



# TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No:  
**MERB00003HE**  
Revision No:  
**0**

This Certificate is issued by DNV UK Limited based on authorisation of the Maritime & Coast Guard Agency (MCA) as an UK Approved Body to undertake conformity assessments on marine equipment in accordance with the requirements of the Merchant Shipping (Marine Equipment) Regulations 2016 as amended.

## This is to certify:

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

with type designation(s)  
**Class A-60 steel bulkhead - general application**

Issued to  
**SAINT-GOBAIN ISOVER G+H AG**  
**Ludwigshafen am Rhein, Germany**

is found to comply with the requirements in the following Regulations/Standards:  
Regulation **MSN 1874 Amendment 7**,  
item No. **UK/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.1434,1435; IMO MSC.1/Circ.1616, 1621**

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

This Certificate is valid until **2028-03-19**.

Issued at London on **2023-05-08**

DNV local unit:  
**Hamburg**

Approval Engineer:  
**Timo Linn**



Approved Body No.: **0097**



for **DNV UK Ltd.**  
Digitally Signed By: Elter, Frederik Tore  
Location: DNV Høvik, Norway

.....  
**Frederik Tore Elter**

**MER Service Responsible**



UK Approved Body Authorised  
by the MCA

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to, and agreed with the approved body named on this certificate.  
During the period of validity of this certificate the applicable regulations (international conventions and the relevant resolutions and circulars of the IMO) and testing standards may change, therefore the product conformity may need to be re-assessed by the Approved Body.  
"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-control phase module (D, E or F) of Schedule 2 of the Merchant Shipping (Marine Equipment) Regulations 2016, as amended is fully complied with and controlled by a written inspection agreement with an approved body. In case limitations of use apply, these should be indicated in the Annex.

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.



Form code: MER 201.GBR

Revision: 2023-03

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### Product description

"Class A-60 steel bulkhead - general application"

Steel bulkheads with different insulation constructions as listed in enclosed Appendices.

### Application/Limitation

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

For further details regarding Applications/Limitations see Appendix A.

The insulation materials and adhesives used have to be approved according to the Marine Equipment Directive and bear the MER 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 maintenance.

### Type Examination documentation

Test report No. PGA11203A dated 19 March 2018 from DBI, Hvidovre, Denmark.

Test report No. PGA11096A dated 12 October 2017 from DBI, Hvidovre, Denmark.

Test report No. PGA10226 dated 7 March 2013 from DBI, Hvidovre, Denmark.

Test report No. PGA10223 dated 23 July 2013 from DBI, Hvidovre, Denmark.

Test report No. PGA10454 dated 21 July 2014 from DBI, Hvidovre, Denmark.

Test report No. PHA11121A dated 8 October 2018 from DBI, Hvidovre, Denmark\*.

\*With assessment no. PHA11121A the validity of technical assessments nos. PHA10498c, PHA10498d, PHA10498e, PHA10498f and PHA10498g is prolonged and extended to cover test report no. PGA11203A)

Assessment report Nos.:

- PHA10498a Rev.2 (use of mats instead of slabs) dated 15 January 2020 from DBI, Hvidovre, Denmark (expires 31 January 2025).
- PHA10498b (alternative insulation on stiffeners) dated 09 December 2019 from DBI, Hvidovre, Denmark (expires 31 January 2024).
- PHA10498c (minimum thickness and density) dated 16 December 2019 from DBI, Hvidovre, Denmark (31 January 2024).
- PHA10498d (position of joints) dated 27 March 2020 from DBI, Hvidovre, Denmark (expires 31 January 2025).
- PHA10498e Rev.3 (mounting methods for insulation on stiffeners) dated 03 January 2022 from DBI, Hvidovre, Denmark (expires 3 January 2027).
- PHA10498f (washers diameters 30mm) dated 16 December 2019 from DBI, Hvidovre, Denmark (expires 31 January 2024).
- PHA10498g (pin pattern) dated 15 January 2020 from DBI, Hvidovre, Denmark (expires 31 January 2025).

Drawing No. AK2304 (4 pages) dated 11 December 2014 from SAINT-GOBAIN ISOVER G+H AG.

Drawing No. AK2400 dated 27 February 2018 from SAINT-GOBAIN ISOVER G+H AG.

### Tests carried out

Tested according to IMO 2010 FTP Code Part 3.

