BUILDING TRUST

PRODUCT DATA SHEET

Sikafloor® Marine-590

IMO approved self-levelling decorative resin

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties		Sikafloor® Marine-590 (A)	Sikafloor® Marine-590 (B)
Chemical base		Polyurethane	Isocyanate
Color (CQP001-1)		Colored	Transparent
	mixed	Various colors available (see color design chart)	
Density		1.2 kg/l	1.2 kg/l
	mixed	1.2 kg/l	
Solid content		100 %	
Mixing ratio	by weight	75 : 25	
Application temperature	substrate, climate	10 – 30 °C [A, B]	
Working time	10 °C	60 minutes	
	20 °C	45 minutes	
	30 °C	30 minutes	
Shore A hardness (CQP023-1 / ISO 48-4)		89	
Tensile strength (DIN 53504)		8 MPa	
Elongation at break (DIN 53504)		65 %	
Shelf life		9 months [C]	12 months [C]

CQP = Corporate Quality Procedure
[A] substrates must be 3 °C above the dew point
[B] max. 80 % r.h.
[C] stored in sealed container in up-right position in a dry place between 5 and 30 °C, protected from direct sunlight

DESCRIPTION

Sikafloor® Marine-590 is a 2-component, aliphatic polyurethane, elastic, low VOC self-smoothing marine flooring resin. It is part of the Sikafloor® Marine decorative resin systems.
Sikafloor® Marine-590 has been tested according to FTP Code system and approved according the IMO Marine Equipment Directives.

PRODUCT BENEFITS

- Easy to apply
- Very high yellowing resistance
- Decorative designs solutions
- IMO approved, as primary deck covering up to a max. of 2.8 kg/m²
- IMO approved, as floor covering up to a max. of 2.8 kg/m²
- Very low VOC emission
- Good mechanical resistance
- Permanently elastic
- Curing can be accelerated

AREAS OF APPLICATION

Sikafloor® Marine-590 can be used as an IMO approved decorative resin and wearing layer compound in ship and boat construction. For interior comfort floor solution and exterior as a layer compound in the Sikafloor® Marine Deco Teak solutions.
This product is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

CURE MECHANISM
The curing of Sikafloor® Marine-590 takes place by a chemical reaction of the two components.
Higher temperatures speed up and lower temperatures slow down the curing process.

CHEMICAL RESISTANCE
For advice contact the Technical Department of Sika Industry.

METHOD OF APPLICATION
Surface preparation
For steel decks, an anti-corrosion protection layer applied and intact as designed by the shipyard is a pre-requisite.
The surface need to be clean, free of dirt, dust, grease, oil and loose particles before application of the SikaCor® ZP Primer. The adhesion between the anti-corrosion protection layer and SikaCor® ZP Primer must be verified.
Aluminum deck needs to be clean, free of dirt, dust, grease, oil and loose particles. The aluminum substrate must be sanded with 40 – 80 grit and dust free vacuum cleaned before application of SikaCor® ZP Primer (Tiecoat).
In the case of cementitious substrates, it must be ensured that the laitance layer is completely removed. This is usually achieved by grinding. All dust, loose and friable material must be completely removed by vacuum before the next application.
Repairs to the substrate, filling of cracks, holes/voids or surface levelling must be carried out first. Repair areas must be cured before applying primers.
Ensure the substrate moisture content is equal or less than 4 % (Calcium carbide method (CM-method). Apply Sikafloor®-150/-151 as a primer to obtain a closed pore free surface.
Backing substrate for prefab installations must be clean, dry and free of all contaminants such as dirt, oil, grease and loose friable material.
2-C polyurethane substrates need usually to be sanded with 40 – 80 grit sanding paper up to diamond disc. In case the substrate is not clean, it is required to clean it before the sanding process to ensure no debris is sanded into the surface. All dust, loose and friable material must be completely removed from the surface by vacuum cleaning before next application.
For more information and other substrates refer to the Sika Pre-Treatment Chart for Sikafloor® Marine Applications.
The application area must be protected against dirt, sun light, water and draught.

Mixing process
Prior to mixing all components, stir part A using the electric mixing equipment.
Add part B to part A and mix continuously for 2 minutes until a uniformly mix has been obtained. To ensure thorough mixing pour materials into a clean container and mix again for at least 1 minute to achieve a smooth consistent mix.
Excessive mixing must be avoided to minimize air entrainment.
The curing time of Sikafloor® Marine-590 can be significantly shortened, by adding snapcure technology Sikafloor® Marine-002. The mixing procedure is the same as for the non-snapcure version, except that 280 gram Sikafloor® Marine-002 is added 1 minute after start mixing A and B.
For further information regarding the snapcure, refer to the API - snapcure.
For areas with cambers or slopes (1 – 3 %) SikaLiquid Thickener or Sika® Extender T may be added to adapt the viscosity of the product.
Remark: By using snapcure and increasing the viscosity the de-airing properties may be affected.

Application
Sikafloor® Marine-590 is poured and spread evenly by means of a suitable trowel or pin leveller. A spike roller may be used to improve levelling and de-airing.
For liquid application on cambers and slopes multiple applications steps might be needed.
A seamless finish can be achieved when a “wet” edge is maintained during application.

Curing
Indications regarding curing details see table below.

Temperature	Walk- and overcoatable	Full loading
10 °C	24 hours	7 days
20 °C	16 hours	7 days
30 °C	12 hours	7 days

Removal
Uncured Sikafloor® Marine-590 can be removed from tools and equipment with Sika® Colma Cleaner or another suitable solvent. Once cured, the material can only be removed mechanically.
Hands and exposed skin shall be washed immediately using hand wipes such as Sika® Cleaner-350H or a suitable industrial hand cleaner and water.
Do not use solvents on skin.

Application limits
Beware of condensation. The substrate and uncured applied product must be at least 3 °C above dew point to reduce the risk of condensation.
Sikafloor® Marine-590 used for Sikafloor® Marine teak deck system is only available in specific colors.
Freshly applied Sikafloor® Marine-590 must be protected from damp, condensation and water for at least 1 day. Uncured material reacts in contact with water (foaming).
For consistent color matching, ensure the product in each area is applied from the same batch numbers.
For air heating use only electric powered warm air blower systems.

STORAGE CONDITIONS
Both components of Sikafloor® Marine-590 have to be kept between 5 °C and 30 °C in a dry place. Do not expose it to direct sunlight. After opening of the packaging, the contents need to be protected against moisture.
Minimum temperature during transportation is 5 °C.

FURTHER INFORMATION
The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Industry.
Copies of the following publications are available on request:
- Safety Data Sheets
- API (Additional Product Information) Sikafloor® Marine Snapcure
- Sika Pre-Treatment Chart for Sikafloor® Marine Applications

PACKAGING INFORMATION
Sikafloor® Marine-590 (A)

Pail	15 kg

Sikafloor® Marine-590 (B)

Pail	5 kg

BASIS OF PRODUCT DATA
All technical data stated in this document are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

HEALTH AND SAFETY INFORMATION
For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

DISCLAIMER
The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product’s suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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