID Pt1 (SCAP)

Notes:

- Cleaning by silicon carbide impregnated abrasive pad
- 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

- On steel blasted to recommended profile a DFT of 18 µm (0.7 mil) corresponds to 22 µm (0.9 mil), as measured on a smooth test panel; Minimum thickness for a closed film is 15 µm (0.6 mil) measured on smooth a test panel
- Adequate ventilation must be maintained during application and curing

Mixing ratio by weight: binder to powder 48:52

- Pour the binder into the empty steel drum
- Add the powder to the binder
- The temperature of the mixture of binder and powder should preferably be above 15°C (59°F)
- Stir the powder thoroughly into the binder
- Stir thoroughly until homogeneous
- Strain mixture through a 30 – 60 mesh screen
- Mixed paint is ready for use
- Agitate continuously during application, adjust speed so foam formation will be minimized
- Best performance is obtained when the sprayed steel structure is stored dry for 24 hours
- Mixed paint should not be stored in closed containers, please consult your local PPG Protective & Marine Coatings sales office

Pot life

4 hours at 20°C (68°F)



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Airless spray

- Restrictor plate PN029025 (Nordson) prior to nozzle

Recommended thinner

No thinner should be added

Nozzle orifice

Approx. 0.43 – 0.53 mm (0.017 – 0.021 in)

Nozzle pressure

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

Cleaning solvent

Tap water and THINNER 70-05

Cleaning procedures

- Pulsator filter and tip filter must be taken out of the equipment and cleaned properly
- The following tables illustrate the cleaning procedure of the spray equipment when changing from spraying with solvent-borne paint to waterborne paints (table 1) and from waterborne paints to solvent-borne paints (table 2)

Table 1: Cleaning procedure from solvent-borne to waterborne paints

Steps	Cleaning text
1st cleaning	With suitable cleaning thinner for the next product
2nd cleaning	THINNER 70-05
3rd cleaning	With warm tap water of 30°C (86°F) to 35°C (95°F) after which waterborne paints can be sprayed

Table 2: Cleaning procedure from waterborne to solvent-borne paints

Steps	Cleaning text
1st cleaning	Warm tap water of 30°C (86°F) to 35°C (95°F)
2nd cleaning	THINNER 70-05
3rd cleaning	With suitable cleaning thinner for the next product

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ADDITIONAL DATA

Curing time for DFT up to 18 µm (0.7 mil)	
Substrate temperature	Dry to touch
20°C (68°F)	10 minutes
40°C (104°F)	6 minutes

SAFETY PRECAUTIONS

- For paint and recommended thinners see INFORMATION SHEETS 1430, 1431 and relevant Material Safety Data Sheets
- Although this is a waterborne paint, care should be taken to avoid inhalation of spray mist, 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

WARRANTY

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