



Marine & Offshore

Certificate number: 46204/B0 BV

File number: AC14010/030/004

Product code: 5301H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

ROXTEC International AB

KARLSKRONA - SWEDEN

for the type of product

PIPE PENETRATIONS IN FIRE DIVISIONS

A-0/A-60 Roxtec sealing system: Sleeve-it in steel divisions

(certified products, sleeve position and achieved performance - see §1)

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships Part C Chapter 4

SOLAS 74, as amended, Regulations II-2/9.3.1

IMO Resolution MSC.307(88) (2010 FTP Code)

IMO Resolution MSC.61(67)-(FTP Code) with IMO Resolution MSC.307(88) (2010 FTP Code) article 8

IMO MSC/Circ.1120

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 07 Feb 2029

For Bureau Veritas Marine & Offshore,

At BV GOTHENBURG, on 07 Feb 2024,

Hans-erik ERICSSON

This certificate was created electronically and is valid without signature



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 7 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Roxtec sealing system: Sleeve-it in steel divisions

Consist of a steel collar casing lined with intumescent material on the inside and a flange.

It is available in FC MAR (fire penetration seal) and WT MAR (Fire/Watertight penetration seal) versions depending on application.

The Sleeve-it is installed onto a steel division by welding (FC/WT MAR) or bolting (FC MAR) depending on version. Marine graded sealant is applied during the installation to achieve a cold smoke seal.

Additional insulation on penetrations and/or pipes:

- should be approved as having the same level of performance as the penetrated division and expected classification of penetration,
- is to be fitted as shown in the referred Manufacturer's drawings (see §2) and also according to Manufacturer's insulation guidelines.

1.1 - A-60 Bulkhead

Pipe material	Pipe diameter (OD) [mm]	Sleeve position	Insulation drawing
ABS	16-225	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	16	Unexposed	S1598000 rev. A dated 31/10/2023 ID 5
	114	Unexposed	S1598000 rev. A dated 31/10/2023 ID 2
Beverage multipipe	100	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	100	Unexposed	S1598000 rev. A dated 31/10/2023 ID 2
PB	16-160	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	16-225	Exposed	S1598000 rev. A dated 31/10/2023 ID 3
	16-160	Unexposed	S1598000 rev. A dated 31/10/2023 ID 2
	16-225	Unexposed	S1598000 rev. A dated 31/10/2023 ID 4
PE / HDPE	16	Exposed	S1598000 rev. A dated 31/10/2023 ID 3
	200-225	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	16-225	Unexposed	S1598000 rev. A dated 31/10/2023 ID 2
	315	Unexposed	S1598000 rev. A dated 31/10/2023 ID 9
PE / ALU / PE	16	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	16-63	Exposed	S1598000 rev. A dated 31/10/2023 ID 7
	16-63	Unexposed	S1598000 rev. A dated 31/10/2023 ID 8
PP / PPR / PPML / PPR	16	Exposed	S1598000 rev. A dated 31/10/2023 ID 3
	32-200	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	16-110	Unexposed	S1598000 rev. A dated 31/10/2023 ID 6
	40-200	Unexposed	S1598000 rev. A dated 31/10/2023 ID 2
Pre-insulated pipe	75-315	Exposed	S1598000 rev. A dated 31/10/2023 ID 7
PVC	16-225	Exposed	S1598000 rev. A dated 31/10/2023 ID 3
	16-322	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	16-200	Unexposed	S1598000 rev. A dated 31/10/2023 ID 2
	225	Unexposed	S1598000 rev. A dated 31/10/2023 ID 4
	271-322	Unexposed	S1598000 rev. A dated 31/10/2023 ID 5
PVDF	169	Exposed	S1598000 rev. A dated 31/10/2023 ID 1
	169	Unexposed	S1598000 rev. A dated 31/10/2023 ID 2

