



Marine & Offshore

Certificate number: 27842/C0 BV

File number: ACI4000/009/007

Product code: 5300H

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

MCT Brattberg AB
KARLSKRONA - SWEDEN

for the type of product

PIPE, CABLE, DUCT PENETRATIONS IN FIRE DIVISIONS
RGS, RGSO, RGSF, RGSFO, RGSFB, RGSFBO, RGS-btb, RGSC, RGSK, RGSR

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships Part C Chapter 4
SOLAS 74, as amended, Regulations II-2/9
IMO Res. MSC.307(88) -(2010 FTP Code)-, as amended
IMO MSC.1/Circ. 1488
IMO MSC.1/Circ. 1276

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: 04 Mar 2030

For Bureau Veritas Marine & Offshore,
At BV GOTHENBURG, on 04 Mar 2025,
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 5 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

A-Class Divisions "MCT BRATTBERG" cable and pipe transits, types RGS, RGSO, RGSF, RGSFO, RGSFB, RGSFBO, RGS-btb, RGSC, RGSK, RGSR

Composed of frames types RGS, RGSO, RGSF, RGSFO, RGSFB, RGSFBO, RGS-btb, RGSC, RGSK and RGSR in sizes 2, 4, 6 or 8 and combinations, welded or bolted (when fitted with a frame, sealed with HT30 sealant) to the steel division or aluminium bulkhead.

The frame sizes are 1, 2, 3, 4, 5, 6, 7 and 8 to multiples thereof to maximum frame size equivalent to 8+8x7 for steel bulkheads, 8+8+8x9 for steel decks, 8+8x5 and 8+8x7 for RGS, RGSO, RGSK, RGSR, RGSC in aluminium bulkheads and 8x2 for RGSFB, RGSFBO in aluminium bulkheads.

The frames are filled with MCT Brattberg 60 mm deep self lubricated Lycron blocks (EPDM based rubber). The blocks are of type Standard, AddBlock, U-block, HandiBlock and machined blocks to suit non-circular services.

Transits are fitted with:

- Stay plates after each row of blocks,
- Compression plates to apply a pressure to the packing components,
- End packing,
- Presswedge (type PTG-120).

1.1 - A-0 Class Steel Bulkhead:

Transit type		Max. cable diameter (mm)	Frame			Drawing N°	
			Height x Width x Depth (mm)	thickness (mm)	Mounting		Insulation
RGS	8x1	39.1	296.5 x 140.5 x 60	10	Symmetrically	Uninsulated	1220149 rev.A
RGS	8+8x7	50	583 x 923.5 x 60	10	Symmetrically	Partially insulated on exposed side ⁽¹⁾	1220148 rev.A

⁽¹⁾ Restricted application

1.2 - A-0 Class Steel Deck:

Transit type		Max. cable diameter (mm)	Frame			Drawing N°	
			Overall size x Depth (mm)	thickness (mm)	Mounting		Insulation
RGS	2x1	17	140.5 x 121 x 60	10	Symmetrically	Uninsulated	1220155 rev.B
	~ 8x3	~ 36	~ 401.5 x 296.5 x 60				
RGS-btb	8x3	36	144.5 x 296.5 x 200	12	Upperside	Uninsulated	1210349 rev.A
RGSFB ⁽¹⁾	8x3	36	391.0 x 416.5 x 65	10	Upperside	Uninsulated	1220157 rev.A

⁽¹⁾ Sealant between flange and steel deck

1.3 - A-60 Class Steel Bulkhead:

Transit type		Max. cable diameter (mm)	Frame			Drawing N°	
			Height x Width x Depth (mm)	thickness (mm)	Mounting		Insulation
RGS	8x3	50	296.5 x 401.5 x 60	10	Symmetrically	Partially insulated on exposed side ⁽¹⁾	12201050 rev.B
RGS	8+8x5	58	583 x 662.5 x 60	10	Symmetrically	On unexposed side: fully insulated by 38 mm thick insulation layer ⁽²⁾ over the transit and extending 200 mm beyond the transit perimeter	1220138 rev.A
	~ 8+8x7		~ 583 x 923.5 x 60				
RGS-btb light	1	22	593 x 401.5 x 60	10	Unexposed side	On unexposed side: partially insulated	1220136 rev.A
	~ 8+8x3	~ 50	~ 593 x 923.5 x 60				
RGSFB	2x1	22	260.5 x 241 x 65	10	Unexposed	Fully insulated	1230026 rev.A
RGSFB	8x2	50	391.0 x 416.5 x 65	10	Unexposed side	On unexposed side: partially insulated by bulkhead insulation	1220161 rev.A