### Marking of product

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

**Appendix A to MEDB00003HE**  
**Alternative constructions:**

	Product Description	Application / Limitations	Type Examination Documentation
1	<p><b>“U SeaProtect 56/70 + 56/30”</b>            Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type ‘U SeaProtect 56’ with density 56 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG.</p> <p>Min. 30 mm ‘U SeaProtect 56’ is fitted around the stiffeners.</p> <p>The cavity of the stiffeners is fully filled with ‘U SeaProtect 56’.</p> <p>The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p> <p>See drawing in Appendix B for further details.</p>	<p><b>Approved for use as a Class A-60 Bulkhead.</b></p> <p>General application:            Fire against either side.</p> <p>Insulation of same type ‘U SeaProtect’ from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m<sup>3</sup> may be used.</p>	<p>Test report no. PGA10223</p> <p>Assessment report Nos.:            PHA10498c            PHA10498d            PHA10498e Rev.3            PHA10498f            PHA10498g</p> <p>Drawing no. AK2304</p>
2	<p><b>“U SeaProtect 56/70 + 76/20”</b>            Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type ‘U SeaProtect 56’ with density 56 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG.</p> <p>Min. 20 mm ‘U SeaProtect 76’ with density 76 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners.</p> <p>The cavity of the stiffeners is fully filled with ‘U SeaProtect 56’.</p> <p>The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p> <p>See drawing in Appendix B for further details.</p>	<p><b>Approved for use as a Class A-60 Bulkhead.</b></p> <p>General application:            Fire against either side.</p> <p>Insulation of same type ‘U SeaProtect’ from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m<sup>3</sup> may be used.</p>	<p>Test report no. PGA10223</p> <p>Assessment report Nos.:            PHA10498b            PHA10498c            PHA10498d            PHA10498e Rev.3            PHA10498f            PHA10498g</p> <p>Drawing no. AK2304</p>
3	<p><b>“U SeaProtect 86/50 + 76/25”</b>            Composed of a stiffened steel bulkhead insulated on stiffened side with min. 50 mm mineral wool of type ‘U SeaProtect 86’ with density 86 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG.</p> <p>Min. 25 mm ‘U SeaProtect 76’ with density 76 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners.</p> <p>The cavity of the stiffeners is fully filled with ‘U SeaProtect 76’.</p> <p>The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p> <p>See drawing in Appendix B for further details.</p>	<p><b>Approved for use as a Class A-60 Bulkhead.</b></p> <p>General application:            Fire against either side.</p> <p>Insulation of same type ‘U SeaProtect’ from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m<sup>3</sup> may be used.</p>	<p>Test report no. PGA10454</p> <p>Assessment report Nos.:            PHA10498b            PHA10498c            PHA10498d            PHA10498e Rev.3            PHA10498g</p> <p>Drawing no. AK2304</p>

4	<p><b>“U SeaProtect 46/30 both sides + 46/30”</b> Composed of a stiffened steel bulkhead insulated on stiffened side with min. 30 mm mineral wool of type ‘U SeaProtect 46’ with density 46 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG.</p> <p>Min. 30 mm ‘U SeaProtect 46’ is fitted around the stiffeners.</p> <p>The cavity of the stiffeners is fully filled with ‘U SeaProtect 46’.</p> <p>In addition the bulkhead is insulated with min. 30 mm ‘U SeaProtect 46’ on non-stiffened side.</p> <p>The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p> <p>See drawing in Appendix B for further details.</p>	<p><b>Approved for use as a Class A-60 Bulkhead.</b></p> <p>General application: Fire against either side.</p> <p>Insulation of same type ‘U SeaProtect’ from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m<sup>3</sup> may be used.</p>	<p>Test report no. PGA10226</p> <p>Assessment report Nos.: PHA10498c PHA10498d PHA10498e Rev.3 PHA10498f PHA10498g</p> <p>Drawing no. AK2304</p>
5	<p><b>“U SeaProtect 56/60 + 76/20”</b> Composed of a stiffened steel bulkhead insulated on stiffened side with min. 60 mm mineral wool type ‘U SeaProtect 56’ with density 56 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG.</p> <p>Min. 20 mm ‘U SeaProtect 76’ with density 76 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners.</p> <p>The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p>	<p><b>Approved for use as a A-60 Class Bulkhead.</b></p> <p>General application: Fire against either side.</p> <p>Insulation of same type ‘U SeaProtect’ from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m<sup>3</sup> may be used.</p>	<p>Test report PGA11096A</p> <p>Assessment report Nos.: PHA10498b PHA10498c PHA10498d PHA10498e Rev.3 PHA10498f PHA10498g</p> <p>Drawing no. AK2304</p>
6	<p><b>“U SeaProtect 50/60 + 76/20”</b> Composed of a stiffened steel bulkhead insulated on stiffened side with min. 60 mm mineral wool type ‘U SeaProtect 50’ with density 50 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG.</p> <p>Min. 20 mm ‘U SeaProtect 76’ with density 76 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners.</p> <p>The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p>	<p><b>Approved for use as a A-60 Class Bulkhead.</b></p> <p>General application: Fire against either side.</p> <p>Insulation of same type ‘U SeaProtect’ from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m<sup>3</sup> may be used.</p>	<p>Test report PGA11203A</p> <p>ISOVER U SeaProtect Slab 50 may be applied in form of mats instead of slabs acc. to assessment no. PHA10498a Rev.2</p> <p>Alternative arrangements acc. to assessment no. PHA11121A (with reference to further assessments as stated below): PHA10498c PHA10498d PHA10498e Rev.3 PHA10498f PHA10498g</p> <p>Drawing no. AK2400</p>
7	<p><b>“U SeaProtect 56/60 + 56/30”</b> Composed of a stiffened steel bulkhead insulated on stiffened side with min. 60 mm mineral wool type ‘U SeaProtect 56’ with density 56 kg/m<sup>3</sup> from SAINT-GOBAIN ISOVER G+H AG.</p> <p>Min. 30 mm ‘U SeaProtect 56’ with density 56 kg/m<sup>3</sup> is fitted around the stiffeners.</p> <p>The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.</p>	<p><b>Approved for use as a A-60 Class Bulkhead.</b></p> <p>General application: Fire against either side.</p> <p>Insulation of same type ‘U SeaProtect’ from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m<sup>3</sup> may be used.</p>	<p>Test report PGA11096A.</p> <p>Assessment report Nos.: PHA10498b PHA10498c PHA10498d PHA10498e Rev.3 PHA10498f PHA10498g</p> <p>Drawing no. AK2304</p>

**Appendix B to MEDB00003HE**





