



CERTIFICATE NUMBER
EFFECTIVE DATE
EXPIRY DATE
ABS TECHNICAL OFFICE

25-0033756-1-1-PDA
31-Mar-2026
30-Mar-2030
London Engineering Department

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

MCT BRATTBERG AB

located at

SE-371 92 KARLSKRONA, , KARLSKRONA, Sweden

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Fire Stop System
Model: MCT Brattberg Multi Cable and Pipe Penetration Seal Type: RGS Series - A-class
Endorsements:
Tier: 3 - Type Approved, unit certification not required

This Product Design Assessment (PDA) Certificate remains valid until 30/Mar/2030 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

A. Spawls

Andrew Spawls, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

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Product: Fire Stop System
Model: MCT Brattberg Multi Cable and Pipe Penetration Seal Type: RGS Series - A-class
Endorsements:

Intended Service:

Cable and pipe penetrations in Steel / Aluminium bulkheads and decks of fire Class A-0 through A-60, B-0 through B-30, and F-0 through F-30.

Description:

MCT Brattberg Multi/Single Cable and Pipe Penetration Seal Type: RGS series – A-class, is a rectangular multi-cable/pipe penetration system consisting of a frame filled with MCT Insert Blocks (Standard Block, Handiblock, AddBlock, U-Block, Spareblock and EMC variants), Stayplates and STG Endpacking with compression plate or PTG Presswedge.

RGS series consisting Mild Steel, Stainless Steel, and aluminium of RGS series transit frames (RGS, RGSF, RGSFB, RGSC, RGSK, RGSbtb, RGSR and RGSFBO) in sizes 1-8, and combinations up to 8+8+8x9 as specified in the service restrictions, bolted or welded to a steel section.

Rating:

Fire Resistance - bulkheads and decks to A60, B30 and F30 for cable penetrations and A0 to A60 for pipe penetrations.

Water tightness: Standard blocks, AddBlocks, Handiblocks, and EMC Blocks -Tested up to 6 bar g.

Water tightness: Machined blocks to suit-non circular cables and water cut blocks -Tested up to 5 bar g.

Gas tightness: Standard blocks, AddBlocks, Handiblocks and EMC blocks- Tested up to 4 bar g.

Gas tightness: Machined blocks to suit -non circular cables and water cut blocks - Tested up to 3 bar g.

Service Restriction:

- 1) Not for use in tank boundaries.
- 2) Transits are to be insulated as tested for all fire division ratings. This penetration system is fully insulated system.
- 3) In all cases, cable sizes and combinations are to be typical of marine installations.
- 4) Maximum size of Marine cables tested: 150mm diameter for bulkhead and 150mm diameter for deck.
- 5) CLX cables up to 92mm outside diameter tested and may be installed provided additional insulation is provided.
- 6) Maximum size of steel pipes tested is 30mm diameter for general application.
- 7) Maximum size of steel pipes tested for use in steel bulkheads is 114mm diameter for single pipes and 30mm for multiple pipes in A-class bulkheads.
- 8) Maximum size of stainless steel pipes tested for use in steel decks is 114mm diameter for single pipes and 30mm for multiple pipes in A-class decks.
- 9) Maximum size blown fiber duct tested is 18mm and minimum size blown fiber duct tested is 10mm for A-60 class steel divisions. Maximum tested blown fiber bundle is 2x10mm to be fitted in EMC block with 150mm long BOF stainless steel pipe, dia. 28mm.
- 10) Maximum tested single frame size 8x1
- 11) Minimum tested single frame size 1x 1
- 12) Maximum tested multiple frame size for general applications: Two frames of Size 8 arranged vertically and seven similar ones horizontally - designated as 8+8x7 (both in Steel & Aluminum).
- 13) For RGS 8+8+8x9, A-60 Steel Deck: Welded frame size from RGS 1 (120x80x60mm, 10mm thick) to RGS 8+8+8x9 (889.5x1184.5x60mm, 10mm thick), 110mm DIA marine grade cable and 30mm Dia Stainless steel pipe (1.6mm wall thickness). Fully insulated with 110mm thick 97kg/m³ insulation.
- 14) For RGS BTB 8+8x7, A-0 Steel Bulkhead: Welded frame size from RGS 2 (121x144.5x200mm, 10mm thick on ends and 12mm thick on sides) to RGS 8+8x7 (583x927.5x200mm, 10mm thick on ends and 12mm thick on sides), 50mm DIA marine grade cable and 100mm DIA CLX cable.
- 15) For Panel Bulkhead (100mm thick mineral wool core, 144kg/m³, w/0.7mm galv steel facings both sides): Bolted frame size from RGSFB 2 to RGSFB 8+8x3 (121x141x60mm, 10mm thick to 401x593x60mm, 10mm thick), 50mm DIA marine grade cable. Fully insulated with 75mm thick 102kg/m³ insulation on exposed side 200mm around. RGGO 2 to RGGO 8+8x5 (240.5x221x60mm, 6mm thick to 762.5x683x60mm, 6mm thick) with 75mm thick

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insulation box, 108mm DIA marine grade cable.

