



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	Roxtec International AB
Address	Box 540 S-371 23 Karlskrona Sweden
Type	CABLE PENETRATION (STANDARD FIRE TEST)
Description	Fire Resisting Single Cable Penetrations - Type: "RS & RS-OMD Series" for applications in Steel and Aluminium Bulkheads and Decks.
Specified Standard	IMO Res. MSC.61 (67)- (FTP Code) Annex 1 Part 3 IMO MSC/Circ.1120 IMO Res. MSC.307 (88)-(2010 FTP Code) Section 8

The attached Design Appraisal Document forms 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.

Date of issue	15 December 2015	Expiry date	14 December 2020
Certificate No.	SAS F160163	Signed	
Sheet No	1 of 3	Name	S. Abraham Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Note:

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 of any modification or changes to the equipment in order to obtain a valid Certificate.

Lloyd's Register Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register'. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.



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DESIGN APPRAISAL DOCUMENT

Date	Quote this reference on all future communications
3 June 2016	MTES/SFS/TA/SA/WP24838242

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F160163

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Norwegian Fire Research Laboratory (SINTEF), Trondheim, Norway, Test Report Nos. 103070.10A, dated 7 December 2001, 103070.13A, dated 23 April 2002, 103070.13B, dated 23 April 2002, 103070.14B and dated 7 July 2002 .

SP Swedish National Testing and Research Institute, Boras, Sweden, Test Report No. P403634, dated 30 December 2004, No: P0501943, dated 18 May 2005, No: P605253 dated 09 February 2007 and No: P701755 dated 12 June 2007.

Research Institute of Marine Engineering (RIME), Tokyo, Japan; Fire Test Report No: 09-346(E) dated 11 December 2009.

Roxtec drawing no: S1021952 Rev. D

CONDITIONS OF CERTIFICATION

1. When used in conjunction A-60 steel and aluminium bulkheads and decks with approved insulation arrangements. Aluminium bulkheads and decks in all cases must be insulated with an approved system to prevent the core temperature exceeding 200°C and all penetrations fitted to such divisions must also be insulated with either the same system or another approved A-60 system
2. Insulation arrangements for penetrations in A-60 Class steel bulkheads and decks and all aluminium bulkheads and decks are to be in accordance with Roxtec drawing no: S1021952 Rev. D
3. For applications in A-0, A-15, A-30 Class steel bulkheads and decks, penetrations are to be fitted with the same or equivalent A-60 Class insulation arrangements as those used in the fire tests (including any insulation fitted on the penetration itself in the tests) for a minimum distance of 200mm around the penetration, on both sides in bulkheads and on the underside in decks and insulation should be extended to cover the full side(s) and the end face(s) of the steel frame, with an overlap of at least 20mm from the steel edges

The above mentioned A-60 Class insulation arrangements should be additional to any thermal or acoustic insulation, but may include any fire rated insulation (e.g. A-15, or A-30) already fitted on the bulkhead or deck and/or on the penetration itself, such that the total fire rating is A-60

4. Cable penetration consists of: Roxtec mild steel sleeves (aluminium sleeves when installed in aluminium divisions) filled with RS or RS OMD seals
5. Restricted for applications with the aluminium sleeves welded to the non-fire exposed side (top side) of aluminium decks and penetrations to be insulated as described in condition no: 2
6. No restrictions with regard to the positions of penetrations are applicable for A-60 steel divisions and for aluminium bulkheads
7. Tested Rubber Seal Frame types: RS and RS OMD
8. Tested Steel Sleeve/frame sizes for steel divisions: SLRS 23 up to SLRS 150
9. Tested aluminium sleeve frame sizes for aluminium decks and bulkheads-SLRS 23 up to SLRS 125
10. EMC seal versions are acceptable



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11. 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

NOTE

A type RS-23/OMD and RS-150/OMD cable penetration were subjected to a hydrostatic test (6 bar) and gas-tightness test (4 bar) for 30 minutes without any leakage, as witnessed by an IACS surveyor and as indicated in DNV Certificates No. MLM020133.

PLACE OF PRODUCTION

Roxtec International AB
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Sweden



Saji Abraham
Senior Specialist
Statutory Fire & Safety
Marine Technology and Engineering Services
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).