

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:
MEDB00007MS

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: B class divisions.

with type designation(s)
B-15 extended wall

Issued to

SAINT-GOBAIN ISOVER G+H AG
Ludwigshafen am Rhein, Rheinland-Pfalz, Germany

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

Regulation (EU) 2021/1158,

item No. MED/3.11b. SOLAS 74 as amended, Regulation II-2/3.4 & II-2/9, IMO 2010 FTP Code, IMO MSC/Circ.1120 and IMO MSC.1/Circ.1581

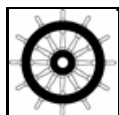
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2027-06-23**.

Issued at **Hamburg** on **2022-06-24**

DNV local station:
Augsburg

Approval Engineer:
Pavel Golyshev



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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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

"B-15 extended wall"

Composed of one layer of 50 mm thick and 600 mm wide mineral wool slabs of type ISOVER U SeaProtect Slab 66 with density of 66 kg/m³ and manufactured by Saint-Gobain Isover G+H AG, Germany. The insulation slabs are connected with each other by means of steel connecting bridges with maximum spacing of approx. 200 mm. The connecting bridges are used for both vertical and horizontal joints and consist of steel pins, washers and 12 mm wide perforated steel strips mounted on each side of the wall extension.

At the bottom and at the top of the wall extension, the insulation slabs are fixed with steel profiles (by means of steel pins and washers with centre-to-centre spacing, c-c max. 300 mm) which are further fixed to the supporting structure as given below.

Fixing at the bottom: the underlying B-Class bulkhead to be covered by non-perforated steel profile (as tested: steel omega profile with specifications of 10 mm x 50 mm x 50 mm x 50 mm x 10 mm, similar or equivalent profile may be used for project-specific installation). Above the non-perforated steel profile, perforated 1 mm thick steel Z-profile of specifications 25 mm x 50 mm x 50 mm to be fastened with the non-perforated steel profile and with the underlying B-Class bulkhead by means of steel screws c-c max. 150 mm (20 mm from any joint).

Fixing at the top to be done with 1 mm thick perforated steel L-profile of specifications 50 mm x 50 mm as follows:

- when non-combustible fire, thermal or sound insulation is installed below the steel deck, the L-profile to be fixed to the top of the supporting (ship) structure by means of steel pins and secured with double steel washers c-c max. 300 mm (with non-combustible insulation between the L-profile and the supporting structure).
- when no fire, thermal or sound insulation is installed below the steel deck (as shown in assessment PHD10040A drawing no. 6, page 11), the L-profile to be intermittently welded to the supporting (ship) structure with c-c max. 300 mm (or otherwise mechanically fixed).

Used pins are steel pins Ø3 mm, and steel washers with Ø38 mm. Steel profiles' perforation holes with Ø5 mm.

The reference construction of the Class B-15 bulkhead extension is shown in Appendix A. This construction can be mounted using one or combination of the following installations methods (acc. to assessment PHD10040A and respective drawings included in that assessment):

1. Using perforated steel plates instead of steel stripes as bridges between insulation slabs acc. to drawing no. 3 (as given on page 8 of the assessment).
2. Using uncut pieces of perforated steel plates with maximum dimensions of 1200 mm x 160 mm (height x width) for joints between the insulation slabs acc. to drawing no. 4 (page 9).
3. Using long uncut connecting bridges with maximum length of 10 m acc. to drawing no. 5 (page 10).
4. Using any orientation for the top L-profile and the bottom Z-profile acc. to drawing no. 7 (page 12).
5. The class B-15 bulkhead extension was tested with a layer of glass fabric cloth under the bottom Z-profile. This glass fabric cloth can be removed acc. to drawing no. 8 (page 13, top).
6. In hardly accessible places for the installation of the extension, a limited local application of double layer of insulation can be permitted as an alternative to the standard steel connecting bridges (with overlap of minimum 50 mm, further details acc. to drawing no. 9 (page 14, bottom)).

The perforation ratio of the alternative steel plates should be between 0.2 and 0.5. The width of the perforated plates should not be larger than 160 mm and the length not longer than the slabs it is connecting. The length of the plates must be adjusted so that it only covers one joint.

For further details, see the test report and assessments with included drawings, as listed under Type Examination Documentation below.

Application/Limitation

Extended wall approved for use as of class B-15 fire retarding division.

