

EC-TYPE EXAMINATION CERTIFICATE (MODULE B)

Certificate No: MEDB00003HE Revision No:

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV GL 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)

Class A-60 steel bulkhead - general application

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) 2022/1157,

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.1434,1435; 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 Hamburg on 2023-03-20

DNV local unit: **Essen**

Approval Engineer: **Tessa Biever**

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for **DNV GL SE**

Notified Body No.: **0098** Christine Mydlak-Roeder Head of Notified Body

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.



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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), 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.

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/FI

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.



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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 MED 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 prolongated 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, Hvidovré, 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 of manufacturer, type designation, fire technical rating, the MED Mark of Conformity and USCG Approval Number if applicable (see first page).

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Alternative constructions:

	Product Description	Application / Limitations	Type Examination Documentation
1	"U SeaProtect 56/70 + 56/30" 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/m³ from SAINT-GOBAIN ISOVER G+H AG. Min. 30 mm 'U SeaProtect 56' is fitted around the stiffeners. The cavity of the stiffeners is fully filled with 'U SeaProtect 56'. The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm.	Approved for use as a Class A-60 Bulkhead. General application: Fire against either side. Insulation of same type 'U SeaProtect' from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m³ may be used.	Test report no. PGA10223 Assessment report Nos.: PHA10498c PHA10498d PHA10498e Rev.3 PHA10498f PHA10498g Drawing no. AK2304
2	"U SeaProtect 56/70 + 76/20" 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/m³ from SAINT-GOBAIN ISOVER G+H AG. Min. 20 mm 'U SeaProtect 76' with density 76 kg/m³ from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners. The cavity of the stiffeners is fully filled with 'U SeaProtect 56'. The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm. See drawing in Appendix B for further details.	Approved for use as a Class A-60 Bulkhead. General application: Fire against either side. Insulation of same type 'U SeaProtect' from SAINT- GOBAIN ISOVER G+H A with density up to 86 kg/m³ may be used.	Test report no. PGA10223 Assessment report Nos.: PHA10498b PHA10498c PHA10498d PHA10498e Rev.3 PHA10498f PHA10498g Drawing no. AK2304
3	"U SeaProtect 86/50 + 76/25" 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/m³ from SAINT-GOBAIN ISOVER G+H AG. Min. 25 mm 'U SeaProtect 76' with density 76 kg/m³ from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners. The cavity of the stiffeners is fully filled with 'U SeaProtect 76' The insulation is fixed with 3 mm steel pins and 30 or 38 mm steel washers. Distance between pins is maximum 300 mm. See drawing in Appendix B for further details.	Approved for use as a Class A-60 Bulkhead. General application: Fire against either side. Insulation of same type 'U SeaProtect' from SAINT-GOBAIN ISOVER G+H A with density up to 86 kg/m³ may be used.	Test report no. PGA10454 Assessment report Nos.: PHA10498b PHA10498c PHA10498d PHA10498e Rev.3 PHA10498g Drawing no. AK2304

