



Type Approval Certificate

[Pipe Penetration]

Initial Approval 7th December, 2021
Manufacturer Roxtec International AB
 Box 540, SE-371 23 Karlskrona, Sweden
Product Description Single and Multi Pipe Penetration System

- Type : S Series, R Series, RS Series, SPM Series
 - Intended for : A-60 and A-0 Class Steel Divisions

See "Appendix 1"

Approval Condition See "Appendix 1"

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt.8, Ch.1 of the Rules for Classification of Steel Ships, IMO Resolution A.754(18) and 2010 FTP Code Annex 1, Part 3.

This Certificate is valid until 6th December, 2026

Issued at Busan, Korea on 7th December, 2021



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No(ME21030548955) and certificate No.(CPH04189-FP007).



KOREAN REGISTER

*General Manager of
Marine & Ocean Equipment Team*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
 2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 7th December, 2021

A. Product Description

1. Product Specification

- 1) The pipe penetrations consist of rubber/steel frame and specific sealing system and the frames are welded or bolted to divisions.
* SPM seal is non-weld sealing system.

- 2) Approved arrangements :

- (1) A-60 Class

- S series

Division	Description of Sealing system	Sleeve	Service Ø (mm) & Material	Additional insulation	(Application) & Drawing no.
Bulkhead	S1x1-8x2	S	6-53 (St)	Yes	(G) S1562446_1
	S2x1		10-28 (Cu)	Yes	(G) S1564541_2
	S2x1-8x2		10-54 (Cu) / 16-50 (Bundle)	Yes	(G) S1562447_2
Deck	S1x1-8x1	S	6-30 (St)	Yes	(G) S1562446_2
	S1x1-8x1		6-54 (Cu)	Yes	(G) S1564541_2
	S2x1-8x2		10-54 (Cu) / 16-50 (Bundle)	Yes	(G) S1562447_1
	S4x1		No Service	Yes	(G) S1564541_2

- R series

Division	Description of Sealing system	Sleeve	Service Ø (mm) & Material	Additional insulation	(Application) & Drawing no.
Bulkhead	R50-200	SLR	6-22 (St)	No	(G) S1562707_1
	R50-200		6-54 (Cu)	Yes	(G) S1562717_1
	R70-200	SLX	6-53 (St)	Yes	(G) S1562724_1
Deck	R50-200	SLR	6-55 (St)	No	(G) S1564086_1
	R70-200		8-54 (Cu)	Yes	(G) S1562717_2
	R70-200	SLX	6-55 (St)	Yes	(G) S1562724_2/3

- RS series

Division	Description of Sealing system	Sleeve	Service Ø (mm) & Material	Additional insulation	(Application) & Drawing no.
Bulkhead	RS25-75	SLA	6-30 (St)	Yes	(G) S1562423_1/2
	RS25-75		6-34 (Cu)	Yes	(G) S1562426_1-3
	RS25	SLX	6 (St)	Yes	(G) S1562427_5/6
	RS200		168 (St)	Yes	(U) S1562427_7
	RS25-400	SLRS	6-330 (St)	Yes	(G) S1562410_1-4
	RS644		558 (St)	Yes	(U) S1562410_5
	RS23-300		6-222 (Cu)	Yes	(G) S1562411_6-9
	RS50-600		25-520 (FRP)	Yes	(G) S1562412_1/2
	RS25-500		25-420 (CuNi)	Yes	(G) S1562417_1-6
	RS43-100		16-50 (Bundle)	Yes	(G) S1562428_1
	RS23-1500MD	SLRS	6-108 (Cu)	Yes	(G) S1562411_6/8
	RS230MD	SLRS	6 (St)	Yes	(G) S1562410_2

< To be continued >

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Deck	RS25~75	SLA	6~30 (St)	No	(U) S1562423_3
	RS25~50		6~22 (Cu)	No	(U) S1562426_4
	RS75		34 (Cu)	Yes	(U) S1562426_5
	RS25~200	SLX	6~168 (St)	Yes	(G) S1562427_1-4
	RS75~400	SLRS	54~330 (St)	Yes	(G) S1562410_6-8
	RS644		558 (St)	Yes	(U) S1562410_9
	RS23~300		6~225 (Cu)	Yes	(G) S1562411_1-5
	RS50~600		25~520 (FRP)	Yes	(G) S1562412_3/4
	RS43~100		16~50 (Bundle)	Yes	(G) S1562428_2
	RS50~500		25~420 (CuNi)	Yes	(G) S1562416_1-5
	RS23	SLFRS	6 (St)	No	(G) S1562410_6
	RS230MD	SLRS	6 (Cu)	Yes	(G) S1562411_1
	RS1500MD		114 (St)	Yes	(G) S1562410_7

