

SIGMADUR GLOSS

4 pages

November 2006
Revision of September 2005

DESCRIPTION

two component aliphatic acrylic polyurethane finish

PRINCIPAL CHARACTERISTICS

- unlimited recoatable
- excellent resistance to atmospheric exposure conditions
- excellent colour and gloss retention
- non-chalking, non-yellowing
- cures at temperatures down to -5°C
- tough and abrasion resistant
- resistant to splash of mineral and vegetable oils, paraffins, aliphatic petroleum products and mild chemicals
- can be recoated even after long atmospheric exposure

COLOURS AND GLOSS

white, black (other colours on request) - gloss

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/cm ³
Volume solids	56 ± 2%
VOC (supplied)	max. 303 g/kg (Directive 1999/13/EC, SED) max. 385 g/l (approx. 3.2 lb/gal)
Recommended dry film thickness	50 - 60 µm depending on system
Theoretical spreading rate	11.2 m ² /l for 50 µm *
Touch dry after	1 hour
Overcoating interval	min. 6 hours * max. unlimited
Full cure after	4 days *

(data for components)

Shelf life (cool and dry place)

at least 24 months

RECOMMENDED SUBSTRATE CONDITIONS AND TEMPERATURES

- previous coat; (epoxy or polyurethane) dry and free from any contamination and sufficiently roughened if necessary
- during application and curing a substrate temperature down to -5°C is acceptable provided the substrate is dry and free from ice
- substrate temperature should be at least 3°C above dew point
- maximum relative humidity during application and curing is 85%
- premature exposure to early condensation and rain may cause colour and gloss change

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INSTRUCTIONS FOR USE

mixing ratio by volume: base to hardener 88 : 12

- the temperature of the mixed base and hardener should preferably be above 10°C, otherwise extra solvent may be required to obtain application viscosity
- too much solvent results in reduced sag resistance
- thinner should be added after mixing the components

Induction time

none

Pot life

5 hours at 20°C *

APPLICATION METHODS

High gloss thin film polyurethane finishes tend to atomise less easy. The widely used airless spray application method is for those kind of finishes possible but not be the best option as small nozzles and high pressures can easily result in overspray. Better suitable methods are Pressure pot and air assisted airless (e.g. airmix) application which result in better dry film thickness control, better appearance and much less overspray.

AIRLESS SPRAY

Recommended thinner

Sigma thinner 21-06

Volume of thinner

0 - 10%, depending on required thickness and application conditions

Nozzle orifice

approx. 0.28 - 0.33 mm (= 0.011 - 0.013 in)

Nozzle pressure

20 MPa (= approx. 200 bar; 2800 p.s.i.)

AIR SPRAY

Recommended thinner

Sigma thinner 21-06

Volume of thinner

5 - 10%, depending on required thickness and application conditions

Nozzle orifice

1 - 1.5 mm

Nozzle pressure

0.3 - 0.4 MPa (= approx. 3 - 4 bar; 43 - 57 p.s.i.)

BRUSH/ROLLER

Recommended thinner

Sigma thinner 21-06

Volume of thinner

0 - 5%

CLEANING SOLVENT

Sigma 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 based 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

- contains a toxic polyisocyanate curing agent
- avoid at all times inhalation of aerosol spraymist

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ADDITIONAL DATA

Film thickness and spreading rate

theoretical spreading rate m ² /l	11.2	9.3
dft in µm	50	60

Overcoating table

for SigmaDur products

substrate temperature	-5°C	0°C	10°C	20°C	30°C	40°C
minimum interval	24 hours	16 hours	8 hours	6 hours	5 hours	3 hours
maximum interval	unlimited					

- surface should be dry and free from any contamination

Curing table

substrate temperature	dry to handle	full cure
-5°C	24 hours	15 days
0°C	16 hours	11 days
10°C	8 hours	6 days
20°C	6 hours	4 days
30°C	5 hours	3 days
40°C	3 hours	2 days

- adequate ventilation must be maintained during application and curing (please refer to sheet 1433 and 1434)
- premature exposure to early condensation and rain may cause colour and gloss change

Pot life (at application viscosity)

10°C	7 hours
20°C	5 hours
30°C	3 hours
40°C	2 hours

Worldwide availability

Whilst it is always the aim of SigmaKalon Marine & Protective 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
Safe working in confined spaces	see information sheet 1433
Directives for ventilation practice	see information sheet 1434

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 SigmaKalon Marine & Protective 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.

SigmaKalon Marine & Protective 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. SigmaKalon Marine & Protective 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.

PDS	7528
179291 white	7000002200
179309 black	8000002200