



TYPE APPROVAL CERTIFICATE
No. FPE351419XG/006

This is to certify that the product identified below satisfies the requirements of the standard quoted under "Reference standard"

<i>Description</i>	Fire resisting bulkheads
<i>Type</i>	ISOVER Steel bulkhead A-30
<i>Applicant</i>	SAINT-GOBAIN ISOVER G+H AG - SAINT - GOBAIN ISOVER G+H AG BURGERMEISTER-GRUNZWEIG-STRASSE 1 67059 Ludwigshafen GERMANY
<i>Manufacturer</i>	SAINT-GOBAIN ISOVER G+H AG - SAINT - GOBAIN ISOVER G+H AG
<i>Reference standards</i>	Chap. II-2 of SOLAS 74 Convention, as amended; IMO Res. MSC.307(88)-(2010 FTP Code)
<i>Reference documents</i>	Rules for Testing and Certification of Marine Materials and Equipment

Issued in **Hamburg** on **December 5, 2019**. This Certificate is valid until **December 4, 2024**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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ISOVER Steel bulkhead A-30

Product description

"Steel bulkhead A-30"

Construction 1: "U SeaProtect 36/70 + 76/20"

Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m³) from SAINT-GOBAIN ISOVER G+H AG.

Min. 20 mm U SeaProtect 76 (density 76 kg/m³) from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners.

Insulation (U SeaProtect) is fitted inside the void of the stiffeners.

The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers.

Distance between pins is maximum 300 mm.

See appendix for further details.

Construction 2: "U SeaProtect 36/70 + 36/70"

Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m³) from SAINT-GOBAIN ISOVER G+H AG.

Min. 70 mm U SeaProtect 36 is fitted around the stiffeners.

Insulation (U SeaProtect 36) is fitted inside the void of the stiffeners.

The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers.

Distance between pins is maximum 300 mm.

See appendix for further details.

Construction 3: "U SeaProtect 36/70 + 56/30"

Composed of a stiffened steel bulkhead insulated on stiffened side with min. 70 mm mineral wool of type U SeaProtect 36 (density 36 kg/m³) from SAINT-GOBAIN ISOVER G+H AG.

Min. 30 mm U SeaProtect 56 (density 56 kg/m³) from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners.

Insulation (U SeaProtect) is fitted inside the void of the stiffeners.

The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers.

Distance between pins is maximum 300 mm.

See appendix for further details.

Construction 4: "U SeaProtect 76/40 + 76/20"

Composed of a stiffened steel bulkhead insulated on stiffened side with min. 40 mm mineral wool of type U SeaProtect 76 (density 76 kg/m³) from SAINT-GOBAIN ISOVER G+H AG.

Min. 20 mm U SeaProtect 76 is fitted around the stiffeners.

Insulation (U SeaProtect 76) is fitted inside the void of the stiffeners.

Alternative, the bulkhead may be insulated with 2 layers of 20 mm mineral wool of type SeaProtect 76.

The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers.

Distance between pins is maximum 300 mm.

See appendix for further details.



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ISOVER Steel bulked A-30

Construction 5: "U SeaProtect 56/50 + 76/20"

Composed of a stiffened steel bulkhead insulated on stiffened side with min. 50 mm mineral wool of type U SeaProtect 56 (density 56 kg/m³) from SAINT-GOBAIN ISOVER G+H AG.

Min. 20 mm U SeaProtect 76 (density 76 kg/m³) from SAINT-GOBAIN ISOVER G+H AG is fitted around the stiffeners.

Insulation (U SeaProtect) is fitted inside the void of the stiffeners.

The insulation is fasten with 3 mm steel pins and 30 or 38 mm steel washers.

Distance between pins is maximum 300 mm.

See appendix for further details.

Field of application

Approved for use as vertical fire retarding division of class A-30 with "general application" it means that fire can come from either side of the construction (insulation can be fitted either on stiffened or non stiffened side of the division).

The insulation thickness may be increased and Insulation density may be increased up to 86kg/m³ as stated in PHA10498c dated 27 November 2019,

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 and maintenance.

Reference documents

Test report no. PGA10386 dated 20 January 2014,
PGA10384 dated 17 January 2014,
PGA10227 dated 8 March 2013 all from Danish Institute of Fire and Security Technology (DBI), Hvidovre, Danmark.