- SPM series

Division	Description of Sealing system	Sleeve	Service Ø (mm) & Material	Additional insulation	(Application) & Drawing no.
Bulkhead	SPM39~279	SPM	8~222 (St)	Yes	(G) S1563662_1-3
	SPM39~279		12~222 (Cu)	Yes	(G) S1563893_1-3
	SPM Blind 39		No service	No	(G) S1563960_1
	SPM Blind 59~92		No service	Yes	(E) S1563960_2/3
Deck	SPM39~279	SPM	8~220 (St)	Yes	(G) S1563861_1-4
	SPM39~279		8~222 (Cu)	Yes	(G) S1563953_1-4
	SPM Blind39~92		No service	No	(G) S1563960_4

(2) A-0 Class

- R series

Division	Description of Sealing system	Sleeve	Service Ø (mm) & Material	Additional insulation	(Application) & Drawing no.
Bulkhead	R70~100	SLR	30~38 (St)	No	(G) S1562721_1
Deck	R50~200	SLR	6~54 (St)	No	(G) S1562714_1-4

- RS series

Division	Sealing system	Size of Sleeve	Service Ø (mm) & Material	Additional insulation	(Application) & Drawing no.
Bulkhead	RS43~75	SLRS	6~54 (St)	No	(G) S1562429_1
	RS100		70 (Cu)	No	(G) S1562429_1
	RS23	SLFRS	6 (St)	No	(G) S1562432_4
	RS150		114 (Cu)	Yes	(G) S1562429_2
Deck	RS150~250	SLRS	114~204 (St)	Yes	(G) S1562429_7/8
	RS43~75		22~54 (Cu)	No	(G) S1562432_1
	RS23~100	SLFRS	6~67 (St)	No	(G) S1562429_6
	RS110		54 (Cu)	Yes	(G) S1562432_2

* (G): General application, (E): Exposed side, (U): Unexposed side

< To be continued >

Product Description and/or Approval Condition

Date of Issue : 7th December, 2021

(3) Water and Gas tightness

Series	Size	Test pressure(bar)	
		Water tightness	Gas tightness
S	S1x1-8x2	6	4
R	R50	6	3
	R70-200	6	4
RS	RS23-250	6	4
	RS644	6	3
SPM	SPM39-279	1.5	1

► For more details see the approved drawings and/or relevant test reports.

2. Approved Drawings and Documents

See "Product Specification"

3. Test Reports, etc.

1) A-60 class

(1) S series

- P602999(F, G, H) and P603000(P, Q, V) dated 2007-01-23 issued by SP
- P701755(Q) dated 2007-06-12 issued by SP
- RS-17/B-395/E(D, F, K) dated 2017-10-30 issued by CTO
- RS-18/B-484/E(B, C) dated 2018-12-10 issued by CTO
- RS-18/B-485/E(D, F) dated 2018-12-10 issued by CTO

(2) R series (A-60 class)

- P602999(N, P) and P603000(B, H, I, M, R) dated 2007-01-23 issued by SP
- P605253(D) dated 2007-02-09 issued by SP
- 6P07563(M) dated 2016-12-20 issued by SP
- 8P04039(A, C, D, G) dated 2018-08-06 issued by RISE
- 8P04040(A, D, L) dated 2018-08-13 issued by RISE
- PGA10799A(D) dated 2016-05-24 issued by DBI
- PGA10800A(E) dated 2016-05-26 issued by DBI
- RS-19/B-225/E(A, M) dated 2019-08-01 issued by CTO

(3) RS series (A-60 class)

