



Marine &amp; Offshore

Certificate number: 18944/C0 BV

File number: AC11000/499/020

Product code: 5072H

*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*

**"A" CLASS DIVISIONS**

A-15 Class Bulkhead, type U SeaProtect Slab 24 / 66 / 24+66

A-30 Class Bulkhead, type U SeaProtect Slab 36 / 36+66

A-60 Class Bulkhead, type U SeaProtect Slab 48+66 / 66 / 36+66 \*\* Restricted application \*\*

### Requirements:

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

SOLAS 74 convention as amended, Regulations II-2/9, II-2/3.4

IMO Res. MSC.61(67) -(FTP Code)- with IMO Res MSC.307(88) -(2010 FTP Code)- article 8

IMO MSC/Circ.1120

*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: 22 Mar 2024**

**For Bureau Veritas Marine & Offshore,**

At BV HAMBURG, on 22 Mar 2019,

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. 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:

#### **1.1. A-15 Class Bulkhead, type U SeaProtect Slab 24 - 50/50 mm**

Composed of structural steel bulkhead insulated on stiffened side with mineral wool "U SeaProtect Slab 24" (former "ULTIMATE U MPN 24"; nominal density 24 kg/m<sup>3</sup>).

Insulation thickness = 50 mm between and around stiffeners . Cavities inside stiffeners are also filled.

Fastening welded pins:

- max spacing 300 mm on plate between stiffeners
- max spacing 150 mm around stiffeners

#### **1.2. A-15 Class Bulkhead, type U SeaProtect Slab 66 - 30/30 mm**

Composed of structural steel bulkhead insulated on stiffened side with mineral wool "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>).

Insulation thickness = 30 mm between and around stiffeners . Cavities inside stiffeners are also filled.

Fastening welded pins:

- max spacing 300 mm on plate between stiffeners
- max spacing 150 mm around stiffeners

#### **1.3. A-15 Class Bulkhead, type U SeaProtect Slab 24 + U SeaProtect Slab 66 - 50/30 mm**

Composed of structural steel bulkhead insulated on stiffened side between stiffeners with mineral wool "U SeaProtect Slab 24" (former "ULTIMATE U MPN 24"; nominal density 24 kg/m<sup>3</sup>) and around stiffeners with mineral wool "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>).

Insulation thickness = 50 mm between and 30 mm around stiffeners . Cavities inside stiffeners are also filled.

Fastening welded pins:

- max spacing 300 mm on plate between stiffeners
- max spacing 150 mm around stiffeners

#### **1.4. A-30 Class Bulkhead, type U SeaProtect Slab 36 - 60/60 mm**

Composed of structural steel bulkhead insulated on stiffened side with mineral wool:

- 60 mm "U SeaProtect Slab 36" (former "ULTIMATE U MPN 36"; nominal density 36 kg/m<sup>3</sup>) in between stiffeners,
- 60 mm "U SeaProtect Slab 36" (former "ULTIMATE U MPN 36"; nominal density 36 kg/m<sup>3</sup>) wrapped around stiffeners (cavities inside stiffeners are also filled).

Fastening welded pins:

- max spacing 250 mm on plate between stiffeners

#### **1.5. A-30 Class Bulkhead, type U SeaProtect Slab 36 + 66 - 60/30 mm**

Composed of structural steel bulkhead insulated on stiffened side with mineral wool:

- 60 mm "U SeaProtect Slab 36" (former "ULTIMATE U MPN 36"; nominal density 36 kg/m<sup>3</sup>) in between stiffeners,
- 30 mm "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>) wrapped around stiffeners (cavities inside stiffeners also filled).

Fastening welded pins :

- max spacing 250 mm on plate between stiffeners

#### **1.6. A-60 Class Bulkhead, type U SeaProtect Slab 48 + 66 - 100/40 mm**

Composed of structural steel bulkhead insulated on stiffened side with mineral wool:

- 100 mm "U SeaProtect Slab 48" (former "ULTIMATE U MPN 48"; nominal density 48 kg/m<sup>3</sup>) in between stiffeners,
- 40 mm "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>) wrapped around stiffeners (cavities inside stiffeners also filled).

Fastening welded pins:

- max spacing 300 mm on plate between stiffeners,
- max spacing 200 mm around stiffeners.

#### **1.7. A-60 Class Bulkhead, type U SeaProtect Slab 66 - 2\*30/30 mm**

Composed of structural steel bulkhead insulated on stiffened side with glass wool:

- 2\*30 mm "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>) in between stiffeners,
- 30 mm "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>) wrapped around stiffeners (cavities inside stiffeners also filled).

Fastening welded pins:

- max spacing 300 mm on plate between stiffeners,
- max spacing 150 mm around stiffeners.

**1.8. \*\* Restricted application \*\*****A-60 Class Bulkhead, type U SeaProtect Slab 36 + 66 - 60/30 mm (tested with insulation + stiffeners inside the furnace)**

Composed of structural steel bulkhead insulated on stiffened side (fire side) with mineral wool:

- 60 mm "U SeaProtect Slab 36" (former "ULTIMATE U MPN 36"; nominal density 36 kg/m<sup>3</sup>) in between stiffeners,
- 30 mm "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>) wrapped around stiffeners (cavities inside stiffeners also filled).