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	"II Cooperate of 46/20 both sides 1 46/20"	Ammunical for time and Class	Toot report no DCA40000
	"U SeaProtect 46/30 both sides + 46/30" Composed of a stiffened steel bulkhead insulated on	Approved for use as a Class A-60 Bulkhead.	Test report no. PGA10226
	stiffened side with min. 30 mm mineral wool of type "U	71 00 Danaioaai	Assessment report Nos.:
	SeaProtect 46' with density 46 kg/m³ from SAINT-GOBAIN	General application:	PHA10498c
	ISOVER G+H AG.	Fire against either side.	PHA10498d
	Min. 20 mans (III Coophrate at 40) in fitted annual than	Including of come to me (II)	PHA10498e Rev.3
	Min. 30 mm 'U SeaProtect 46' is fitted around the stiffeners.	Insulation of same type 'U SeaProtect' from SAINT-	PHA10498f PHA10498g
	Suiteriers.	GOBAIN ISOVER G+H A with	F11A104909
4	The cavity of the stiffeners is fully filled with 'U SeaProtect	density up to 86 kg/m³ may be	Drawing no. AK2304
	46'.	used.	3
	In addition the bulkhead is insulated with min. 30 mm 'U		
	SeaProtect 46' on non-stiffened side.		
	The insulation is fixed with 3 mm steel pins and 30 or 38		
	mm steel washers. Distance between pins is maximum		
	300 mm.		
-	See drawing in Appendix B for further details. "U SeaProtect 56/60 + 76/20"	Approved for use as a A-60	Test report PGA11096A
	Composed of a stiffened steel bulkhead insulated on	Class Bulkhead.	1630 epoit 1 OATTUBOA
	stiffened side with min. 60 mm mineral wool type 'U		Assessment report Nos.:
	SeaProtect 56' with density 56 kg/m3 from SAINT-GOBAIN	General application:	PHA10498b
	ISOVER G+H AG.	Fire against either side.	PHA10498c
5	Min 20 mm (II Cooprotoot 76' with density 76 kg/m² from	Insulation of same type 'U	PHA10498d PHA10498e Rev.3
3	Min. 20 mm 'U SeaProtect 76' with density 76 kg/m³ from SAINT-GOBAIN ISOVER G+H AG is fitted around the	SeaProtect' from SAINT-	PHA104986 Rev.3
	stiffeners.	GOBAIN ISOVER G+H A with	PHA10498g
		density up to 86 kg/m³ may be	Ğ
	The insulation is fixed with 3 mm steel pins and 30 or 38	used.	Drawing no. AK2304
	mm steel washers. Distance between pins is maximum		
-	300 mm. "U SeaProtect 50/60 + 76/20"	Approved for use as a A-60	Test report PGA11203A
	Composed of a stiffened steel bulkhead insulated on	Class Bulkhead.	130t Topolt I Ott 1200h
	stiffened side with min. 60 mm mineral wool type 'U		ISOVER U SeaProtect Slab 50 may
	SeaProtect 50' with density 50 kg/m³ from SAINT-GOBAIN	General application:	be applied in form of mats instead of
	ISOVER G+H AG.	Fire against either side.	slabs acc. to assessment no.
	Min. 20 mm 'U SeaProtect 76' with density 76 kg/m³ from	Insulation of same type 'U	PHA10498a Rev.2
	SAINT-GOBAIN ISOVER G+H AG is fitted around the	SeaProtect' from SAINT-	Alternative arrangements acc. to
	stiffeners.	GOBAIN ISOVER G+H A with	assessment no. PHA11121A (with
6		density up to 86 kg/m³ may be	reference to further assessments as
	The insulation is fixed with 3 mm steel pins and 30 or 38	used.	stated below):
	mm steel washers. Distance between pins is maximum 300 mm.		PHA10498c PHA10498d
	300 mm.		PHA10498d PHA10498e Rev.3
			PHA10498f
			PHA10498g
			Drawing no. AK2400
	"U SeaProtect 56/60 + 56/30"	Approved for use as a A-60	Drawing no. AK2400 Test report PGA11096A.
	Composed of a stiffened steel bulkhead insulated on	Class Bulkhead.	
	stiffened side with min. 60 mm mineral wool type 'U		Assessment report Nos.:
	SeaProtect 56' with density 56 kg/m³ from SAINT-GOBAIN	General application:	PHA10498b
7	ISOVER G+H AG.	Fire against either side.	PHA10498c
′	Min. 30 mm 'U SeaProtect 56' with density 56 kg/m³) is	Insulation of same type 'U	PHA10498d PHA10498e Rev.3
	fitted around the stiffeners.	SeaProtect' from SAINT-	PHA10498f
		GOBAIN ISOVER G+H A with	PHA10498g
	The insulation is fixed with 3 mm steel pins and 30 or 38	density up to 86 kg/m³ may be	
	mm steel washers. Distance between pins is maximum	used.	Drawing no. AK2304
	300 mm.		