PHA10498a, Revision no.: 1 (use of mats or rolls instead of slabs) dated 2 November 2018,
PHA10498b (alternative insulation on stiffeners) dated 15 January 2015,
PHA10498c (minimum thickness and density) dated 27 November 2019,
PHA10498d (position of joints) dated 16 December 2014,
PHA10498e (mounting methods for insulation an stiffeners) dated 24 November 2014,
PHA10498f (washers diameters 30 mm) dated 15 of July 2014,
PHA10498g (pin pattern) dated 28 November 2014,
PHA10601 dated 28 November 2014.

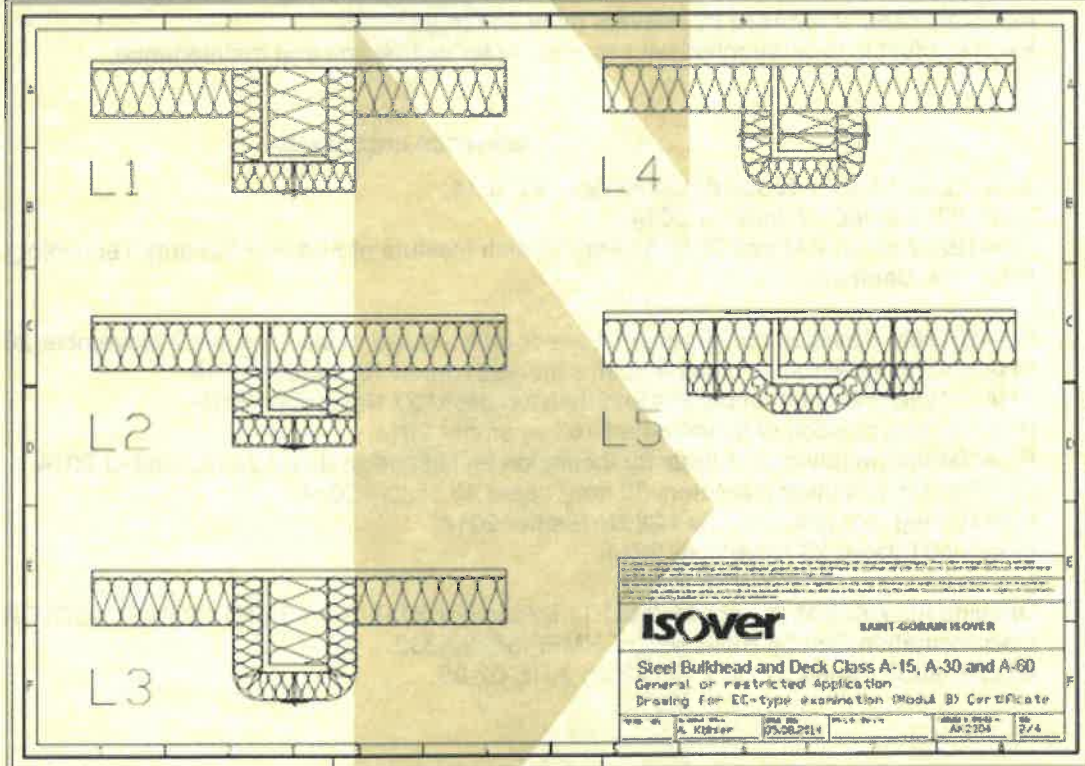
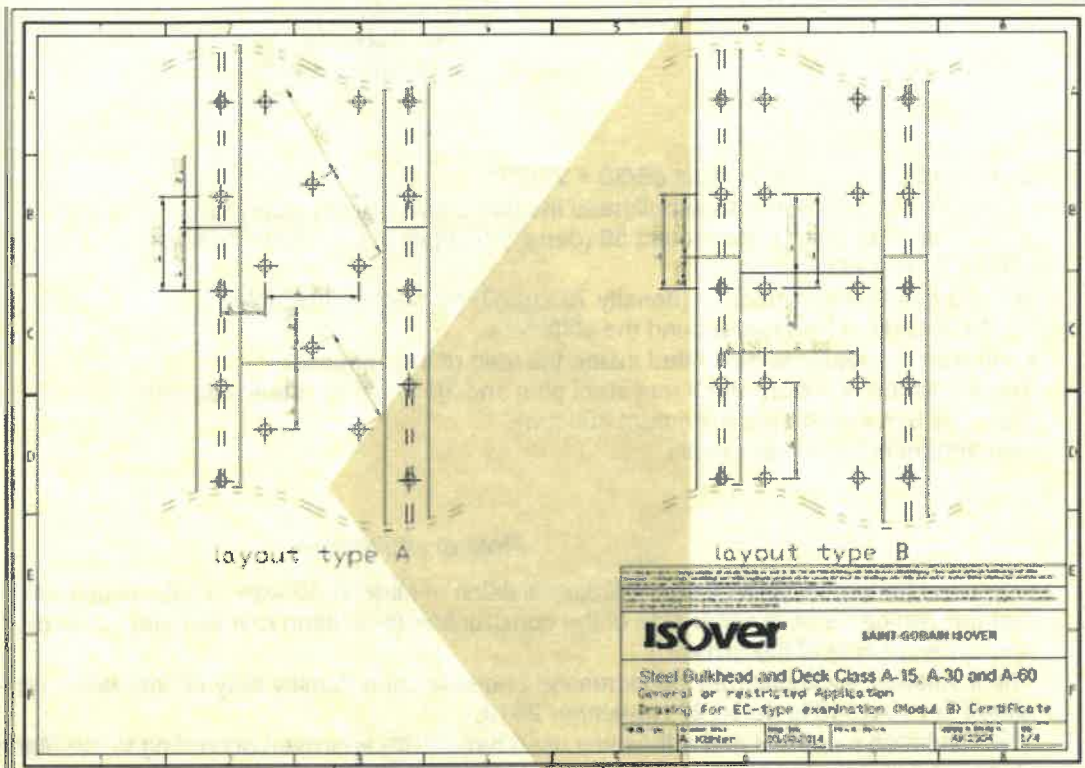
Drawing no. AK2304 (4 pages) dated 11 December 2014 from SAINT-GOBAIN ISOVER G+H AG.
Documentation filed by RINA with n° HMFP/5829-5832.
MED-B-9333 issued by DNV GL AS on 2015-02-05.