Fastening welded pins:

- max spacing 300 mm on plate between stiffeners.

**1.9. A-60 Class Bulkhead, type U SeaProtect Slab 66 - 70/30 mm**

Composed of structural steel bulkhead insulated on stiffened side with mineral wool:

- 70 mm "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>) in between stiffeners,
- 30 mm "U SeaProtect Slab 66" (former "ULTIMATE U MPN 66"; nominal density 66 kg/m<sup>3</sup>) wrapped around stiffeners (cavities inside stiffeners also filled).

Fastening welded pins:

- max spacing 300 mm on plate between stiffeners,
- max spacing 150 mm around stiffeners.

**2. DOCUMENTS AND DRAWINGS:**

As per Manufacturer's drawings:

**2.1. A-15 Class Bulkhead, type U SeaProtect Slab 24 - 50/50 mm:** N° 2005/08/03 Index 1, 2 and 3 dated 08/2005.

**2.2. A-15 Class Bulkhead, type U SeaProtect Slab 66 - 30/30 mm:** N° 2005/08/05 Index 1, 2 and 3 dated 08/2005.

**2.3. A-15 Class Bulkhead, type U SeaProtect Slab 24 + U SeaProtect Slab 66 - 50/30 mm:** N° 2005/08/03 Index 1, 2 and 3 dated 08/2005 and N° 2005/08/05 Index 1, 2 and 3 dated 08/2005.

**2.4. A-30 Class Bulkhead, type U SeaProtect Slab 36 - 60/60 mm:** N° SBKA30.050217 dated 17/02/2005.

**2.5. A-30 Class Bulkhead, type U SeaProtect Slab 36 + 66 - 60/30 mm:** N° SBKA30.050217 dated 17/02/2005.

**2.6. A-60 Class Bulkhead, type U SeaProtect Slab 48 + 66 - 100/40 mm:** "Steel Bulkhead A 60" dated 15/02/2005.

**2.7. A-60 Class Bulkhead, type U SeaProtect Slab 66 - 2\*30/30 mm:** N° 2005/08/04 Index 1, 2 and 3 dated 08/2005.

**2.8. A-60 Class Bulkhead, type U SeaProtect Slab 36 + 66 - 60/30 mm:** N° AK2192 Index A dated 19/02/2008.

**2.9. A-60 Class Bulkhead, type U SeaProtect Slab 66 - 70/30 mm:** N° AK2104 dated 12/01/2007.

**3. TEST REPORTS:**

Test reports, as per IMO FTP Code Annex 1 Part 3 [test standard : IMO Resolution A.754(18)]:

**3.1. A-15 Class Bulkhead, type U SeaProtect Slab 24 - 50/50 mm:** N° 2005CS013009/1 dated 30/08/2005, from RINA, Italia.

**3.2. A-15 Class Bulkhead, type U SeaProtect Slab 66 - 30/30 mm:** N° 2005CS013009/3 dated 30/08/2005, from RINA, Italia.

**3.3. A-15 Class Bulkhead, type U SeaProtect Slab 24 + U SeaProtect Slab 66 - 50/30 mm:** N° 2005CS013009/1 dated 30/08/2005 and N° 2005CS013009/3 dated 30/08/2005, from RINA, Italia.

**3.4. A-30 Class Bulkhead, type U SeaProtect Slab 36 - 60/60 mm:** N° 2004CS015078/5 dated 03/03/2005, from RINA, Italia.

**3.5. A-30 Class Bulkhead, type U SeaProtect Slab 36 + 66 - 60/30 mm:** N° 2004CS015078/5 dated 03/03/2005, from RINA, Italia.

**3.6. A-60 Class Bulkhead, type U SeaProtect Slab 48 + 66 - 100/40 mm:** N° 2004CS015078/3 dated 16/02/2005 and N° 2007CS01162 dated 26/01/2007, from RINA, Italia.

**3.7. A-60 Class Bulkhead, type U SeaProtect Slab 66 - 2\*30/30 mm:** N° 2005CS013009/2 dated 30/08/2005, from RINA, Italia.

**3.8. \*\* Restricted application \*\*****A-60 Class Bulkhead, type U SeaProtect Slab 36 + 66 - 60/30 mm (tested with insulation + stiffeners inside the furnace):**

N° PG11823 dated 26/03/2008, from DIFT, Danemark.

**3.9. A-60 Class Bulkhead, type U SeaProtect Slab 66 - 70/30 mm:** N° 2007CS01162 dated 26/01/2007, from RINA, Italia.

**4. APPLICATION / LIMITATION:**

4.1. The following insulating materials shall comply with the requirements of the relevant Bureau Veritas rules and be type approved:

- "U SeaProtect Slab 24",
- "U SeaProtect Slab 36",
- "U SeaProtect Slab 48",
- "U SeaProtect Slab 66".

4.2. The fitting aboard to be the same as used for the test.

**5. PRODUCTION SURVEY REQUIREMENTS:**

5.1. The 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.

**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° 18944/B0 BV issued on 08/10/2013 by the Society.

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