TYPE APPROVAL CERTIFICATE
No. **LAB059419CS/001**

This is to certify that the product identified below is in compliance with the regulations herewith specified.

Description	**Devices for the passage of pipes through A or B Class divisions**
Type	**Roxtec sealing system with multidiameter technology RS PPS and RS PPS/S for plastic pipes through A Class steel divisions (deck installation)**
Applicant	**ROXTEC INTERNATIONAL AB ROMBVAGEN 2, P.O. BOX 540 SE-37123 KARLSKRONA SWEDEN**
Manufacturer *Place of manufacture*	**ROXTEC INTERNATIONAL AB ROMBVAGEN 2, P.O. BOX 540 SE-37123 KARLSKRONA SWEDEN**
Reference standards	**IMO Res. MSC.307(88)-(2010 FTP Code)**

Issued in **Genoa** on **March 5, 2019**. *This Certificate is valid until* **March 4, 2024**

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TYPE APPROVAL CERTIFICATE
No. **LAB059419CS/001**
Enclosure - Page 1 of 2
Roxtec sealing system with multidiameter technology RS PPS and RS PPS/S for plastic pipes through A Class steel divisions (deck installation)

Product description

Circular stainless steel penetration seals type RS PPS and RS PPS/S for plastic pipes through decks. The penetrations may be welded or bolted and are composed of two Roxtec seals and an intumescent sealing strip fitted in the middle. The RS PPS/S type are composed of the intumescent sealing strip and one Roxtec seal fitted on one side.
The penetrations are to be insulated, on the side exposed to the fire, as follows:
Type RS PPS size 400 fixed on the side exposed or on the side not exposed or in the middle of the deck plate: one layer of mineral wool having thickness of 45 mm and density of 130 kg/m^3 belonging to the deck insulation and one additional layer of mineral wool having thickness of 50 mm and density of 100 kg/m^3 covering all around the penetration and reaching the pipe.
Type RS PPS size 150 up to 200 fixed on the side exposed or on the side not exposed or in the middle of the deck plate: one layer of mineral wool having thickness of 50 mm and density of 110 kg/m^3 around the transit and the pipe for a length of 170 mm.
Type RS PPS size 31 up to 200 fixed on the side not exposed to the fire: one layer of mineral wool having thickness of 50 mm and density of 110 kg/m^3 belonging to the deck insulation and one additional layer of the same mineral wool forming a disc around the pipe which extends 100 mm from the pipe.
Type RS PPS size greater than 200 up to 400 fixed on the side not exposed to the fire: one layer of mineral wool having thickness of 45 mm and density of 130 kg/m^3 belonging to the deck insulation and one additional layer of the same mineral wool forming a disc around the pipe which extends 100 mm from the penetration.
Type RS PPS/S size 31 up to 150 fixed on the side exposed or on the side not exposed or in the middle of the deck plate: no additional insulation with respect to the deck one.

Field of application

Fire resistant A-60 Class plastic pipe penetrations through steel decks
Type RS PPS size 31 up to 400; thermoplastic pipe types PP, PB, PE, PVC, PVDF, HDPE, ABS having diameter ranging from 16 to 315 mm.
Type RS PPS/S size 31 up to 150; thermoplastic pipe types PP, PB, PE, PVC, PVDF, HDPE, ABS having diameter ranging from 16 to 110 mm.
Type RS PPS/S size 68 up to 100; valpar micro-matic bundle pipe from 36 up to 60 mm

Fire resistant A-0 Class plastic pipe penetration through steel decks
Type RS PPS size 31 up to 68; pipe types PE /Alu/PE having diameter ranging from 16 to 32 mm.

Type RS PPS: watertight up to 6 bar and gastight up to 4 bar in size from 31 up to 200 - watertight up to 6 bar and gastight up to 3 bar in size greater than 200 up to 400.
Type RS PPS/S: watertight up to 6 bar and gastight up to 3 bar in size from 31 up to 150.

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Reference documents

Roxtec drawings No. S1013300, No. S1013301 and No. S1013302 dated 27 February 2008 and Roxtec drawings enclosed to the Test Reports.

Tests carried out

Tests as per Norwegian Fire Research Laboratory (SINTEF) Report Nos. 103070.31 B dated 24 March 2004.
Tests as per Swedish National Testing and Research Insitute (SP) No. P502922 dated 1 December 2005, No. P701755 dated 12 June 2007 and No. 8P04040 dated 13 August 2018.
Tests as per Danish Institute of Fire and Security Technology (DBI) No. PGA11302A dated 16 January 2019.
Tests as per Centrum Techniki Okretowej (CTO) No. RS-18/B-292/E dated 13 September 2018.
Details of water and gas tightness testing contained in DNV Cert. Nos. SKM-04-4088 dated 16 June 2004, MLM 060511 dated 28 February 2006 and MLM 070656 dated 18 April 2007.

General conditions for the approval

a) The initial conditions verified by RINA at the time of the approval are to be maintained

b) Any changes to the initial conditions are to be promptly communicated to RINA, which reserves the right to repeat the relevant assessment

c) This certificate will no be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with RINA

d) RINA personnel are to allowed to witness during the performances of activities, upon their request

e) The activities are to be carried out in compliance with the RINA Rules and/or other applicable Rules

f) Should the specified regulations or standards be amended during the validity of this certificate, the product is to be reapproved prior to it being placed on board vessels to which the amended regulations or standards apply.

