



Marine &amp; Offshore

Certificate number: 42537/B0 BV

File number: AC11000/499/039

Product code: 5000H

*This certificate is not valid when presented without the full attached schedule composed of 7 sections*

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## TYPE APPROVAL CERTIFICATE

*This certificate is issued to***SAINT-GOBAIN ISOVER G+H AG**

Ludwigshafen - GERMANY

*for the type of product***A60 CLASS BULKHEADS**

A-60 Class Bulkheads "U SeaProtect":

46-30mm(46-30mm)

56-70mm(56-30mm/76-20~25mm)

86-50mm(76-25mm/36-70mm)

36-70mm(76-25mm/36-70mm)\*\*

56-60mm(76-20mm/56-30mm)

50-60mm(76-20mm)

36-70mm(76-20mm/56-30mm)\*\*

\*\*RESTRICTED APPLICATION (see §4.2)

**Requirements:**

Bureau Veritas Rules for the Classification of Steel Ships Part C, Chapter 4

SOLAS 74 Convention as amended, Regulations II-2/9, II-2/3.2

IMO Resolution MSC.307(88) - (2010 FTP Code)

IMO MSC/Circ.1120, IMO MSC.1/Circ.1434, IMO MSC.1/Circ.1435 and IMO MSC.1/Circ.1616

*This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.***This certificate will expire on: 28 Oct 2026****For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 28 Oct 2021,

Jens Bauermeister



This certificate is recognized by Transport Canada

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site [www.veristar.com](http://www.veristar.com). Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

#### **A-60 Class Bulkheads "U SeaProtect"**

Composed of structural steel bulkheads insulated with glass wool (details below). Insulation is fastened with Ø30 or 38 mm steel washers and Ø3 mm steel pins with a 300 mm maximum spacing on plate between stiffeners and on stiffeners and a 150 mm maximum spacing around stiffeners.

#### 1.1 - U SeaProtect 46 - 30 mm both sides (U SeaProtect 46 - 30 mm):

- 30 mm of U **SeaProtect 46** (nominal density 46 kg/m<sup>3</sup>) in between stiffeners,
- 30 mm of U **SeaProtect 46** (nominal density 46 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any, and
- 30 mm of U **SeaProtect 46** (nominal density 46 kg/m<sup>3</sup>) on the opposite side of steel plate.

#### 1.2 - U SeaProtect 56 - 70 mm (U SeaProtect 56 - 30 mm or 76 - 20~25 mm):

- 70 mm of U **SeaProtect 56** (nominal density 56 kg/m<sup>3</sup>) in between stiffeners,
- 30 mm of U **SeaProtect 56** (nominal density 56 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any, or 20 up to 25 mm of U **SeaProtect 76** (nominal density 76 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any.

#### 1.3 - U SeaProtect 86 - 50 mm (U SeaProtect 76 - 25 mm or 36 - 70 mm):

- 50 mm of U **SeaProtect 86** (nominal density 86 kg/m<sup>3</sup>) in between stiffeners,
- 25 mm of U **SeaProtect 76** (nominal density 76 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any, or 70 mm of U **SeaProtect 36** (nominal density 36 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any.

#### 1.4 - U SeaProtect 36 - 70 mm (U SeaProtect 76 - 25 mm or 36 - 70 mm): \*\*Tested with fire against insulation side\*\* (see §4.5)

- 70 mm of U **SeaProtect 36** (nominal density 36 kg/m<sup>3</sup>) in between stiffeners,
- 25 mm of U **SeaProtect 76** (nominal density 76 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any, or 70 mm of U **SeaProtect 36** (nominal density 36 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any.

#### 1.5 - U SeaProtect 56 - 60 mm (U SeaProtect 76 - 20 mm or 56 - 30 mm):

- 60 mm of U **SeaProtect 56** (nominal density 56 kg/m<sup>3</sup>) in between stiffeners,
- 20 mm of U **SeaProtect 76** (nominal density 76 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any, or 30 mm of U **SeaProtect 56** (nominal density 56 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any.

#### 1.6 - U SeaProtect 50 - 60 mm (U SeaProtect 76 - 20 mm):

- 60 mm of U **SeaProtect 50** (nominal density 50 kg/m<sup>3</sup>) in between stiffeners,
- 20 mm of U **SeaProtect 76** (nominal density 76 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any.

#### 1.7 - U SeaProtect 36 - 70 mm (U SeaProtect 76 - 20 mm or 56 - 30 mm): \*\*Tested with fire against insulation side\*\* (see §4.5)

- 70 mm of U **SeaProtect 36** (nominal density 36 kg/m<sup>3</sup>) in between stiffeners,
- 20 mm of U **SeaProtect 76** (nominal density 76 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any, or 30 mm of U **SeaProtect 56** (nominal density 56 kg/m<sup>3</sup>) around stiffeners and for filling their cavities, if any.

