



**TYPE APPROVAL CERTIFICATE**  
**No. LAB280324CS/001**

**This is to certify that the product identified below satisfies the requirements of the standard quoted under "Reference standard"**

<i>Description</i>	<b>Devices for the passage of pipes through A or B Class divisions</b>
<i>Type</i>	<b>Roxtec sealing system with multidiameter technology RS PPS and RS PPS/S for plastic pipes through A Class steel divisions (deck installation)</b>
<i>Applicant</i>	<b>ROXTEC SERVICES AB ROMBVÄGEN 2 371 65 LYCKEBY SWEDEN</b>
<i>Manufacturer</i>	<b>ROXTEC SERVICES AB</b>
<i>Place of manufacture</i>	<b>ROMBVÄGEN 2 371 65 LYCKEBY SWEDEN</b>
<i>Reference standards</i>	<b>IMO Res. MSC.307(88)-(2010 FTP Code)</b>

*Issued in Genoa on September 3, 2024. This Certificate is valid until March 3, 2029*

*This document is electronically signed by*

***Enrico Cabella***

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**RINA Services S.p.A.**

**This certificate consists of this page and 1 enclosure**

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

Roxtec sealing system with multidiameter technology: RS PPS and RS PPS/S series (steel) for plastic pipes through decks fitted into a steel sleeve welded to the decks plate.

The penetrations type RS PPS are composed of a steel sleeve with fitted at both ends with Roxtec RS seals including intumescent material in between.

The penetrations type RS PPS/S are composed of a steel sleeve fitted with one single RS PPS/S seal with integrated intumescent material.

**Field of application**

Fire resistant A-60 Class plastic pipe penetrations through A-Class decks, for restricted application, as described in the following table:

Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Minimum sleeve and pipe insulation	Sleeve position	Drawing reference number
RS PPS	31 - 450	Thermoplastic	From 16 up to 355	On the exposed side mineral wool A-60 Class deck insulation + 1 layer of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 100 mm around the pipe	unexposed	S1600675
	100	Pre-insulated plastic bundle pipe	67		unexposed	
	31 - 150	Multilayer (PE/ALU/PE)	From 16 up to 110		unexposed	

RS PPS range 31-75 devices without service; RS PPS/S size 31 device without service.

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Fire resistant A-60 Class plastic pipe penetrations through A-Class decks, for unrestricted application, as described in the following table:

Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Sleeve position	Drawing reference number
RS PPS	31 - 150	Thermoplastic	From 16 up to 110	On the exposed side mineral wool A-60 Class deck insulation + 1 layer of mineral wool 50 mm thick and density 100 kg/m3 up to the end of the sleeve	Any	S1600698
	31 - 450	Thermoplastic	From 16 up to 355	On the exposed side mineral wool A-60 Class deck insulation + 1 layer of mineral wool 45 mm thick and density 90 kg/m3 on the sleeve and on the pipe up to 45 mm from the end of the sleeve	symmetric and unexposed	S1600698
	125-400	Pre-insulated thermoplastic pipe	From 90 up to 315	On the exposed side mineral wool A-60 Class deck insulation + 1 layer of mineral wool 45 mm thick and density 90 kg/m3 having width of 100 mm around the pipe		S1600675
	31 - 200	Thermoplastic	From 16 up to 160			
	125	Pre-insulated plastic bundle pipe	96			

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Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Sleeve position	Drawing reference number	
RS PPS/S	31 – 150	Thermoplastic	From 16 up to 110	On the exposed side mineral wool A-60 Class deck insulation	Any	S1600706	
	31 - 68	Multilayer (PE/ALU/PE)	From 16 up to 32				
	31 - 125	Multilayer (PE/ALU/PE) with Armaflex	From 16 up to 63	On the exposed side mineral wool A-60 Class deck insulation + 1 layer of mineral wool 20 mm thick and density 100 kg/m3 having width of 75 mm around the pipe			
	125 -150	Pre-insulated thermoplastic pipe	From 75 up to 110	On the exposed side mineral wool A-60 Class deck insulation			
	68 - 100	plastic bundle pipe	From 36 up to 60				
	100 -125	Pre-insulated plastic bundle pipe with Armaflex	From 67 up to 96				
	31 - 75	Multilayer (PE/ALU/PE) with Armaflex	From 16 up to 50	On the exposed side mineral wool A-60 Class deck insulation + 1 layer of mineral wool 50 mm thick and density 100 kg/m3 extending on the pipe for a length of 200 mm			symmetric and unexposed
	31 - 125	Multilayer (PE/ALU/PE)	From 16 up to 75				