Genoa 05/03/2019

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TYPE APPROVAL CERTIFICATE
No. **LAB059419CS/002**

This is to certify that the product identified below is in compliance with the regulations herewith specified.

Description	**Devices for the passage of pipes through A or B Class divisions**
Type	**Roxtec sealing system with multidiameter technology RS PPS and RS PPS/S for plastic pipes through A Class steel divisions (bulkhead installation)**
Applicant	**ROXTEC INTERNATIONAL AB ROMBVAGEN 2, P.O. BOX 540 SE-37123 KARLSKRONA SWEDEN**
Manufacturer *Place of manufacture*	**ROXTEC INTERNATIONAL AB ROMBVAGEN 2, P.O. BOX 540 SE-37123 KARLSKRONA SWEDEN**
Reference standards	**IMO Res. MSC.307(88)-(2010 FTP Code)**

Issued in **Genoa** on **March 5, 2019**. *This Certificate is valid until* **March 4, 2024**

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Roxtec sealing system with multidiameter technology RS PPS and RS PPS/S for plastic pipes through A Class steel divisions (bulkhead installation)

Product description

Circular stainless steel penetration seals type RS PPS and RS PPS/S for plastic pipes through bulkheads. The penetrations type RS PPS may be welded or bolted to the bulkhead plate and are composed of two Roxtec seals and an intumescent sealing strip fitted in the middle. The RS PPS/S type, welded or bolted in the middle with respect to the bulkhead, are composed of the intumescent sealing strip and one Roxtec seal fitted on one side.
The penetrations installed in A-60 bulkheads are to be insulated as follows:
Type RS PPS size 31 up to 200 fixed in the middle of the bulkhead plate: on one side two layers of mineral wool having thickness of 50 and 25 mm and density of 110 kg/m^3 forming a disc around the pipe and the penetration, extending 150 mm from the pipe. On the other side three layers of the same mineral wool; the first and second layer (50 and 25 mm) belong to the bulkhead insulation whereas the third layer, 50 mm thick, forms a disc around the pipe and the penetration and extends 150 mm from the pipe.
Type RS PPS size greater than 200 up to 400 fixed in the middle of the bulkhead plate: one layer of mineral wool having thickness of 50 mm and density of 100 kg/m^3 covering all around the penetration.
Type RS PPS/S size 31 up to 150 fixed in the middle of the bulkhead plate: no additional insulation with respect to the bulkhead one.

Field of application

Fire resistant A-60 Class plastic pipe penetrations through steel bulkheads.
Type RS PPS size 31 up to 400; thermoplastic pipe types PP, PB, PE, PVC, PVDF, HDPE, ABS having diameter ranging from 16 to 315 mm.
Type RS PPS/S size 31 up to 150; thermoplastic pipe types PP, PB, PE, PVC, PVDF, HDPE, ABS having diameter ranging from 16 to 110 mm.

Fire resistant A-0 Class plastic pipe penetrations through steel bulkheads.
Type RS PPS size 31 up to 68; pipe types PE /Alu/PE having diameter ranging from 16 to 32 mm.
Type RS PPS size 68; thermoplastic pipe types PP, PB, PE, PVC, PVDF, HDPE, ABS having diameter of 32 mm.
Type RS PPS/S size 50; thermoplastic pipe types PP, PB, PE, PVC, PVDF, HDPE, ABS having diameter of 16 mm.

Type RS PPS: watertight up to 6 bar and gastight up to 4 bar in size from 31 up to 200 - watertight up to 6 bar and gastight up to 3 bar in size greater than 200 up to 400.
Type RS PPS/S: watertight up to 6 bar and gastight up to 3 bar in size from 31 up to 150.

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Reference documents

Roxtec drawings No. S1013300, No. S1013301 and No. S1013302 dated 27 February 2008 (to be regarded only as far as insulation orientation is concerned) and Roxtec drawings enclosed to the Test Reports.

Tests carried out

Tests as per Norwegian Fire Research Laboratory (SINTEF) Report No. 103070.31 A dated 24 March 2004.
Tests as per Swedish National Testing and Research Insitute (SP) No. P502921 dated 1 December 2005, No. P605253 dated 9 February 2007 and No. P902394 dated 25 May 2009.
Tests as per Centrum Techniki Okretowej (CTO) No. RS-18/B-291/E dated 20 August 2018 and No. RS-18/B-293/E dated 13 September 2018.
Tests as per Danish Institute of Fire and Security Technology (DBI) No. PGA11301A dated 22 November 2018.
Details of water and gas tightness testing contained in DNV Cert. Nos. SKM-04-4088 dated 16 June 2004, MLM 060511 dated 28 February 2006 and MLM 070656 dated 18 April 2007.

General conditions for the approval

a) The initial conditions verified by RINA at the time of the approval are to be maintained

b) Any changes to the initial conditions are to be promptly communicated to RINA, which reserves the right to repeat the relevant assessment

c) This certificate will no be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with RINA

d) RINA personnel are to allowed to witness during the performances of activities, upon their request

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