

SIGMACOVER ARMOUR COMPOUND

July 2006
Revision of January 2004

DESCRIPTION

SigmaCover Armour Compound is a two component coating based on epoxy resins and an amine hardener. It is suitable for the protection of steel and concrete against severe mechanical damages, abrasive action and corrosive conditions. Suitable for the protection of steel on decks of ships and offshore installations.

PRINCIPAL CHARACTERISTICS

- Outstanding impact and wear resistance.
- Excellent adhesion, both under wet and dry conditions.
- Outstanding anticorrosive properties due to high gas and water impermeability.
- Application by various types of equipment.
- Application by pressure vessel can be achieved by SigmaCover Armour Compound 7490L (for horizontal surfaces).
- Resistant to splash and spillage of mild chemicals.
- Can be immersed in water within thirty minutes after application.
- Good curing properties down to 50°F (10°C).

COLORS AND GLOSS

Grey – low gloss, textured.

BASIC DATA AT 68° F (20°C)

(data for mixed product)

Mass density	approximately 16.0 lbs/gal (1.9 g/cm ³)
Solids content	approximately 100% by volume
VOC by formula	0.0 lbs/gal (0 g/ltr)
VOC (by EPA method 24)	0.13 lbs/gal (16 g/ltr)
Recommended dry film thickness	(7490) 100 – 125 mils (2500 – 3125 µm) (7490L) 40 – 80 mils (1000 – 2000 µm)
Theoretical spreading rate	1,604 ft ² /gal at 1 mil (28 m ² /ltr at 25 µm)
Touch dry after	6 hours
Overcoating interval	see tables
Full cure after	7 days
Temperature resistance (dry)	250°F (120°C)
Shelf life (cool and dry place)	Subject to inspection after 12 months

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Induction tome	None
Pot life	45 – 60 minutes at 68°F (20°C)
Relative humidity	95% maximum

APPLICATION BY PRESSURE VESSEL

Product 7490L must be used. This is a special version of SigmaCover Armour Compound, which can be applied by pressure vessel on horizontal surfaces. Use a pressure vessel with a bottom outlet and a pressure lid. Vessel should not contain more than 5 gallons (19 liters). Before use wet vessel with thinner #90 – 53. Hose diameter should be 3/8” – 1/2”, pot pressure 60 – 90 p.s.i. internal mix nozzles are most suitable.

APPLICATION BY MATERIAL PUMP

The “Carousel Pump” by Quickspray, Inc. of Port Clinton, Ohio has been found to be an efficient method of application. Nozzle orifice: 1/8” – 3/16”. Other equipment may be suitable. No thinner allowed.

APPLICATION BY SPECIAL PISTON PUMP

A special piston pump such as the “The Swinger” by Air Tech of Houston, TX, with a conventional type spray pole gun and air nozzle. The inside diameter of the hose should be 1”. 6 x 3/4” whip hose and main hose 30 ft. The tip size range is 1/4” to 5/8” with internal mix atomization. This type of pump provides high production rates. No thinner allowed. Contact the Technical Service Department for more information.

APPLICATION BY TROWEL

SigmaCover Armour Compound can be applied by trowel. No thinner allowed.

TOUCH-UP APPLICATION

Touch-up areas should be re-blasted and repaired using a trowel or spatula. Porosity, blowholes and crevices in the concrete should be filled with SigmaCover Armour Compound using a trowel or spatula. Larger areas can be resprayed using a hopper gun as suitable for heavy mastics and mortar type materials.

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CLEANING SOLVENT 90-83 (Flash point 106°F (41°C)). All equipment must be cleaned immediately after use. Polyurethane foam “pigs” may be necessary for cleaning hoses.

SAFETY PRECAUTIONS

This product is offered for sale and use only to PROFESSIONALLY TRAINED INDUSTRIAL PERSONNEL. It is NOT FOR RESIDENTIAL USE. This product contains flammable solvents and/or other hazardous ingredients and must be used with caution. Observe all health and safety precautions as listed on the Material Safety Data Sheet during storage and handling, application, drying and disposal. DO NOT ATTEMPT TO USE THIS PRODUCT WITHOUT CONSULTING THE CURRENT “MATERIAL SAFETY DATA SHEET”. Material Safety Data Sheets are available from the Customer Service Department at SigmaKalon USA (713-355-3333)

ADDITIONAL DATA

Overcoating table

Overcoating with Solvent free coatings				Overcoating with solvent based coatings			
Substrate Temperature	86°F (30°C)	68°F (20°C)	50°F (10°C)	Substrate Temperature	86°F (30°C)	68°F (20°C)	50°F (10°C)
Minimum Interval	24 hours	24 hours	24 hours	Minimum Interval	1 day	4 days	7 days
Maximum Interval	30 days	30 days	30 days	Maximum Interval	30 days	30 days	30 days

Surfaces should be dry and free from contamination.

Curing table

Substrate temperature °F °C	dry to handle	full cure
50°F (10°C)	48 hours	12 days
68°F (20°C)	24 hours	7 days
86°F (30°C)	24 hours	4 days

Pot Life

Substrate temperature °F °C	Pot Life
50°F (10°C)	80 minutes
68°F (20°C)	60 minutes
86°F (30°C)	40 minutes

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These figures are for packages of 1 gallon (3.785 liters)

PHYSICAL DATA FOR CURED MATERIAL

Abrasion resistance (Taber Abraser)	110 mg/1000 rev. (CS 17 wheel, 1000 g. weight).
Porosity (Astutest 10 R.T.)	no sparks at 35 KV at 80 MDFT (2mm) or more.
Impact resistance (ASTM D2794-69)	2 kg. m with ball of radius 0.4" (10mm), no break down. (175 inch lb.)
Adhesion on steel (Pull-Off)	105 kg/cm ² (1500 p.s.i.)
Tensile Strength @ 74°F (23°C)	approximately 2280 lbs./sq.in (160 kg/cm ²) ASTM C307-770
Ultimate elongation @ 74°F (23°C)	approximately 2% (ASTM D2370-68)
Shore D hardness @ 74°F (23°C)	approximately 65

Worldwide availability While it is the aim of Sigma Coatings to supply the same product on a worldwide basis, slight local modifications can be necessary to comply with legislation or special circumstances. In such situations an alternative product data sheet is published.

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 and 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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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 products made by Sigma 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.

Sigma 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. Sigma 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.