



CERTIFICATE OF FIRE APPROVAL

This is to certify that

The product(s) detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations for use on offshore installations classed with Lloyd's Register, and for use on 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 (HYDROCARBON FIRE TEST)
Equipment Description	Single Cable Circular Penetration for H-60 Bulkheads - Types: "RS-23 to RS-125" (36mm to 138mm sleeve diameter)
Specified Standard	IMO Resolution A.754(18) NPD Hydrocarbon Time/Temperature Curve

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 7 March 2016 Expiry date 6 March 2021

Certificate No. SAS F160135 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.

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DESIGN APPRAISAL DOCUMENT

Date 5 May 2016	Quote this reference on all future communications MTES/SFS/TA/SA/WP25742200
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F160135

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

SINTEF Energy, Norwegian Fire Research Laboratory, Norway, Fire Test Report No. 22N007.12A, dated 16 September 1999

CONDITIONS OF CERTIFICATION

1. When used in conjunction with H-60 Class steel bulkheads only, with approved insulation arrangements
2. For applications in H-0 and H-0 (400°C) Class steel bulkheads, penetrations are to be fitted with the same or equivalent H-120 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 450mm around the penetration, on all fire risk sides in bulkheads 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
3. The above mentioned H-120 Class insulation arrangements should be additional to any thermal or acoustic insulation, but may include any fire rated insulation (e.g. H-60) already fitted on the bulkhead and/or on the penetration itself, such that the total fire rating is H-120
4. Consists of: Roxtec RS seals fitted around cables and enclosed in a steel sleeve that is welded to the non-fire exposed side of the steel bulkhead
5. The penetrations to be insulated on the non-fire exposed side with bulkhead insulation (75mm thick, 128kg/m³ density) CARBOLANE DURABLANKETS or equivalent. An additional 250mm diameter ring of the same bulkhead insulation to be also fitted around the penetration and insulation extended to fully cover the face of the transit on the non-fire exposed side. All retained to the division by welded steel pins and washers
6. EMC type penetrations EMC RS-23 to EMC RS-125 also acceptable
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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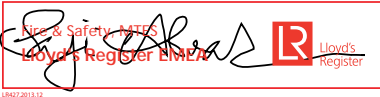
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PLACE OF PRODUCTION

Roxtec International AB
Box 540
S-37123 Karlskrona
Sweden



Saji Abraham
Senior Specialist
Statutory Fire and 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).