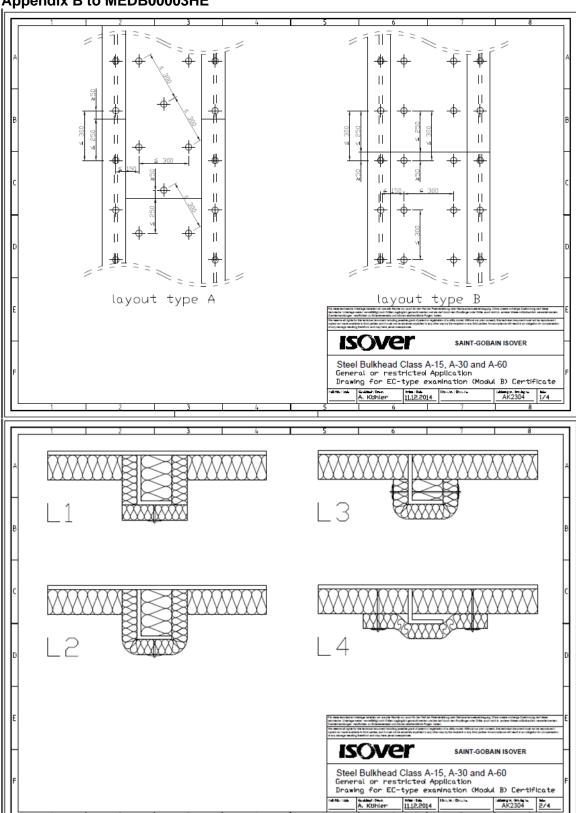
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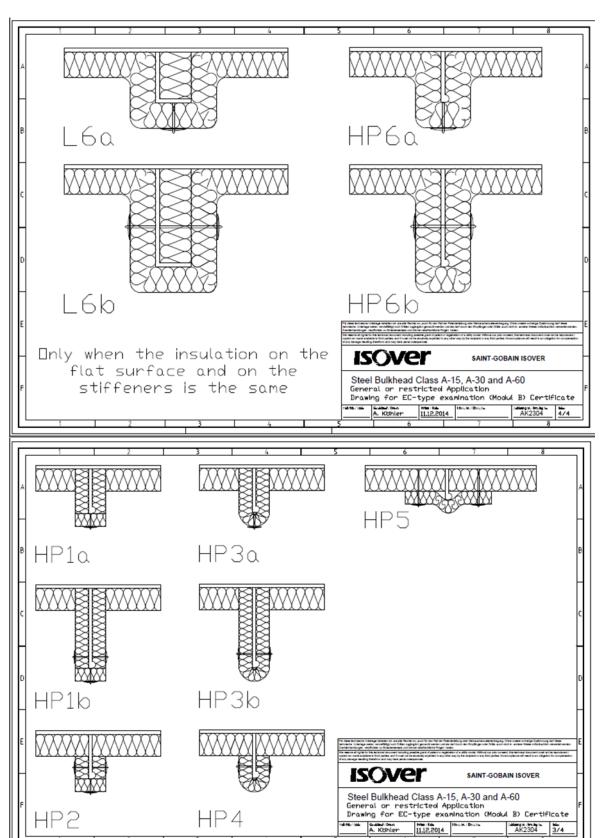
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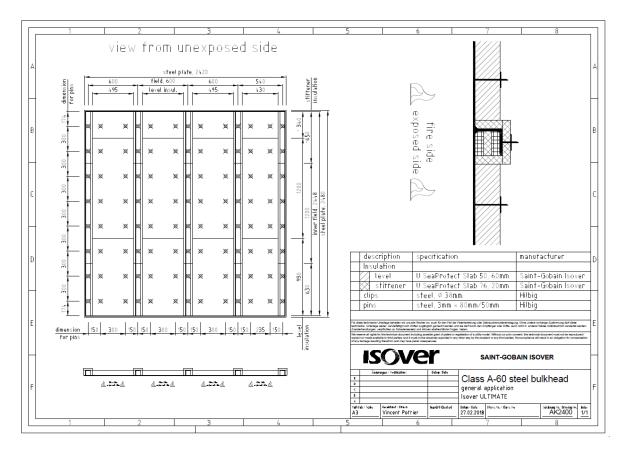


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