SIGMAWELD 160

4 pages

May 2010
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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

COLOURS AND GLOSS

grey, reddish grey, grey green - flat

BASIC DATA AT 20°C

(1 g/cm³ = 8.25 lb/US gal; 1 m²/l = 40.7 ft²/US gal)
(data for mixed product)

Mass density	1.3 g/cm³
Volume solids	30 ± 2%
VOC (supplied)	max. 428 g/kg (Directive 1999/13/EC, SED) max. 645 g/l (approx. 5.4 lb/gal)
Recommended dry film thickness	15 - 20 µm see further "recommended substrate condtions and temperatures"
Theoretical spreading rate	20 m²/l for 15 µm *
Touch dry after	4 min. at substrate temperature of 25°C 3 minutes at substrate temperature of 40°C
Overcoating interval	min. 3 days max. 6 months * longer overcoating intervals can be permitted when primer is still in sound condition
Curing time	12 hours *

(data for components)

Shelf life (cool and dry place)	binder: at least 6 months

* see additional data

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RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- steel; shot blast cleaned to ISO-Sa2½, blasting profile 30 - 75 µm
- on steel blasted to above profile, the recommended dft, 15 µm, corresponds to 17 µm as measured on a smooth test panel
- minimum thickness for a closed film is 15 µm measured on a smooth test panel
- substrate temperature may be up to max. 35°C
- for automatic application a substrate temperature of 30°C is recommended
- substrate temperature must be at least 3°C above dew point
- relative humidity during curing should be above 50% and below 85%
- 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)

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 below
- 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 pretreatment for optimal results is shown; other possibilities are indicated in brackets

areas	immersed conditions	atmospheric conditions
contamination	to be removed or ISO 8501-3 grade P2	to be removed
weldseams	ISO-Sa2½ (SPSS-Pt3) or ISO 8501-3 grade P2	SPSS-Ss (SPSS-Pt2)
burned	ISO-Sa2½ (SPSS-Pt3) or ISO 8501-3 grade P2	SPSS-Ss (SPSS-Pt2)
damaged corroded	ISO-Sa2½ (SPSS-Pt3) or ISO 8501-3 grade P2	SPSS-Ss (SPSS-Pt2)
white rust	SPSS-ID Pt2 (SCAP *) or ISO 8501-3 grade P2	SPSS-ID Pt1 (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).
Note that 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
- stir the paste thoroughly before adding the binder
- add gradually one third of the binder to the pigment paste
- stir thoroughly till 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

AIRLESS SPRAY

Recommended thinner	Thinner 90-53
Volume of thinner	0 - 35%, depending on required thickness and application conditions
Nozzle orifice	approx. 0.49 - 0.64 mm (= 0.019 - 0.025 in)
Nozzle pressure	8 - 12 MPa (= approx. 80 - 120 bar; 1140 - 1700 p.s.i.)

AIR SPRAY

Recommended thinner	Thinner 90-53
Volume of thinner	0 - 35%, depending on required thickness and application conditions
Nozzle orifice	1 - 1.5 mm
Nozzle pressure	0.3 MPa (= approx. 3 bar; 43 p.s.i.)

CLEANING SOLVENT

Thinner 90-53

SAFETY PRECAUTIONS

for paint and recommended thinners see safety 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 vapour as well as contact between the wet paint and exposed skin or eyes

ADDITIONAL DATA

highly pigmented zinc silicate primers produce dry films with void spaces in between the particles

Worldwide availability

Whilst it is always the aim of PPG Protective & Marine Coatings to supply the same product on a worldwide basis, 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.

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REFERENCES

Explanation to product data sheets	see information sheet 1411
Safety indications	see information sheet 1430
Safety in confined spaces and health safety	
Explosion hazard - toxic hazard	see information sheet 1431
Cleaning of steel and removal of rust	see information sheet 1490
Relative humidity - substrate temperature - air temperature	see information sheet 1650

LIMITATION OF LIABILITY

The information in this data sheet is based upon laboratory tests we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the Sigma Coatings products made by PPG Protective & Marine Coatings, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge are reliable. The products and information are designed for users having the requisite knowledge and industrial skills and it is the end-user's responsibility to determine the suitability of the product for its intended use.

PPG Protective & Marine Coatings has no control over either the quality or condition of the substrate, or the many factors affecting the use and application of the product. PPG Protective & Marine Coatings does therefore not accept any liability arising from loss, injury or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

The data contained herein are liable to modification as a result of practical experience and continuous product development.
This data sheet replaces and annuls all previous issues and it is therefore the user's responsibility to ensure that this sheet is current prior to using the product.

The English text of this document shall prevail over any translation thereof.

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