⁽¹⁾ Restricted application (insulated side exposed to fire during test)

⁽²⁾ See §4.2

Transit type		Max. diam. cable & pipe*	Frame			Drawing N°	
			Height x Width x Depth (mm)	thickness (mm)	Mounting		Insulation
RGSFB	8+8x3	C:60 - P:30	713 x 521.5 x 65	10	Exposed	No additional insulation	1230026 rev.A
RGSFB	8+8x3	C:60 - P:30	713 x 521.5 x 65	10	Unexposed	Fully insulated	1230026 rev.A

* Stainless steel pipe

1.4 - A-60 Class Steel Deck:

Transit type		Max. cable diameter (mm)	Frame				Drawing N°
			Height x Width x Depth (mm)	thickness (mm)	Mounting	Insulation	
RGS	1	14	120 x 80 x 60	10	Symmetrically	No additional insulation	1220132 rev.A
RGS	8+8x7	76	583 x 923.5 x 60	10	Symmetrically	On exposed side: fully insulated by 40 mm thick insulation layer ⁽¹⁾ over the transit and extending 200 mm beyond the transit perimeter	1220141 rev.A
RGS	8+8+8x9	110	889.5 x 1184.5 x 60	10	Symmetrically	On exposed side: fully insulated by 40 mm thick insulation layer ⁽¹⁾ over the transit and extending 200 mm beyond the transit perimeter	1220141 rev.A
RGSFB	2x1	4 ~22	260.5 x 241 x 65	10	Unexposed	No additional insulation	1220145 rev.A

(1) See §4.2

Transit type		Max. diam. cable&pipe* (mm)	Frame				Drawing N°
			Height x Width x Depth (mm)	thickness (mm)	Mounting	Insulation	
RGS	1	C:50 - P:30	121 x 80.25 x 60	10	Symmetrically	No additional insulation	1220132 rev.A
RGS	8x1	C:50 - P:30	296.5 x 140.5 x 60	10	Symmetrically	No additional insulation	1220132 rev.A
RGS	8x2	C:50 - P:30	296.5 x 271 x 60	10	Symmetrically	No additional insulation	1220132 rev.A
RGS	8x3	C:50 - P:30	296.5 x 401.5 x 60	10	Symmetrically	No additional insulation	1220132 rev.A
RGS	8x9	C:50 - P:30	1184.5 x 296.5 x 60	10	Symmetrically	No additional insulation	1220132 rev.A
RGSFB	8x2	C:50 - P:30	391.0 x 416.5 x 65	10	Unexposed	No additional insulation	1220145 rev.A
	~ 8+8x5	~	782.5 x 713 x 65				
	~ 8x10	C:60 - P:30	1430 x 416.5 x 65				

1.5 - A-60 Class Aluminium Bulkhead:

The aluminium bulkhead is insulated on both sides.

Transit type		Max. diam. cable&pipe* (mm)	Frame				Drawing N°
			Height x Width x Depth (mm)	thickness (mm)	Mounting	Insulation	
RGS	1	C:14 - P _{steel} :34 & P _{copper} :13	120 x 80 x 60	10	Symmetrically	Exposed side: partially insulated by deck insulation** Unexposed side: no insulation	1220133 rev.B
RGS	8+8x5	50	583 x 662.5 x 60	10	Symmetrically	Exposed side: fully insulated by continuity of bulkhead insulation* Unexposed side: no insulation	1220133 rev.B
RGS	8+8x7	50	583 x 923.5 x 60	10	Symmetrically	Both sides: fully insulated by continuity of bulkhead insulation*	1220134 rev.B

*50 mm thick layer of Firemaster Marine Plus Blanket

** 2x30 mm thick layers of SeaRox SL 620

1.6 - A-60 Class Aluminium Deck:

The aluminium bulkhead is insulated on both sides.