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1.2 - A-60 Deck

Pipe material	Pipe diameter (OD) [mm]	Sleeve position	Insulation drawing
ABS	16-219	Exposed	S1598002 rev. B dated 13/12/2023 ID 1
	225	Exposed	S1598002 rev. B dated 13/12/2023 ID 3
	16	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2
Beverage multipipe	100	Exposed	S1598002 rev. B dated 13/12/2023 ID 1
	75-100	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2
PB	16-225	Exposed	S1598002 rev. B dated 13/12/2023 ID 1
	16-225	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2
PE / HDPE	16	Exposed	S1598002 rev. B dated 13/12/2023 ID 3
	16	Unexposed	S1598002 rev. B dated 13/12/2023 ID 4
	125-225	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2
PE / ALU / PE	16-63	Exposed	S1598002 rev. B dated 13/12/2023 ID 1
	16-63	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2
PP / PPR / PPML / PPFRR	16-320	Exposed	S1598002 rev. B dated 13/12/2023 ID 1
	16-110	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2
Pre-insulated pipe	75-315	Exposed	S1598002 rev. B dated 13/12/2023 ID 5
PVC	16-225	Exposed	S1598002 rev. B dated 13/12/2023 ID 1
	315-321	Exposed	S1598002 rev. B dated 13/12/2023 ID 6
	16-160	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2
	271-321	Unexposed	S1598002 rev. B dated 13/12/2023 ID 7
PVDF	48-166	Exposed	S1598002 rev. B dated 13/12/2023 ID 1
	48-166	Unexposed	S1598002 rev. B dated 13/12/2023 ID 2

1.3 - A-0 Bulkhead

Pipe material	Pipe diameter (OD) [mm]	Sleeve position	Insulation drawing
ABS	16-225	Exposed	S1598001 rev. A dated 31/10/2023 ID 3
	16	Unexposed	S1598001 rev. A dated 31/10/2023 ID 7
	114	Unexposed	S1598001 rev. A dated 31/10/2023 ID 4
Beverage multipipe	100	Exposed	S1598001 rev. A dated 31/10/2023 ID 3
	100	Unexposed	S1598001 rev. A dated 31/10/2023 ID 4
PB	16-160	Exposed	S1598001 rev. A dated 31/10/2023 ID 3
	16-225	Exposed	S1598001 rev. A dated 31/10/2023 ID 5
	16-160	Unexposed	S1598001 rev. A dated 31/10/2023 ID 4
	16-225	Unexposed	S1598001 rev. A dated 31/10/2023 ID 6
PE / HDPE	16	Exposed	S1598001 rev. A dated 31/10/2023 ID 5
	200-225	Exposed	S1598001 rev. A dated 31/10/2023 ID 3
	16-225	Unexposed	S1598001 rev. A dated 31/10/2023 ID 4
	315	Unexposed	S1598001 rev. A dated 31/10/2023 ID 10
PE / ALU / PE	16-63	Exposed	S1598001 rev. A dated 31/10/2023 ID 1
	16-63	Unexposed	S1598001 rev. A dated 31/10/2023 ID 2
PP / PPR / PPML / PPFRR	20-169	Exposed	S1598001 rev. A dated 31/10/2023 ID 1
	16	Exposed	S1598001 rev. A dated 31/10/2023 ID 5
	32-200	Exposed	S1598001 rev. A dated 31/10/2023 ID 3
	20-169	Unexposed	S1598001 rev. A dated 31/10/2023 ID 1
	16-110	Unexposed	S1598001 rev. A dated 31/10/2023 ID 8
	40-200	Unexposed	S1598001 rev. A dated 31/10/2023 ID 4
Pre-insulated pipe	75-315	Exposed	S1598001 rev. A dated 31/10/2023 ID 9

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Pipe material	Pipe diameter (OD) [mm]	Sleeve position	Insulation drawing
PVC	16-160	Exposed	S1598001 rev. A dated 31/10/2023 ID 1
	16-322	Exposed	S1598001 rev. A dated 31/10/2023 ID 3
	16-160	Unexposed	S1598001 rev. A dated 31/10/2023 ID 2
	16-200	Unexposed	S1598001 rev. A dated 31/10/2023 ID 4
	225	Unexposed	S1598001 rev. A dated 31/10/2023 ID 6
PVDF	271-322	Unexposed	S1598001 rev. A dated 31/10/2023 ID 7
	169	Exposed	S1598001 rev. A dated 31/10/2023 ID 3
	169	Unexposed	S1598001 rev. A dated 31/10/2023 ID 4