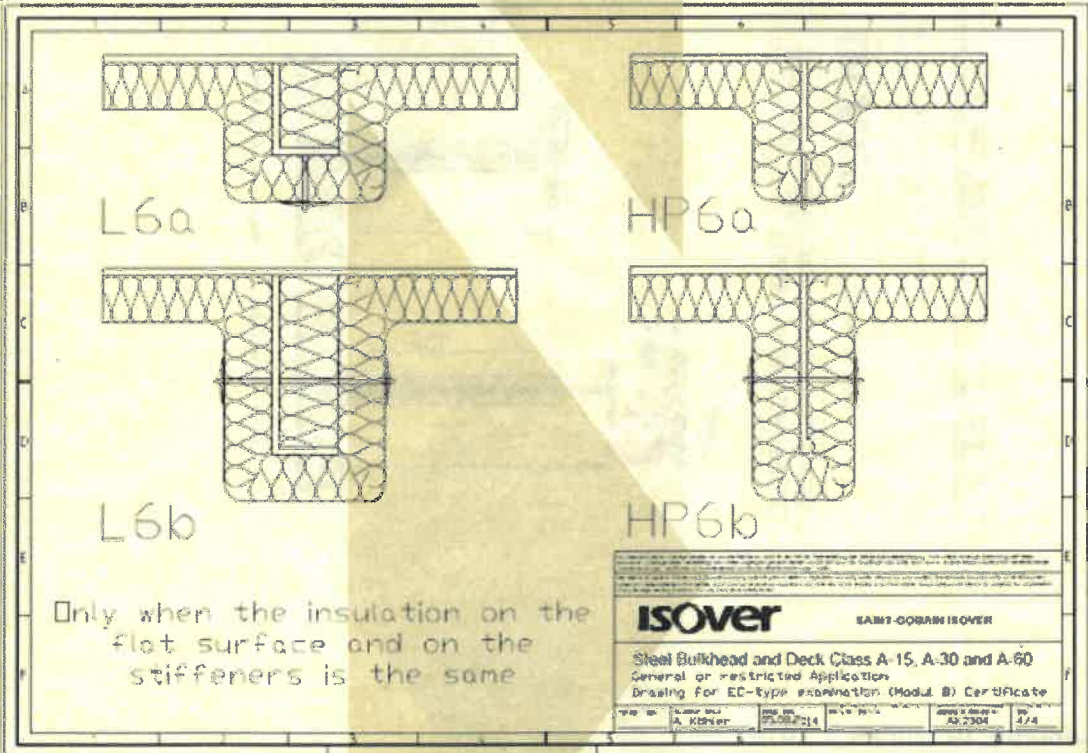
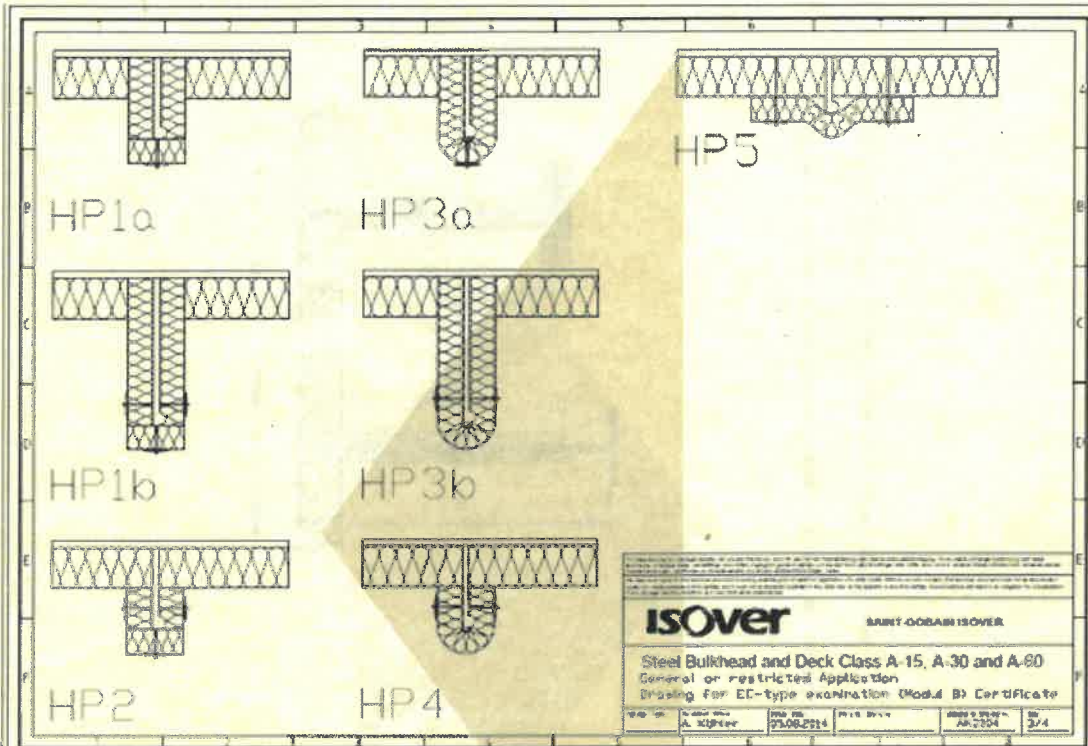
Tests carried out

