

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB000080B

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

That the A & B Class divisions fire integrity: A class divisions.

with type designation(s)
Sikafloor® Marine Litosilo Steel SeaRox (System)

Issued to

Sika Services AG
Zürich, ZH, Switzerland

is found to comply with the requirements in the following Regulations/Standards:

Regulation (EU) 2021/1158,

item No. MED/3.11a. SOLAS 74 as amended, Regulation II-2/3.2 & II-2/9, IMO 2010 FTP Code, IMO MSC/Circ.1120 and IMO MSC.1/Circ.1434, IMO MSC.1/Circ.1435.

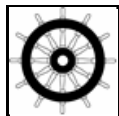
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-03-13**.

Issued at **Hamburg** on **2022-03-14**

DNV local station:
Augsburg

Approval Engineer:
Timo Linn



Notified Body
No.: **0098**

for **DNV SE**

Christine Mydlak-Roeder
Head of Notified Body

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production module certificate (module D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU. This certificate remains valid unless suspended, withdrawn, recalled or cancelled. Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.

This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.

Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Sikafloor® Marine Litosilo Steel SeaRox (System)

Basis is composed of seen from the bottom of the system starting at the structural steel deck (3 mm):

- Layer 1: Mineral wool Slabs, 50mm thick Rockwool SeaRox SL 436, 140 kg/m³ mounted tightly together (compressed), on top of the standard structural steel core.
- Layer 2: Strips of 1.5mm thick galvanized steel plates are placed under the joint of the 3mm thick steel plates and bonded with SikaForce® 472 FR L60.
- Layer 3: Galvanized steel plates 1000 x 2000 x 3mm are mounted on top of the mineral wool.
- Layer 4: SikaForce® 472 FR L 60 in 594 g/m² was applied on top of steel plates.
- Layer 5: Galvanized steel plates (1000 x 2000 x 1.5mm) are mounted on top of the SikaForce®, 100% coverage.

Insulation:

- 50 mm thick Rockwool SeaRox SL 436, 140 kg/m³ Manufactured by Rockwool.

Total thickness approximately 56mm.

The floor system may can be expanded under following variants follows:

VEM Steel + Sikafloor® Marine Litosilo Steel SeaRox

- Layer 1: Sikafloor® Marine VEM X, max 2mm
- Layer 2: Electrogalvanized Steel plates 150 x 310 x 1,5mm
- Layer 3: Mineral wool Slabs, 50mm thick Rockwool SeaRox SL 436, 140 kg/m³ mounted tightly together (compressed), on top of the standard structural steel core.
- Layer 4: Strips of 1.5mm thick galvanized steel plates are placed under the joint of the 3 mm thick steel plates and bonded with SikaForce® 472 FR L60.
- Layer 5: Galvanized steel plates 1000 x 2000 x 3mm are mounted on top of the mineral wool.
- Layer 6: SikaForce® 472 FR L 60 in 594 g/m² was applied on top of steel plates.
- Layer 7: Galvanized steel plates (1000 x 2000 x 1.5mm) are mounted on top of the SikaForce®, 100% coverage

Total thickness approximately 60mm.

VEM 190 + Sikafloor® Marine Litosilo Steel SeaRox

- Layer 1: Sikafloor® Marine Primer C, max 0,3mm
- Layer 2: Sikafloor® Marine VEM, max 2mm
- Layer 3: Sikafloor® Marine Primer C, max 0,3mm
- Layer 4: Sikafloor® Marine 190, min 10mm
- Layer 5: Mineral wool Slabs, 50mm thick Rockwool SeaRox SL 436, 140 kg/m³ mounted tightly together (compressed), on top of the standard structural steel core.
- Layer 6: Strips of 1.5mm thick galvanized steel plates are placed under the joint of the 3mm thick steel plates and bonded with SikaForce® 472 FR L60.
- Layer 7: Galvanized steel plates 1000 x 2000 x 3mm are mounted on top of the mineral wool.
- Layer 8: SikaForce® 472 FR L 60 in 594 g/m² was applied on top of steel plates.
- Layer 9: Galvanized steel plates (1000 x 2000 x 1.5mm) are mounted on top of the SikaForce®, 100% coverage.

Total thickness approximately 68mm.

For further details see approved fire reports listed below.

Application/Limitation

Approved for use as a horizontal fire retarding division of class A-60.

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the Mark of Conformity. This requirement may also be applicable for surface materials used, if required by relevant rules and regulations.

Each product is to be supplied with its manual for installation and use.

Type Examination documentation

Test Reports No. PGA10162A dated 2022-02-04 from DPI Danish Institute of Fire and Security Technology, Hvidovre, Denmark

Test Reports No. PFB10356A dated 2019-11-11 from DPI Danish Institute of Fire and Security Technology, Hvidovre, Denmark.

Test Reports No. PFB10486A dated 2021-10-21 from DPI Danish Institute of Fire and Security Technology, Hvidovre, Denmark

Test Reports No. PGA11481A dated 2019-09-01 from DPI Danish Institute of Fire and Security Technology, Hvidovre, Denmark

Test Reports No. PGA11596A dated 2019-12-04 from DPI Danish Institute of Fire and Security Technology, Hvidovre, Denmark

Tests carried out

Tested according to IMO Resolution MSC.307(88) – 2010 FTP Code Annex 1, Part 3.

Marking of product

The product is to be marked with name and address of manufacturer, type designation, fire technical rating and MED Mark of Conformity (see first page).