1.4 - A-0 Deck

Pipe material	Pipe diameter (OD) [mm]	Sleeve position	Insulation drawing
ABS	16-219	Exposed	S1598003 rev. A dated 31/10/2023 ID 3
	225	Exposed	S1598003 rev. A dated 31/10/2023 ID 5
	16	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4
Beverage multipipe	100	Exposed	S1598003 rev. A dated 31/10/2023 ID 3
	75-100	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4
PB	16-225	Exposed	S1598003 rev. A dated 31/10/2023 ID 3
	16-225	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4
PE / HDPE	16	Exposed	S1598003 rev. A dated 31/10/2023 ID 5
	16	Unexposed	S1598003 rev. A dated 31/10/2023 ID 6
	125-225	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4
PE / ALU / PE	16-63	Exposed	S1598003 rev. A dated 31/10/2023 ID 1
	16-63	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4
	63	Unexposed	S1598003 rev. A dated 31/10/2023 ID 2
PP / PPR / PPML / PPFR	16-320	Exposed	S1598003 rev. A dated 31/10/2023 ID 3
	16-110	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4
Pre-insulated pipe	75-315	Exposed	S1598003 rev. A dated 31/10/2023 ID 7
PVC	16-50	Exposed	S1598003 rev. A dated 31/10/2023 ID 1
	16-225	Exposed	S1598003 rev. A dated 31/10/2023 ID 3
	315-321	Exposed	S1598003 rev. A dated 31/10/2023 ID 8
	50-63	Unexposed	S1598003 rev. A dated 31/10/2023 ID 2
	16-160	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4
	271-321	Unexposed	S1598003 rev. A dated 31/10/2023 ID 9
PVDF	48-166	Exposed	S1598003 rev. A dated 31/10/2023 ID 3
	48-166	Unexposed	S1598003 rev. A dated 31/10/2023 ID 4

2. DOCUMENTS AND DRAWINGS:

As per the Manufacturer's insulation drawings quoted in tables in §1.

****Following on next page****

3. TEST REPORTS:

3.1 - A-60 Bulkhead

Test report N°	Dated	Laboratory
313700	30th January 2012*	Exova Warringtonfire, UK
314670	25th June 2012	Exova Warringtonfire, UK
316943	2012*	Exova Warringtonfire, UK
327509	10th July 2013	Exova Warringtonfire, UK
177105A	6th January 2009*	Bodycote Warringtonfire, UK
180251A	26th May 2009*	Bodycote Warringtonfire, UK
183387A	23rd October 2009*	Bodycote Warringtonfire, UK
198004A	7th December 2010*	Bodycote Warringtonfire, UK
303585A	7th April 2011*	Exova Warringtonfire, UK
5P00772	10th December 2015	SP, Sweden
6P10024	7th March 2017	SP, Sweden
7P02024	8th June 2017	SP, Sweden
PGA10870A	13th December 2016	DBI, Denmark
PGB10167A	18th March 2022	DBI, Denmark
PGB10218A	10th July 2023	DBI, Denmark
RS-18/B-264/E	14th September 2018	CTO, Poland
RS-19/B-424/E	27th November 2019	CTO, Poland
RS-21/B-518/E	15th December 2021	CTO, Poland
RS-21/B-241/E	31st June 2021	CTO, Poland
RS-23/B-105/E	23rd May 2023	CTO, Poland
RS-23/B-106/E	23rd May 2023	CTO, Poland
RS-23/B-224/E	2nd October 2023	CTO, Poland
RS-23/B-225/E	30th August 2023	CTO, Poland
RS-23/B-340/E	3rd November 2023	CTO, Poland
PGB10030A	16th July 2020	DBI, Denmark

All tests as per IMO 2010 FTP Code, Annex 1, part 3, except * as per IMO FTP Code, Annex 1, part 3 [test standard: IMO Resolution A.754(18)].