Tested according to IMO 2010 FTP Code part 3.

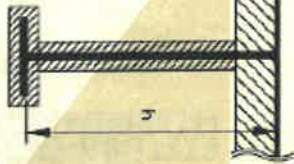


Appendix

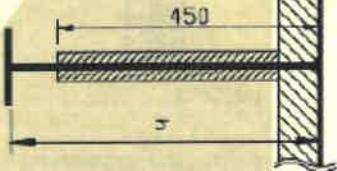




Solution for $h < 450\text{mm}$



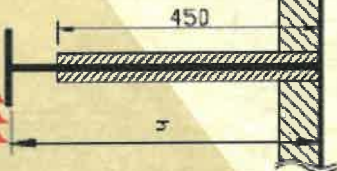
Solution for $h \geq 450\text{mm}$



Solution for $h < 450\text{mm}$





Solution for $h \geq 450\text{mm}$



DBI
PHATZIMA



-  Product for insulation between the stiffeners (level)
-  Product for insulation around the stiffeners

ISOVER		SANIT-GOBBINI ISOVER	
Insulation of T bars			
A-Class steel Deck & bulkhead			
Product Code	Product Name	Product Code	Product Name
V	POTESTER	30072019	30072019
Version	01/2019	Version	01/2019
Page	1/1	Page	1/1

Hamburg December 5, 2019