Tested and approved with maximum of two slabs in the vertical direction.

Maximum size of individual wool slab: 1200 mm x 600 mm (height x width)
Maximum height of the Wall Extension: 2030 mm

The wall extension may only be installed in concealed and inaccessible spaces.

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, use and maintenance.

Type Examination documentation

Test report PGB10105A dated 25th of May 2021, assessments PHD 10040A dated 5th of November 2021 and PHD10040A dated 10th of May 2022 all issued by Danish Institute of Fire and Security Technology, Hvidovre, Denmark.

Tests carried out

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

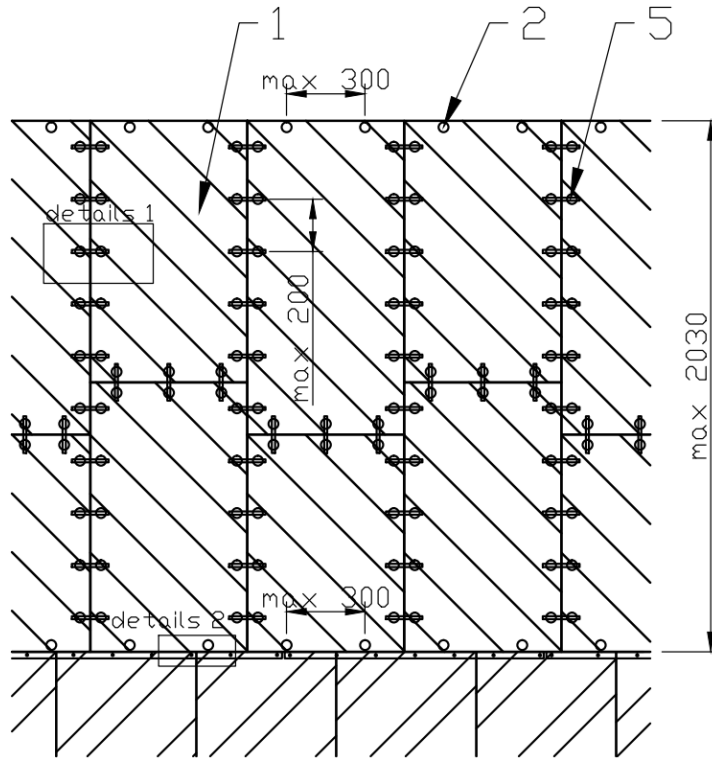
Marking of product

The product is to be marked with name and address of manufacturer, type designation, fire-technical rating, Mark of Conformity and USCG number if applicable (see page 1)

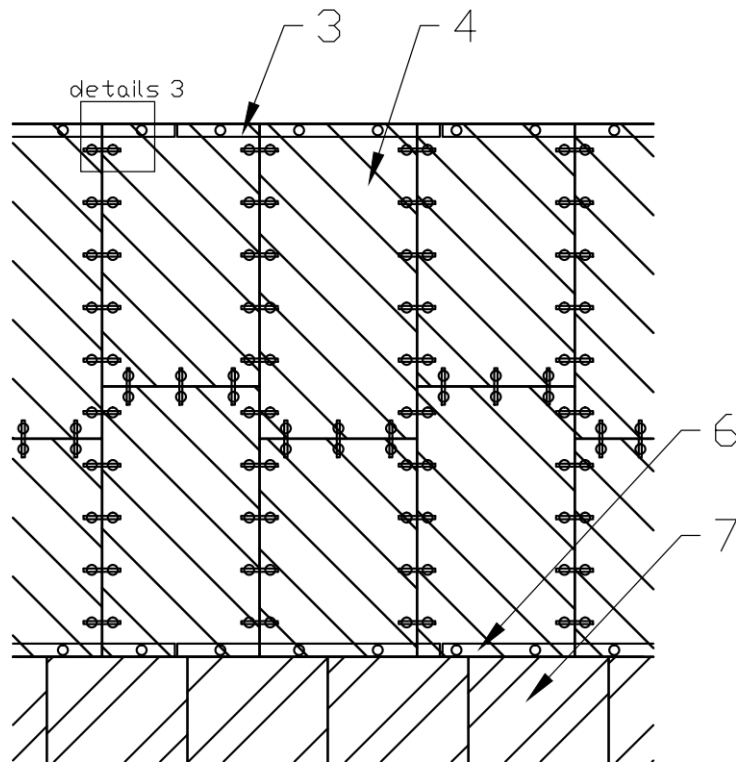
USCG Approval Category (Module B) number

This product has been assigned a U.S. Coast Guard Module B number 164.108/EC0098 to note type approval to Module B only as it pertains to obtaining US Coast Guard approval as allowed by the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed February 27th, 2004 and amended by Decision No.1/2018 dated February 18th, 2019.