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Fire resistant A-0 Class plastic pipe penetrations through A-Class decks, for restricted application, as described in the following table:

Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Sleeve position	Drawing reference number
RS PPS	31 - 450	Thermoplastic	From 16 up to 355	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve + 1 layer of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 200 mm around the pipe	unexposed	S16000955
	100	Pre-insulated plastic bundle pipe	67		unexposed	
	31 - 150	Multilayer (PE/ALU/PE)	From 16 up to 110		unexposed	S16000956

RS PPS range 31-75 devices without service; RS PPS/S size 31 device without service.

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Fire resistant A-0 Class plastic pipe penetrations through A-Class decks, for unrestricted application, as described in the following table:

Seal	RS PPS Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Sleeve position	Drawing reference number
RS PPS	31 - 150	Thermoplastic	From 16 up to 110	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve + 1 layer of mineral wool 50 mm thick and density 100 kg/m3 up to the end of the sleeve	Any	S16000956
	31 - 450	Thermoplastic	From 16 up to 355	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve + 1 layer of mineral wool 45 mm thick and density 90 kg/m3 on the sleeve and on the pipe up to 45 mm from the end of the sleeve	Symmetric and unexposed	
	125 - 400	Pre-insulated thermoplastic pipe	From 90 up to 315	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve + 1 layer of mineral wool 45 mm thick and density 90 kg/m3 having width of 200 mm around the pipe		
	31 - 200	Thermoplastic	From 16 up to 160			
	125	Pre-insulated plastic bundle pipe	96			S16000955
	31 - 68	Multilayer (PE/ALU/PE)	From 16 up to 32			

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Seal	RS PPS Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Sleeve position	Drawing reference number
RS PPS/S	31 - 150	Thermoplastic	From 16 up to 110	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve	Any	S16000946
	31 - 68	Multilayer (PE/ALU/PE)	From 16 up to 32	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve		
	31 - 125	Multilayer (PE/ALU/PE) with Armaflex	From 16 up to 63	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve + 1 layer of mineral wool 20 mm thick and density 100 kg/m3 having width of 200 mm around the pipe		
	125 - 150	Pre-insulated thermoplastic pipe	From 75 up to 110	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve	Symmetric and unexposed	S16000946
	68 - 100	plastic bundle pipe	From 36 up to 60			
	100 - 125	Pre-insulated plastic bundle pipe with Armaflex	From 67 up to 96			
	31 - 125	Multilayer (PE/ALU/PE)	From 16 up to 75	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve + 1 layer of mineral wool 50 mm thick and density 100 kg/m3 extending on the pipe for a length of 200 mm		
	31 - 75	Multilayer (PE/ALU/PE) with Armaflex	From 16 up to 50	On the exposed side mineral wool A-60 Class deck insulation having width of 200 mm around the sleeve		

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**Reference documents**

Roxtec drawings No. S1600698, No. S1600675, No. S1600706, No. S1600956, No. S1600955, No. S1600946 identified by booklet N. 2024CS012803/1 dated 03/09/2024 and Roxtec drawings enclosed to the Test Reports.

**Tests carried out**

Tests as per CTO No. RS-19/B-356/E dated 18 October 2019, No. RS-19/B-256/E dated 20 August 2019, No. RS-18/B-484/E dated 10 December 2018, No. RS-18/B-023/E dated 29 January 2018, No. RS-18/B-292/E dated 13 September 2018; tests as per RIME No. 09-346E dated 11 December 2009; test as per RISE No. 7P02167 dated 7 August 2017, No. 8P04040 dated 13 August 2018; tests as per DBI No. PGB10177A dated 4 November 2022, No. PGB10047A dated 30 November 2020, No. PGB10032A dated 1 July 2020, No. PGB10118A dated 15 November 2021, No. PGB10116A dated 30 November 2020, No. PGB10113A dated 23 July 2021, No. PGA10141 dated 10 July 2012, No. PGA10025 dated 22 December 2011, No. PGA11302A dated 16 January 2019.