Transit type		Max. diam. cable&pipe* (mm)	Frame				Drawing N°
			Height x Width x Depth (mm)	thickness (mm)	Mounting	Insulation	
RGS with BOF EMP 4-way	1	P _{steel} : 28	120 x 80 x 60	10	Symmetrically	Exposed side: fully insulated by continuity of bulkhead insulation** Unexposed side: no insulation	1220133 rev.B
RGS	8+8x7	C: 50	583 x 923.5 x 60	10	Symmetrically	Exposed side: fully insulated by continuity of bulkhead insulation*	1220135 rev.A

*50 mm thick layer of Firemaster Marine Plus Blanket

** 2x30 mm thick layers of SeaRox SL 620

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2. DOCUMENTS AND DRAWINGS:

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

3. TEST REPORTS:

Test reports as per ⁽¹⁾IMO FTP Code Annex 1 Part 3 [test standard : IMO Resolution A.754(18)] or ⁽²⁾IMO 2010 FTP Code Annex 1 Part 3:

- 3.1 - A-0 Class Steel Bulkhead: N° 266413 dated 10/03/2011⁽¹⁾, from BRE Global, UK.
- 3.2 - A-0 Class Steel Deck: N° O100409-170218-1 dated 25/02/2022⁽²⁾, from RISE, Sweden.
- 3.3 - A-60 Class Steel Bulkhead: N° 262822 dated 01/10/2010⁽¹⁾, from BRE Global, UK.
 N° 267923 dated 01/06/2011⁽¹⁾, from BRE Global, UK.
 N° 101462-1010 Issue 1 dated 27/11/2019⁽²⁾, from BRE Global, UK.
 N° 101462-1013 Issue 1 dated 01/05/2020⁽²⁾, from BRE Global, UK.
 N° 101462-1021 Issue 1 dated 17/04/2020⁽²⁾, from BRE Global, UK.
 N° 101462-1022 Issue 3 dated 14/02/2023⁽²⁾, from BRE Global, UK.
 N° 101462-1026 Issue 1 dated 08/11/2022⁽²⁾, from BRE Global, UK.
 N° 101462-1028 Issue 1 dated 10/02/2023⁽²⁾, from BRE Global, UK.
- 3.4 - A-60 Class Steel Deck: N° 259264 dated 03/06/2010⁽¹⁾, from BRE Global, UK.
 N° 101462-1000 Issue 1 dated 08/09/2016⁽²⁾, from BRE Global, UK.
 N° 101462-1022 Issue 3 dated 14/02/2023⁽²⁾, from BRE Global, UK.
 N° 101462-1027 Issue 1 dated 04/01/2023⁽²⁾, from BRE Global, UK.
- 3.5 - A-60 Class Aluminium Bulkhead: N° 271351 dated 07/08/2012⁽¹⁾, from BRE Global, UK.
 N° 101462-1002 Issue 1 dated 15/08/2018⁽²⁾, from BRE Global, UK.
- 3.6 - A-60 Class Aluminium Deck: N° 271353A dated 30/06/2012⁽¹⁾, from BRE Global, UK.
 N° 101462-1001 Issue 1 dated 14/09/2018⁽²⁾, from BRE Global, UK.

4. APPLICATION / LIMITATION:

- 4.1 - Approved for use (see details in §1):
 - in A-15, A-30, A-60 class divisions, with fire insulation as described in §1,
 - in A-0 class steel divisions, without fire insulation.
- 4.2 - The tests have been carried out with fire insulating materials "SeaRox SL 620" (nominal density 100 kg/m³), "Rockwool Marine Firebatt 2000", "Insulfrax LTX" (nominal density 128 kg/m³) and "FyreWrap LT" (nominal density 64 kg/m³); any alternative insulation material is subject to case by case approval providing that it has been approved as giving at least an equivalent insulation performance.
- 4.3 - Filling ratio not to exceed the one tested (see details in drawings listed in §1).

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The **A-Class Divisions "MCT BRATTBERG" cable and pipe transits, types RGS, RGSO, RGSE, RGSFO, RGSFB, RGSFBO, RGS-btb, RGSC, RGSK, RGSR** are to be supplied by **MCT Brattberg 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 - **MCT Brattberg 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, **MCT Brattberg AB** has declared to Bureau Veritas the following production site:

MCT Brattberg AB
Lyckeåborg
371 92 Karlskrona
SWEDEN

6. MARKING OF PRODUCT:

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

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7. OTHERS:

7.1 - It is **MCT BRATTBERG 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 - This certificate supersedes the type approval certificate N° 27842/B0 BV issued on 11/10/2018 by the Society.

7.3 - Testing of RGS-2 BTB and RGS-8 BTB for watertight up to 6 bars for 80 min and gastight up to 4 bars for 40 min, as per in-house report N° 11201-A dated 13/10/2011 (tests witnessed by third-party).

7.4 - Testing of RGS-8 BTB and RGP-70 for watertight up to 5 bars for 50 min and gastight up to 3 bars for 40 min, as per in-house test report N° 11202-A dated 13/10/2011 (tests witnessed by third-party).

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