

SIGMASHIELD 1090**(SIGMACOVER ARMOUR COMPOUND)**

5 pages

September 2005
Revision of July 2003**DESCRIPTION**

two component flint reinforced solvent free polyamine cured, epoxy compound

PRINCIPAL CHARACTERISTICS

- seamless water impermeable layer with excellent anticorrosive properties
- suitable for the protection of steel and concrete
- excellent resistance against impact and wear
- excellent adhesion under dry and wet exposure conditions
- resistant to water and splash of mild chemicals
- can be exposed to water within 30 minutes after application
- texture of surface is rough
- suitable for decks exposed to heavy impact and abrasion

COLOURS AND GLOSS

white (other colours on request) - 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

2.0 g/cm³

Volume solids

100%

VOC (supplied)

max. 35 g/kg (Directive 1999/13/EC, SED)
max. 68 g/l (approx. 0.6 lb/gal)
see information sheet 1411Recommended dry film
thickness

3 - 5 mm

Theoretical spreading rate

0.2 m²/l for 5000 µm (= approx. 10 kg/m²)
0.3 m²/l for 3000 µm (= approx. 6 kg/m²)

Touch dry after

6 - 8 hours

Overcoating interval

min. see tables *
max. see tables *

Curing time

7 days *

(data for components)

Shelf life (cool and dry place)

at least 6 months

Flash point

base and hardener above 65°C

* see additional data

**RECOMMENDED
SUBSTRATE CONDITIONS
AND TEMPERATURES**

- steel; blast cleaned to ISO-Sa2½, surface roughness (R_z) 75 - 100 µm
- concrete: free from laitance by blast cleaning
- moisture content of concrete should be max. 4%
- substrate temperature should be above 5°C and at least 3°C above dew point

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INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 90.4 : 9.6

- **do not prepare more material than can be used within 30 minutes**
- the temperature of base and hardener when mixing the components should be approx. 20°C
- use always mechanical mixing equipment
- add the hardener while stirring the base
- mix thoroughly and quickly until a homogeneous material is obtained

Induction time

none

Pot life

approx. 30 min. at 20°C *

* see additional data

APPLICATION

A sprayable polymer mortar is a heavy material which has to be transported from the container with mixed material to the mortar spray gun or airless spray gun.

Care should be taken that hoses are of sufficiently large diameter, are as short as possible and that no obstructions are present; otherwise the binder will be pressed out of the mortar leaving dry (untransportable) material behind.

So preferably 3/4 - 1 inch hoses should be used (for the airless spraying, just before the spraygun 5/8 inch).

APPLICATION WITH LOW PRESSURE PUMP

Nozzle orifice

equipment such as type 'Swinger Pump' Fizom A112 tech spray systems U.S.A.

Nozzle pressure

approx. 5.6 mm, preferably with internal mix atomisation

0.4 - 0.6 Mpa (= approx 4-6 bar; 57 - 85 p.s.i.)

equipment such as Swinger Pump (11 : 1 ratio motor Air Tech spray equipment, Houston, TX)

Nozzle orifice

approx. 6.5 - 10 mm preferably with internal mix atomisation

Nozzle pressure

0.4 - 0.6 Mpa (= approx 4-6 bar; 57 - 85 p.s.i.)

APPLICATION BY PRESSURE VESSEL

- pressure vessel with bottom outlet and pressure lid
- vessel should not contain more than 25 litres
- before use vessel and hoses have to be wetted with white spirit
- hoses (diameter 25 mm = approx. 1 inch) not longer than 7 metres, preferably in two lengths of 3.5 metres
- at low temperature hoses have to be insulated

Nozzle orifice

approx. 6.5 - 10 mm preferably with internal mix atomisation

Nozzle pressure

0.4 - 0.6 Mpa (= approx 4-6 bar; 57 - 85 p.s.i.)

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APPLICATION BY DISPLACEMENT FEED PUMP equipment such as 'quick spray', carousel pump and spraying equipment (Quickspray Inc., Port Clinton, Ohio, U.S.A.)
 Nozzle orifice approx. 4 - 5 mm
 Nozzle pressure 0.4 - 0.6 MPa (= approx 4 - 6 bar; 57- 85 p.s.i.)

APPLICATION BY TROWEL SigmaShield 1090 can be applied and compacted by trowels

- TOUCH UP**
- damaged areas should be reblasted and repaired with SigmaShield 1090 by means of filling knives
 - porosity, blow holes and crevices in concrete should be filled with SigmaShield 1090 by hand (trowel/filling knife)
 - larger areas can be resprayed with a beaker spray unit (e.g. Putzmeister) suitable for spraying materials like coarse filled mortars

other application methods may be possible, please contact the nearest sales office

CLEANING SOLVENT AND PROCEDURE Sigma thinner 90-83 (preferred) or Sigma thinner 90-53

- all application equipment must be cleaned immediately after use
- insert a cellulose sponge into the hose inlet and force through with Sigma thinner 90-53, repeat if necessary

SAFETY PRECAUTIONS for paint and recommended thinners see safety sheets 1430, 1431 and relevant material safety data sheets

although this is a solvent free paint, care should be taken to avoid inhalation of spray mist as well as contact between the wet paint and exposed skin or eyes

- ventilation should be provided in confined spaces to maintain good visibility
- protective clothing and spray masks should be provided to avoid any dermatitic or toxic hazard

ADDITIONAL DATA

Overcoating table for solvent borne coatings

| substrate temperature | 10°C | 20°C | 30°C | 40°C |
|-----------------------|---------|---------|---------|---------|
| minimum interval | 7 days | 4 days | 1 day | 1 day |
| maximum interval | 30 days | 30 days | 30 days | 30 days |

- surface should be dry and free from any contamination

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Overcoating table for solvent free coatings

| | | | | |
|-----------------------|---------------------------------|---------|---------|---------|
| substrate temperature | 10°C | 20°C | 30°C | 40°C |
| minimum interval | 1 day or immediately wet on wet | | | |
| maximum interval | 30 days | 30 days | 30 days | 30 days |

– surface should be dry and free from any contamination

Curing table

| | | | |
|-----------------------|-------------|---------------|-----------|
| substrate temperature | touch dry | dry to handle | full cure |
| 10°C | 10-12 hours | 48 hours | 12 days |
| 20°C | 6-8 hours | 24 hours | 7 days |
| 30°C | 4-6 hours | 16 hours | 4 days |
| 40°C | 4-4 hours | 12 hours | 3 days |

– adequate ventilation must be maintained during application and curing (please refer to sheet 1433 and 1434)

Pot life (at application viscosity)

| | |
|------|---------|
| 20°C | 30 min. |
| 30°C | 15 min. |

Worldwide availability

Whilst it is always the aim of Sigma 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.

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 |
| Safe working in confined spaces | see information sheet 1433 |
| Directives for ventilation practice | see information sheet 1434 |
| Cleaning of steel and removal of rust | see information sheet 1490 |

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

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