3.2 - A-60 Deck

Test report N°	Dated	Laboratory
314669	26th April 2012*	Bodycote Warringtonfire, UK
325332	10th July 2013	Bodycote Warringtonfire, UK
334429	13rd August 2013	Bodycote Warringtonfire, UK
170080B	30th April 2008*	Bodycote Warringtonfire, UK
175486A	31st October 2008*	Bodycote Warringtonfire, UK
190890A_2	26th May 2010*	Exova Warringtonfire, UK
320402A	29th October 2012	Exova Warringtonfire, UK
5P00771	25th November 2015	SP, Sweden
6P02249	17th August 2017	SP, Sweden
6P10022	7th March 2017	SP, Sweden
878/07/A/NP/R 102	28th March 2007*	DGA, France
PGA10871A rev 2	16th January 2018	DBI, Denmark
PGA11611A	11th January 2020	DBI, Denmark
PGB10047A	30th November 2020	DBI, Denmark
PGB10172A	17th June 2022	DBI, Denmark
PGB10177A	4th November 2022	DBI, Denmark
RS-18/B-265/E	17th September 2018	CTO, Poland
RS-19/B-356/E	18th October 2019	CTO, Poland
RS-22/B-153/E	4th May 2022	CTO, Poland
RS-22/B-337/E	28th October 2022	CTO, Poland
PGB10032A	1st July 2020	DBI, Denmark

All tests as per IMO 2010 FTP Code, Annex 1, part 3, except * as per IMO FTP Code, Annex 1, part 3 [test standard: IMO Resolution A.754(18)].

3.3 - A-0 Bulkhead

Test report N°	Dated	Laboratory
337717	13rd May 2014	Exova Warringtonfire, UK
198004A	7th December 2010*	Exova Warringtonfire, UK
303584A	7th April 2011*	Exova Warringtonfire, UK
307171A_2	17th June 2011*	Exova Warringtonfire, UK
309855A	23rd December 2011*	Exova Warringtonfire, UK
RS-19_B-423E	19th November 2019	CTO, Poland
RS-20/B-081/E	31st March 2020	CTO, Poland

All tests as per IMO 2010 FTP Code, Annex 1, part 3, except * as per IMO FTP Code, Annex 1, part 3 [test standard: IMO Resolution A.754(18)].

3.4 - A-0 Deck

Test report N°	Dated	Laboratory
329449	13rd August 2013	Exova Warringtonfire, UK
309638A	20th September 2011*	Exova Warringtonfire, UK
320402A	29th October 2012	Exova Warringtonfire, UK
8P07092 rev. 1	16th January 2020	RISE, Sweden
PGA11388A	14th August 2019	DBI, Denmark
PGB10110A	27th April 2021	DBI, Denmark
PGB10169A	18th March 2022	DBI, Denmark

All tests as per IMO 2010 FTP Code, Annex 1, part 3, except * as per IMO FTP Code, Annex 1, part 3 [test standard: IMO Resolution A.754(18)].

4. APPLICATION / LIMITATION:

4.1 - Approved for use as plastic pipes penetrations:

- in A-60 class steel divisions, with fire insulation as described in §1,
- in A-0, A-15, A-30 class steel divisions, with local fire insulation arrangement (on the penetration itself as described in §1 and 200 mm around).

4.2 - The pipe penetration system has only been evaluated with regard to its fire resistance only. For installation in watertight bulkhead below the bulkhead deck, specific rules may require to subject the pipe penetrations to a prototype test of watertightness after having undergone the standard fire test for A-class divisions described in IMO 2010 FTP Code Annex 1 Part 3.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The **Roxtec sealing system: Sleeve-it** are to be supplied by **ROXTEC International AB** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **ROXTEC International AB** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **ROXTEC International AB** has declared to Bureau Veritas the following production site(s):

ROXTEC International AB
Rombvägen 2
371 23 KARLSKRONA
SWEDEN

6. MARKING OF PRODUCT:

The product or packing is to be marked with name of manufacturer, type designation and fire technical rating.

7. OTHERS:

7.1 - It is **ROXTEC International AB's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - Watertightness and Gastightness:

- For FC MAR (sizes 16-160) - Survey report N° LDN-08-045 dated 09/05/2008 from DNV:
 - Tested watertightness (before fire exposure) with Marine graded sealant: 1.5 bar during 60 min.
 - Tested gastightness (before fire exposure) with Marine graded sealant: 30 mbar during 30 min.
- For WT MAR (sizes 16-110) - Survey report N° SOU 0901586/1 dated 08/01/2010 from LR:
 - Tested watertightness (before fire exposure): 3.5 bar during 30 min.
 - Tested gastightness (before fire exposure): 1 bar during 30 min.

7.3 - This Certificate supersedes the Type Approval Certificate N° 46204/A2 BV issued on 12/04/2021 by the Society.

***** END OF CERTIFICATE *****