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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.

Manufacturer	ROCKWOOL International A/S
Address	Hovedgaden 501, 2640 Hedehusene, Denmark
Туре	A-60 Bulkhead
Description	Fire Resisting 'A' Class Bulkhead – Type: "A60 Bulkhead SeaRox SL 620" steel bulkhead insulated on stiffened side with one layer of rockwool insulation (60mm thick, 100kg/m3 density)
Trade Name	"A60 Bulkhead SeaRox SL 620"
Specified Standard	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.

Ratheesh Rajagopal

71 Fenchurch Street, London, EC3M 4BS, United Kingdom Fire & Safety Specialist to Lloyd's Register EMEA A member of the Lloyd's Register group

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nce: UKITSO/FIRE/TA/RR/WP46131946/PRJ11100364346

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR22377129SF

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 Design Appraisal Document forms part of the Certificate.

This Certificate is a Renewal of Certificate Number SAS F170185-02

APPROVAL DOCUMENTATION

TEST REPORTS

Danish Institute of Fire and Security Technology, Jernholmen 12, DK-2650 Hvidovre, Denmark; Test Report No. PGA10946A dated 16th December 2016.

CONDITIONS OF CERTIFICATION

- 1. When used in conjunction with an approved A Class bulkhead.
- 2. A-60 steel bulkhead insulation system 'A60 Bulkhead SeaRox SL 620' consisting of: steel bulkhead insulated on stiffened side with one layer of rockwool insulation "SeaRox SL 620" (60mm thick, 100 kg/m³ density), manufactured by Rockwool Technical Insulation, applied on the steel plate, stiffeners insulated with one layer of rockwool insulation "SeaRox SL 620" (60mm thick, 100kg/m3 density) inside stiffeners and one layer of rockwool insulation "SeaRox SL 620" (25mm thick, 100kg/m3 density) surrounding the outside of the stiffener parallel to bulkhead face in 3 strips of 65mm, 65mm and 130mm width. Total thickness of the insulation is 60mm.
- 3. Insulation on the steel plate retained by 3mm diameter steel pins and 30mm diameter washers at maximum 275mm horizontal, 500mm staggered vertical, 300mm diagonal centres and 110mm from insulation joints with 2 pin rows, 170mm from insulation joints with 1 pin rows. Insulation strip mounted on external face of stiffener parallel to bulkhead face retained with steel pins and washers at 300mm centres.
- 4. Maximum width of insulation blankets following installation: 1000mm.
- 5. Insulation fixing method should be same as tested arrangement in all cases.
- 6. Composition of all product components shall be maintained in production as per the originally tested formula. Their method of application/installation onboard must be in full compliance with manufacturer's instructions, to ensure the final product assembly is of the same specification and capable of providing at least the same fire performance as the tested and approved prototype.
- 7. 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.

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8. 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 designed, manufactured and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.

PLACE OF PRODUCTION

Rockwool A/S

Leangen Alle 1 No-7443 Trondheim Norway

Rockwool BV Industrieweg 15 6045 JG Roermond

6045 JG Roermond The Netherlands **Rockwool Malaysia Sdn. Bhd.** Lot 4, Solok Waja 1 Bukit Raja Industrial Estate, 41050 Klang, Selangor Malaysia

Rockwool Peninsular S.A.U.

Pi Caparroso, Cr De Zaragoza N-121 KM 53.5.31380 Caparroso (Navarra) Spain

Rockwool Hungary Keszthelyi ut 53 8300 Tapolca Hungary

Rockwool a.s. Cihelni 769 735 31 Bohumin 3 Czech Republic

Rockwool Ltd

Pencoed Bridgend Wales, CF35 6NY United Kingdom

Rockwool A/S

Rockwoolvej 2 Øster Doense DK-9500 Hobro Denmark **Roxul Rockwool Insulation India Pvt. Ltd.** Plot – Z/4, Dahej SEZ, Dahej District Bharuch – 392 130 Gujarat

Rockwool A/S

India

Industrivej 9-11 DK-6580 Vamdrup Denmark

Rockwool Beteiligungs GmbH

Rockwool Strasse 37-41 45966 Gladbeck Germany

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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR22377129SF

Ratheesh Rajagopal Specialist Fire & Safety, Statutory Discipline Team UK&I Technical Support Office, Marine & Offshore Lloyd's Register EMEA

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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