- P602999(M, J) and P603000(C, F) dated 2007-01-23 issued by SP
- 09-345E(E, F) and 09-346E(G) dated 2009-12-11 issued by RIME
- PX05454(5) dated 2011-09-08 issued by SP
- 4P06068(B, D, F, F) dated 2015-01-17 issued by SP
- 4P07023(C, H, I) dated 2015-02-04 issued by SP
- 4P08662(H) dated 2015-06-08 issued by SP
- 6P04351(A, B, C, E) dated 2016-06-28 issued by SP
- 6P02249(6, 7, 9, 10, 13) dated 2016-08-17 issued by SP
- 7P02167(A, I) dated 2017-08-07 issued by RISE
- PGA10649(C, E, H, I) dated 2015-05-18 issued by DBI
- PGA10650(B, C, G) dated 2015-05-18 issued by DBI
- PGA10800A(J, M, N, P) dated 2016-05-26 issued by DBI
- PGA10871A(U) dated 2018-01-16 issued by DBI
- PGA11611A(G) dated 2020-01-11 issued by DBI
- PGB10020A(B, C) dated 2020-05-05 issued by DBI
- PGB10032A(F) dated 2020-07-01 issued by DBI
- RS-18/B-181/E(I) dated 2018-05-07 issued by CTO
- RS-18/B-022/E(C, N) dated 2018-01-29 issued by CTO
- RS-18/B-023/E(A, D) dated 2018-01-29 issued by CTO
- RS-18/B-484/E(A, P) dated 2018-12-10 issued by CTO
- RS-18/B-485/E(B) dated 2018-12-10 issued by CTO
- RS-19/B-355/E(B, G, H, I, L, M) dated 2019-10-16 issued by CTO
- RS-19/B-356/E(F, I) dated 2019-10-18 issued by CTO
- RS-20/B-017/E(B, C, M) dated 2020-01-23 issued by CTO
- RS-20/B-191/E(E) dated 2020-06-05 issued by CTO

< To be continued >

Product Description and/or Approval Condition

Date of Issue : 7th December, 2021

(4) SPM series

- PGA10870A(M, N, O) dated 2016-12-13 issued by DBI
- 5P03451(A, B, C, H, I, J) dated 2015-11-03 issued by SP
- 5P03457(A, B, K, N, O) dated 2015-11-12 issued by SP
- 5P08343(C, D, E, F) dated 2015-12-21 issued by SP
- 5P08346(A, B, C, D, E, F, G, H, I, J) dated 2015-12-21 issued by SP
- 5P08395(E, L, P, T, U) dated 2016-03-17 issued by SP
- 6P05989(B, C, D, E, G, H, I, J, K) dated 2016-10-24 issued by SP
- 6P05990(D, E, G, H, I, J) dated 2016-11-16 issued by SP
- RS-18/B-022/E(E, F, I) dated 2018-01-29 issued by CTO
- RS-18/B-023/E(F, I) dated 2018-01-29 issued by CTO
- RS-18/B-181/E(F, G, J) dated 2018-05-07 issued by CTO
- RS-20/B-191/E(I) dated 2020-06-05 issued by CTO

2) A-0 Class

(1) R series

- PGA10723A(F) dated 2016-02-04 issued by DBI
- PGA11301A(G) dated 2018-11-22 issued by DBI
- PGA11302A(D, G, P) dated 2019-01-16 issued by DBI
- RS-18/B-291/E(B) dated 2018-08-20 issued by CTO
- RS-18/B-292/E(B) dated 2018-09-13 issued by CTO

(2) RS series

- RS-18/B-292/E(M) and RS-18/B-293/E(B) dated 2018-09-13 issued by CTO
- RS-20/B-081/E(M, N) dated 2020-03-31 issued by CTO
- 8P07094(E) dated 2020-01-16 issued by RISE
- PGA11301A(A) dated 2018-11-22 issued by DBI
- PGA11302A(C, K, L, M, Q) dated 2019-01-16 issued by DBI
- PGA11610A(S) dated 2020-01-10 issued by DBI

3) Water and gas tightness test

- SKM-04-4088 dated 2004-06-16
- MLM020400 dated 2002-03-25
- 40007647-1 dated 2011-12-13
- MLM010247 dated 2001-09-28
- MLM030473-1 dated 2003-01-27
- N1421782 dated 2020-09-01
- N141C91K dated 2016-12-20
- N141805C dated 2017-11-22

B. Approval Condition

1. Application & Limitation

- 1) When the deck penetration is tested on an exposed side or is tested symmetrically, and, when the bulkhead penetration is tested symmetrically or is tested for each exposed and unexposed side, general application is given.
- 2) Installation on board is to be in accordance with the manufacturer's instructions and approved drawings.
- 3) Unless specifically stated in product specification of this certificate, the penetration does not allow to be used for watertight deck and bulkhead.
- 4) Approval Certificate for Manufacturer (Cert. No. : CPH04189-PA001) is to be retained validly apart from this Approval.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is not required.

3. Marking

- 1) The product or packing is to be marked with manufacturer name and type designation on a suitable position.

4. Others

- 1) N/A

< End of certificate >