**Remarks**

Each item of the mass production to be fitted on vessels classed by RINA is to be previously inspected at the manufacturer workshop by a RINA Surveyor and is to be marked or labelled with the trade name and the data of the Company to whom this Certificate is addressed. The validity of this Certificate ceases in the case of amendments to the rules on the basis of which the Certificate was issued.

Type RS PPS/S: watertight up to 6 bar and gastight up to 3 bar in size from 31 up to 150 in compliance with DNV Verification Statement N. N141ZEM0 dated 9 November 2020.

Type RS PPS: watertight up to 6 bar and gastight up to 3 bar in size from 31 up to 450 in compliance with DNV Verification Statement N. N142299W dated 15 May 2020.

**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 September 3, 2024**

**File Allegato/Attached file**





**TYPE APPROVAL CERTIFICATE**  
No. LAB280324CS/002

**This is to certify that the product identified below satisfies the requirements of the standard quoted under "Reference standard"**

<i>Description</i>	<b>Devices for the passage of pipes through A or B Class divisions</b>
<i>Type</i>	<b>Roxtec sealing system with multidiameter technology RS PPS and RS PPS/S for plastic pipes through A Class steel divisions (bulkhead installation)</b>
<i>Applicant</i>	<b>ROXTEC SERVICES AB ROMBVÄGEN 2 371 65 LYCKEBY SWEDEN</b>
<i>Manufacturer</i>	<b>ROXTEC SERVICES AB</b>
<i>Place of manufacture</i>	<b>ROMBVÄGEN 2 371 65 LYCKEBY SWEDEN</b>
<i>Reference standards</i>	<b>IMO Res. MSC.307(88)-(2010 FTP Code)</b>

*Issued in Genoa on September 3, 2024. This Certificate is valid until March 3, 2029*

*This document is electronically signed by*

***Enrico Cabella***

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**RINA Services S.p.A.**

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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**

Roxtec sealing system with multidiameter technology: RS PPS and RS PPS/S series (steel) for plastic pipes through bulkheads fitted into a steel sleeve symmetrically welded to the bulkhead plate.

The penetrations type RS PPS are composed of a steel sleeve with fitted at both ends with Roxtec RS seals including intumescent material in between.

The penetrations type RS PPS/S are composed of a steel sleeve fitted with one single RS PPS/S seal with integrated intumescent material

**Field of application**

Fire resistant A-60 Class plastic pipe penetrations through A-Class bulkheads, for restricted application, as described in the following table:

Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Minimum sleeve and pipe insulation	Drawing reference number
RS PPS	31 – 175	Thermoplastic	From 16 up to 125	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> + 2 layers of mineral wool 50 mm + 25 mm thick and density 100 kg/m <sup>3</sup> having width of 150 mm around the sleeve	S1600674
	31 – 150	Multilayer (PE/ALU/PE)	From 16 up to 110	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> + 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 200 mm around the sleeve + 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> extending on the pipe for a length of 510 mm	

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Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Minimum sleeve and pipe insulation	Drawing reference number
RS PPS/S	125 - 150	Pre-insulated thermoplastic pipe	From 75 up to 110	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> + 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 150 mm around the pipe	S1600702
	31 - 100	Multilayer (PE/ALU/PE)	From 16 up to 63	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> + 2 layers of mineral wool 30 mm thick and density 100 kg/m <sup>3</sup> extending on the pipe for a length of 150 mm	

Fire resistant A-60 Class plastic pipe penetrations through A-Class bulkheads, for unrestricted application, as described in the following table:

Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Drawing reference number
RS PPS	31 - 450	Thermoplastic	From 16 up to 355	2 layers of mineral wool 45+45 mm thick and density 90 kg/m <sup>3</sup> on both sides of the sleeve and on the pipe up to 90 mm from the end of the sleeve	S1600689
	125 - 400	Pre-insulated thermoplastic pipe	From 90 up to 315		
RS PPS/S	31 - 150	Thermoplastic	From 16 up to 110	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup>	S1600702
	100 - 125	Pre-insulated plastic bundle pipe	From 67 up to 96		

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Fire resistant A-0 Class plastic pipe penetrations through A-Class bulkheads, for restricted application, as described in the following table:

Seal	Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Drawing reference number
RS PPS	31 – 175	Thermoplastic	From 16 up to 125	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 200 mm around the sleeve + 2 layers of mineral wool 50 mm + 25 mm thick and density 100 kg/m <sup>3</sup> having width of 200 mm around the sleeve	S1600952
	31 – 150	Multilayer (PE/ALU/PE)	From 16 up to 110	2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 200 mm around the sleeve and the pipe + 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> extending on the pipe for a length of 510 mm	
RS PPS/S	125 - 150	Pre-insulated thermoplastic pipe	From 75 up to 110	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 200 mm around the sleeve + 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 200 mm around the pipe	S1600945
	31 - 100	Multilayer (PE/ALU/PE)	From 16 up to 63	On the unexposed side: 2 layers of mineral wool 45 mm thick and density 90 kg/m <sup>3</sup> having width of 200 mm around the sleeve + 2 layers of mineral wool 30 mm thick and density 100 kg/m <sup>3</sup> extending on the pipe for a length of 200 mm	

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Fire resistant A-0 Class plastic pipe penetrations through A-Class bulkheads, for unrestricted application, as described in the following table:

Seal	RS PPS Seal size	Pipe material	Pipe diameter (OD mm) range	Sleeve and pipe Insulation	Drawing reference number
RS PPS	31 - 450	Thermoplastic	From 16 up to 355	2 layers of mineral wool 45+45 mm thick and density 90 kg/m <sup>3</sup> on both sides of the sleeve having width of 200 mm around the sleeve and on the sleeve up to the end of sleeve and on the pipe up to 90 mm from the end of the sleeve	S1600954
	31 - 68	Multilayer (PE/ALU/PE)	From 16 up to 32		S1600952
	31 - 150	Thermoplastic	From 16 up to 110		
	125 - 400	Pre-insulated thermoplastic pipe	From 90 up to 315	2 layers of mineral wool 45+45 mm thick and density 90 kg/m <sup>3</sup> on both sides of the sleeve having width of 200 mm around the sleeve and on the sleeve up to the end of sleeve and on the pipe up to 90 mm from the end of the sleeve	S1600954
RS PPS/S	31 - 150	Thermoplastic	From 16 up to 110	On the unexposed side: 2 layers of mineral wool 45+45 mm thick and density 90 kg/m <sup>3</sup> bulkhead insulation having width of 200 mm around the sleeve and the pipe	S1600945
	31 - 100	Thermoplastic	From 16 up to 63		
	100 - 125	Pre-insulated plastic bundle pipe	From 67 up to 96	On the unexposed side: 2 layers of mineral wool 45+45 mm thick and density 90 kg/m <sup>3</sup> bulkhead insulation having width of 200 mm around the sleeve and the pipe	

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**Reference documents**

Roxtec drawings No. S1600689, No. S1600674, No. S1600702, No. S1600954, No. S1600952, No. S1600945 identified by booklet N. 2024CS012803/2 dated 03/09/2024 and Roxtec drawings enclosed to the Test Reports.

**Tests carried out**

Tests as per CTO No. RS-20/B-083/E dated 20 April 2020, No. RS-19/B-424/E dated 27 November 2019, No. RS-19/B-355/E dated 16 October 2019, No. RS-18/B-291/E dated 20 August 2018, No. RS-18/B-293/E dated 13 September 2018, No. RS-21/B-240/E dated 30 June 2021; tests as per SP No. 6P10024 dated 7 March 2017, No. P902394 dated 25 May 2009; test as per RISE No. 8P07094 dated 16 January 2020; tests as per DBI No. PGA11301A dated 22 November 2018, No. PGB10030A dated 16 July 2020.

**Remarks**

Each item of the mass production to be fitted on vessels classed by RINA is to be previously inspected at the manufacturer workshop by a RINA Surveyor and is to be marked or labelled with the trade name and the data of the Company to whom this Certificate is addressed. The validity of this Certificate ceases in the case of amendments to the rules on the basis of which the Certificate was issued.

Type RS PPS/S: watertight up to 6 bar and gastight up to 3 bar in size from 31 up to 150 in compliance with DNV Verification Statement N. N141ZEM0 dated 9 November 2020.

Type RS PPS: watertight up to 6 bar and gastight up to 3 bar in size from 31 up to 450 in compliance with DNV Verification Statement N. N142299W dated 15 May 2020.

**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 be 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 September 3, 2024**

**File Allegato/Attached file**