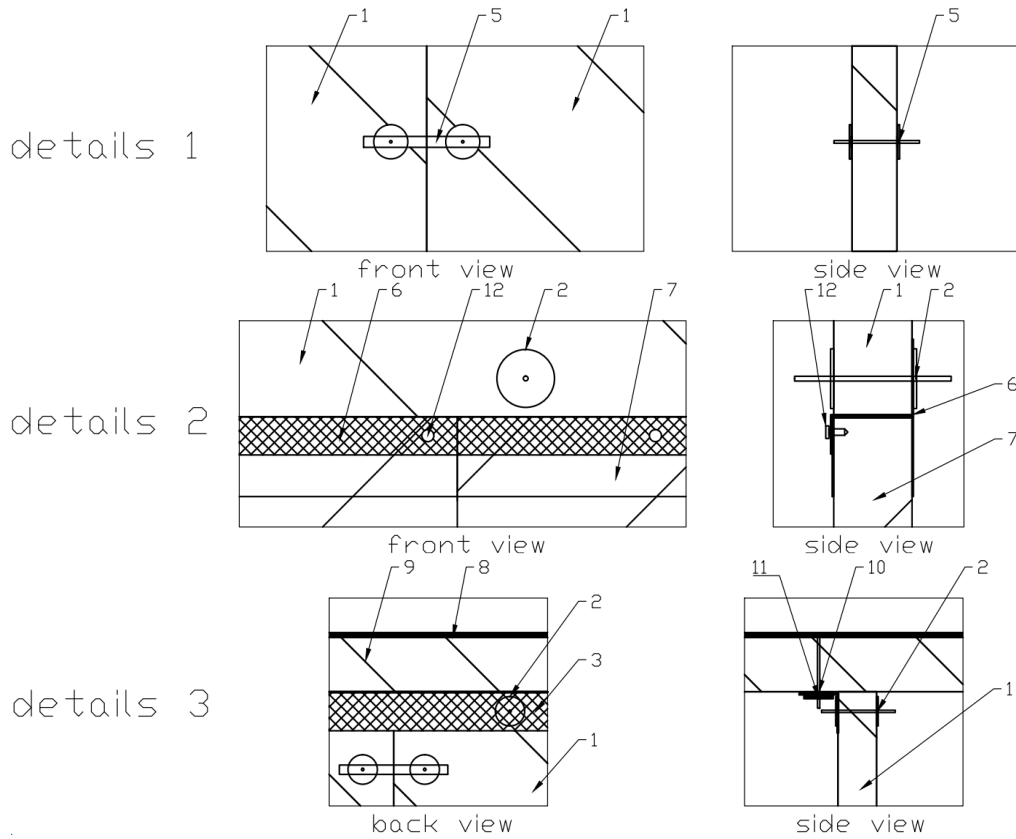
Appendix A to MEDB00007MS
 Reference construction drawings (as given in Assessment PHD10040A dated 10th of May 2022)



front view



back view



1	U SeaProtect Slab 66 50mm
2	steel pins $\varnothing 3\text{mm}$, 100mm & 2x steel washer $\varnothing 38\text{mm}$
3	perforated steel L-profile 50mm x 50mm, 1mm thickness, $\varnothing 5\text{mm}$
5	bridge consisting of: 2x steel pins $\varnothing 3\text{mm}$, 100mm 4x steel washer $\varnothing 38\text{mm}$ 2x perforated steel 12mm width, 1mm thickness, $\varnothing 5\text{mm}$
6	perforated steel Z-profile 25mm x 50mm x 50mm, 1mm thickness, $\varnothing 5\text{mm}$
7	B15 cabin wall
8	Steel deck
9	Steel deck insulation
10	Steel deck pin + washer
11	2 additional washers $\varnothing 38\text{mm}$
12	Screw $\varnothing 4,8 \times 19\text{mm}$