



## Certificate Of Fire Approval

This is to certify that the product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

<b>Manufacturer</b>	<b>Saint-Gobain ISOVER G+H AG</b>
<b>Address</b>	Buergermeister-Gruenzweig-Strasse 1, D-67059 ,Ludwigshafen, Germany
<b>Type</b>	A-60 Class Bulkhead
<b>Description</b>	Fire Resisting 'A' Class Bulkhead – Type “U Seaprotect 66-70 – A-60 Aluminium Bulkhead General 4MM”
<b>Trade Name</b>	“U Seaprotect 66-70 – A-60 Aluminium Bulkhead General 4MM”
<b>Specified Standard</b>	IMO Res. MSC.307(88) – (2010 FTP Code) Annex 1 Part 3 & IMO MSC.1/Circ.1435.

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form part of this Certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

**Keith Taylor**

Technical Safety, Electrical & Control Team  
Lead to Lloyd's Register EMEA  
A member of the Lloyd's Register group

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**ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR23245233SF**

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions, and this Design Appraisal Document forms part of the Certificate.

This Certificate Supersedes and is a Renewal of Certificate Number: SAS F180172

**APPROVAL DOCUMENTATION**

1. Danish Institute of Fire and Security Technology, DBI; Jernholmen 12, DK-2650 Hvidovre, Denmark. Fire Test Report No PGA11134A dated 16th February 2018 & Fire Test Report Supplement PGA11134A.

**CONDITIONS OF CERTIFICATION**

1. Bulkhead shall be constructed of aluminium insulated on the stiffened side on the plating and around stiffeners & the unstiffened side with one layer of "ISOVER U SeaProtect Slab 66" mineral wool produced by SAINT-GOBAIN ISOVER G+H AG (Nominal Thickness 70mm, Nominal Density 66kg/ m<sup>3</sup>). Inside the cavity of the stiffeners two layers of "ISOVER U SeaProtect 66" mineral wool shall be applied, total thickness (70mm+20mm). The insulation was fixed to the plating 3mm aluminium-tipped steel pins & 38mm steel washers with horizontal & vertical centres not exceeding 300mm & 150mm from insulation joints. Arrangement of steel pins on the plates shall be in accordance with the referenced fire test reports and supplement to fire test report.
2. The insulation system was tested on a 4mm aluminium core and met all insulation and integrity criteria for a load bearing aluminium bulkhead of required fire rating; therefore, it could be considered for use as an aluminium bulkhead of a thickness of 4mm or greater.
3. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.
4. The Certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products are fully compliant with the relevant statutory regulations and Lloyd's Register Class Rules as applicable and designed, manufactured, and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.

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**Places of Production**

Saint-Gobain ISOVER G+H AG Plant Luebz  
Industriestrasse 1  
D-19386 Luebz  
Germany

Keith Taylor  
Team Lead - Technical Safety, Electrical & Control  
Global Technical Support Office, Marine & Offshore  
Lloyd's Register

**Supplementary Type Approval Terms and Conditions**

*This Certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s)*

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