

# SIGMASHIELD 400

(SIGMASHIELD 825 )



5 pages

August 2013  
Revision of July 2012

**Description** two component high solids glassflake reinforced polyamine cured epoxy coating

**PRINCIPAL CHARACTERISTICS**

- excellent abrasion and impact resistance
- high glassflake level
- excellent resistance to corrosion
- long term protection at areas subject to heavy wear and tear
- very low water permeability, due to glassflake barrier
- tar free
- resistant to splash and spillage of a wide range of chemicals
- application and curing at temperatures down to 10°C
- suitable for immersion service
- compatible with cathodic protection systems
- up to 750 µm in a single coat

**COLOURS AND GLOSS** black (other (light) colours on request) – gloss

**BASIC DATA AT 20°C** (1 g/cm<sup>3</sup> = 8.35 lb/US gal; 1 m<sup>2</sup>/l = 40.7 ft<sup>2</sup>/US gal)  
(data for mixed product)

Mass density 1.5 g/cm<sup>3</sup>  
 Volume solids 87 ± 3%  
 VOC (EPA Method 24) max. 172 g/l (approx. 1.4 lb/gal)  
 Recommended dry film thickness 200 - 750 µm depending on system  
 Theoretical spreading rate 4.4 m<sup>2</sup>/l for 200 µm \*  
 Touch dry after 6 hours \* at 20°C  
 Overcoating interval min. 24 hours \*  
 max. 3 months \*  
 Full cure after 8 days

(data for components)  
 Shelf life (cool and dry place) at least 12 months  
 \* see additional data

**RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES**

- steel; blast cleaned to ISO-Sa2½, blasting profile 50 - 100 µm
- primed steel; (e.g. SigmaCover 280) dry and free from any contamination
- substrate temperature should be at least 10°C and at least 3°C above dew point during application and curing

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**INSTRUCTIONS FOR USE**

mixing ratio by volume: base to hardener 50 : 50

- the temperature of the mixed base and hardener should preferably be above 15°C, otherwise extra solvent may be required to obtain application viscosity
- too much solvent results in reduced sag resistance and slower cure
- very good mechanical mixing of base and hardener is essential
- thinner should be added after mixing the components
- filters should be removed from spray equipment

Pot life

2 hours at 20°C \*

\* see additional data

**AIR SPRAY**

Recommended thinner

Thinner 21-06

Volume of thinner

6 - 10%, depending on required thickness and application conditions

Nozzle orifice

1.5 - 2 mm

Nozzle pressure

0.3 - 0.4 MPa (= approx. 3 - 4 bar; 44 - 58 p.s.i.)

**AIRLESS SPRAY**

Recommended thinner

Thinner 21-06

Volume of thinner

0 - 5% for dft of about 400 µm

Nozzle orifice

approx. 0.53 - 0.79 mm (= 0.021 - 0.031 in)

Nozzle pressure

19.0 - 22.5 MPa (= approx. 190 - 225 bar; 2756 - 3263 p.s.i.)

**BRUSH/ROLLER**

only for touch up and spot repair

- due the thixotropy it is difficult to obtain a smooth film by brush although this does not affect performance

**CLEANING SOLVENT**

Thinner 90-58

**Film thickness and spreading rate**

theoretical spreading rate m <sup>2</sup> /l	4.4	1.2
dft in µm	200	750

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**Overcoating table for SigmaShield 400 for dft up to 300 µm**

	substrate temperature	10°C	20°C	30°C	40°C
with itself	minimum interval	36 hours	16 hours	10 hours	8 hours
	maximum interval	3 months	3 months	3 months	1 month
with polyurethanes	minimum interval	36 hours	16 hours	10 hours	8 hours
	maximum interval	1 month	1 month	14 days	7 days

- adequate ventilation must be maintained during application and curing (please refer to sheets 1433 and 1434)
- surface should be dry and free from any contamination

\*An extended recoatable window may be allowable in some circumstances. Please contact your PPG PMC representative for more details

**Curing**

**Curing table for dft up to 300 µm**

substrate temperature	touch dry	dry to handle	full cure
10°C	24 hours	48 hours	21 days
20°C	6 hours	20 hours	8 days
30°C	4 hours	12 hours	4 days

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

**Pot life (at application viscosity)**

10°C/50°F	3 hours
20°C/68°F	2 hours
30°C/86°F	1 hour

**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

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## REFERENCES

Conversion tables	see information sheet 1410
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
Specification for mineral abrasives	see information sheet 1491
Relative humidity - substrate temperature - air temperature	see information sheet 1650

## 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

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