**N.B.:** The thickness of insulation can be increased and the density can be increased up to 86 kg/m<sup>3</sup> (see §3.2: assessment N° PHA10498c).

### 2. DOCUMENTS AND DRAWINGS:

As per the Manufacturer's drawings:

- U SeaProtect 46 - 30 mm both sides (U SeaProtect 46 - 30 mm): N° AK2253 dated 01/02/2013.
- U SeaProtect 56 - 70 mm (U SeaProtect 56 - 30 mm or 76 - 20~25 mm): N° AK2252 dated 31/01/2013.
- U SeaProtect 86 - 50 mm (U SeaProtect 76 - 25 mm or 36 - 70 mm): N° AK2297 dated 26/03/2014.
- U SeaProtect 36 - 70 mm (U SeaProtect 76 - 25 mm or 36 - 70 mm): N° AK2295 dated 21/11/2018.
- U SeaProtect 56 - 60 mm (U SeaProtect 76 - 20 mm or 56 - 30 mm): N° AK2389 dated 12/10/2017.
- U SeaProtect 50 - 60 mm (U SeaProtect 76 - 20 mm): N° AK2400 dated 27/02/2018.
- U SeaProtect 36 - 70 mm (U SeaProtect 76 - 20 mm or 56 - 30 mm): N° AK2411 dated 09/08/2018.

### 3. TEST REPORTS:

#### 3.1 - Test reports as per IMO 2010 FTP Code Annex 1 Part 3, from DBI, Denmark:

- U SeaProtect 46 - 30 mm both sides (U SeaProtect 46 - 30 mm): N° PGA10226 dated 07/03/2013.
- U SeaProtect 56 - 70 mm (U SeaProtect 56 - 30 mm or 76 - 20~25 mm): N° PGA10223 dated 23/07/2013.
- U SeaProtect 86 - 50 mm (U SeaProtect 76 - 25 mm or 36 - 70 mm): N° PGA10454 dated 21/07/2014.
- U SeaProtect 36 - 70 mm (U SeaProtect 76 - 25 mm or 36 - 70 mm): N° PGA10457 Revision dated 21/11/2018
- U SeaProtect 56 - 60 mm (U SeaProtect 76 - 20 mm or 56 - 30 mm): N° PGA11096A dated 12/10/2017.
- U SeaProtect 50 - 60 mm (U SeaProtect 76 - 20 mm): N° PGA11203A dated 19/03/2018.
- U SeaProtect 36 - 70 mm (U SeaProtect 76 - 20 mm or 56 - 30 mm): N° PGA11267A dated 27/08/2018.

### 3.2 - Technical assessments from DBI, Denmark:

- Alternative insulation design (roll instead of slab): N° PHA10498a Rev.2 dated 15/01/2020.
- Alternative insulation on stiffeners: N° PHA10498b (revised version) dated 09/12/2019.
- Increase of insulation thickness and density: N° PHA10498c (revised version) dated 16/12/2019.
- Distance between pins and joints (insulation fixing): N° PHA10498d (revised version) dated 27/03/2020.
- Arrangement of insulation around stiffeners: N° PHA10498e dated 21/06/2016 (L1 mounting in both test reports).
- Alternative washer diameter (Ø30 mm instead of Ø38 mm): N° PHA10498f dated 16/12/2019.
- Alternative pin pattern mounting: N° PHA10498g (revised version) dated 15/01/2020.

### 4. APPLICATION / LIMITATION:

4.1 - The following components have to be covered by a valid type approval certificate, issued by the Society:

- the insulation materials "**U SeaProtect 36**", "**U SeaProtect 46**", "**U SeaProtect 50**", "**U SeaProtect 56**", "**U SeaProtect 76**" and "**U SeaProtect 86**", and "U
- any added finish surface material(s).

4.2 - For "**U SeaProtect 36 - 70 mm (U SeaProtect 76 - 25 mm or 36 - 70 mm)**" and "**U SeaProtect 36 - 70 mm (U SeaProtect 76 - 20 mm or 56 - 30 mm)**": the use is restricted to applications where fire is identified as being from the insulated side.

4.3 - The fitting aboard to be the same as used for the test or according the technical assessments (see §3.2).

### 5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The **A-60 Class Bulkheads** are to be supplied by **SAINT-GOBAIN ISOVER G+H AG** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **SAINT-GOBAIN ISOVER G+H AG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **SAINT-GOBAIN ISOVER G+H AG** has declared to Bureau Veritas the following production site:

**SAINT-GOBAIN ISOVER G+H AG**  
**Industriestrasse 11**  
**DEU-19386 LÜBZ**

### 6. MARKING OF PRODUCT:

The product or packing is to be marked with Manufacturer name, type, designation and fire-technical rating.

### 7. OTHERS:

7.1 - It is **SAINT-GOBAIN ISOVER G+H AG's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 42537/A1 BV issued on 10/12/2018 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*