



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	PIPE PENETRATION (STANDARD FIRE TEST)
Description	Fire Resisting Plastic Pipe Penetration Seals – Type: "Roxtec Sleeve-it Penetration Seals" for applications in B-15 Class Bulkheads
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	19 May 2016	Expiry date	18 May 2021
Certificate No.	SAS F160229	Signed	
Sheet No	1 of 4	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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Date 29 July 2016	Quote this reference on all future communications SOUTSO/SFS/TA/SA/WP25862379
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F160229

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

VTT Technical Research Centre, Espoo, Finland, Fire Test Report No: VTT-S-5026-10 dated 10 February 2011, and VTT Technical Assessment Report No: VTT-S-6599-10 dated 27 August 2010.

CONDITIONS OF CERTIFICATION

1. When used in conjunction with an approved B-15 Class bulkhead panel system
2. Roxtec Sleeve-it Pipe penetration Seal consists of: a self-adhesive intumescent strip material fitted around the plastic pipe and enclosed within a (0.7mm thick x 60mm deep) stainless steel casing. The penetration is bolted to the panel system using 5mm x 30mm long steel threaded bolts, nuts and steel washers. The specifications for the intumescent materials used with Sleeve-it pipe penetrations for the different types and sizes of plastic pipes are as described in Table 2 below
3. The positions of the Sleeve-it pipe penetrations and the maximum fire rating achievable for the different types and diameter of plastic pipes when penetrating B-15 bulkheads are as described in Table 1 below

Table 1: Tested arrangements in B-15 Class bulkheads

Pipe Material	Maximum Pipe Nominal Diameter	Maximum Rating achievable	Position of Sleeve-it pipe penetrations when fitted in steel bulkheads
Polyethylene (PE)	125mm	B-15	Fire exposed side or unexposed side
Polybutylene (PB)	125mm	B-15	Fire exposed side or unexposed side
Polypropylene (PPr)	Up to 110mm	B-15	Fire exposed side or unexposed side
Polypropylene (PPr)	>110mm and up to 125mm ^(a)	B-15	Fire exposed side and unexposed side ^(a)
Self extinguishing "Puretek VALSIR" Polypropylene (PPr)	20mm	B-15	Fire exposed side and unexposed side
George Fischer Multi-Layer Pipe (Polyethylene (PE)/ Aluminium)	32mm	B-15	Fire exposed side or unexposed side
uPVC	16mm	B-15	Fire exposed side or unexposed side

^(a) For Polypropylene (PPr) pipes of diameter exceeding 110mm and up to 125mm, Sleeve-it pipe penetrations should be fitted on both the fire exposed side and fire unexposed sides of the B-15 bulkheads.



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4. The specifications for the intumescent materials used with Sleev-it pipe penetrations for the different types and diameters of plastic pipes are as described in Table 2 below.

Table 2: Specifications for the intumescent materials

Type of Plastic/Maximum tested Diameter	Type of Intumescent Material	Thickness and Width of Intumescent layer	Number of Layers	Colour Code
Polyethylene (PE)/125mm	Intumex	2.5mm, 60mm	5	Dark Grey
Polybutylene (PB)/125mm	Intumex	2.5mm, 60mm	5	Dark Grey
Polypropylene (PPr)/110mm	Intumex	2.5mm, 60mm	5	Dark Grey
Polypropylene (PPr) >110mm up to 125mm	Intumex	2.5mm, 60mm	5	Dark Grey
Self extinguishing "Puretek VALSIR" Polypropylene (PPr)/20mm	TRP 345	1.8mm, 60mm	3	Black
George Fischer Multi Layer Pipe (Polyethylene (PE)/ Aluminium)/32mm	TRP 345	1.8mm, 60mm	3	Black
George Fischer Multi Layer Pipe (Polyethylene (PE)/ Aluminium)/16mm	TRP 345	1.8mm, 60mm	2	Black
uPVC	TRP 345	1.8mm, 60mm	2	Black

5. 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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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).