16) Unit Certification is not required for this product. If the manufacturer or purchaser's request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined

17) For A-0 Steel Deck: Frame size RGS-2x1 (140.5x121x60mm, 10mm thick), RGS-8x3(401.5x296.5x60mm, 10mm thick), RGS-8x1 BTB to RGS-8x3 BTB(144.5x296.5x200mm, 12mm thick to 405.5x296.5x200mm, 12mm thick), RGSFB-8x2 to RGSFB-8x3 (391x416.5x60mm to 521.5x416.5x60mm, 10mm thick).

18) For A-0 Steel Bulkhead: RGS 1 to RGS 8+8x7 (120x80x60mm to 583x927.5x60mm, 10mm thick), RGSFB 8 (260.5x416.5x60mm, 10mm thick)

19) For A-60 Steel Bulkhead: RGS 1 to RGS 8+8x5 (120x80x60mm, 10mm thick to 662.5x593x60mm, 10mm thick), RGSFB 1 to RGSFB8+8x3 (241x200.5x60mm, 10 thick to 521.5x416.5x60mm, 10mm thick)

Comments:

- 1) The bulkhead or deck in way of the penetration is to be properly insulated in accordance with SOLAS II-2 Pt.C/Reg.9.3 (Consolidated Edition 2024) and the rating of the transit is to be the same or better than the bulkhead or deck in which it is installed.
- 2) Spare solid insert modules are to be used where cables or pipes are not located.
- 3) All seal types should be installed as per the manufacturer's instructions in accordance with ABS approved drawings and also the limitations set forth herein.
- 4) The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
- 5) Approval not performed on behalf of any flag Administration.
- 6) Watertight or fire rated bulkheads or decks with penetrations are to be examined and tested as per ABS Marine Vessels Rules 3-7-1/Table1 and 4-8-4/29.15.
- 7) When requested to be used in watertight bulkheads on passenger ships or special purpose ships, the penetration system has to comply with the requirements given in SOLAS (Consolidated Edition 2024) Ch. II-1 Reg. 13.2.3.
- 8) This approval of penetrations passing through watertight bulkhead is not to be constructed as a substitute for flag administration's approval for the purpose of SOLAS (Consolidated Edition 2024).
- 9) All penetrating cables should be type approved in accordance with 4-8-3/9 of the ABS Marine Vessels Rules or 4-3-4/7 of the ABS Offshore Rules.
- 10) A-0, A-15 and A-30 penetrations shall be insulated as class A-60 and in addition the division is to be insulated at least 200 mm around the penetration, unless tested as A-0 class without insulation, per 2010 IMO FTP Code Annex 1, part 3, A.IV 2.2.1.1.
- 11) The product or packing is to be marked with name of manufacturer, type designation and fire rating.

Notes/Drawing/Documentation:

- 1) Test reports used as basis for this PDA listing:
BRE Global letter of 06 February 2013 comparing test report No. 262822 & 282342.
BRE Global Test report No. 282342 (15 Feb. 2013), 271351 (07 August 2012), 271353A (30 July 2012), 271353B (05 Sep. 2012)
BRE, Fire & Risk Sciences Report No. 266413 (10 March 2011), 267923 (1 Jun.2011).
MCT Brattberg AB test report No. 11201G, 11201W, 11202G, 11202W, 11213G, 11213W dated 15 June 2011.
BRE Global Test Report No. 290298, 8+8x7 BtB, A-0 BHD, dated 15 May 2014.
BRE Global Test Report No. P101462-1000, 8+8x9, A-60 DK, dated 8 September 2016.
BRE Global Test Report No. P101462-1006, 8+8x3, Panel BHD, dated 2 February 2018.
BRE Global, Comparison of performance Test Report No. P101462-1006 Issue 1 dated 2 February 2018, P101462-1003 Issue 1, dated 24 November 2016 and P10462- 1004 Issue 1, dated 30 May 2017,
BRE Global Test Report No. P101462-1010 Issue 1 dated 27 November 2019, P101462-1013 Issue 1 dated 1 May 2020, P101462-1022 Issue 1 dated 07 July 2020, P101462-1021 Issue 1 dated 17 April 2020, P101462-1026 Issue 1 dated 8 November 2022, P101462-1027 Issue 1 dated 4 January 2023, P101462-1028 Issue 1 dated 10 February 2023, P101462-1030 Issue 1 dated 31 October 2023, P125338-1001 Issue 1 dated 4 April 2024, P128270-1001 issue 1 dated 06 Aug 2025.

Pressure Test Report No.11201-A, RGS Standard Blocks, dated 13 October 2011.
Pressure Test Report No.11202-A, RGS Water Cut Blocks, dated 13 October 2011.

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Pressure Test Report No. N141GRC2 dated 22 Nov 2017

RISE Test Report No. O100409-170218-1 dated 25 Feb 2022, O100410-1223422 dated 15 February 2023
DBI Test Report No. PGB10227A Rev 0 dated 31 March 2023
DBI Test Report No. PGB10367A, Revision 1, dated 25 April 2024

2) Manufacturer's drawing numbers:

For Steel division applications (Deck/Bulkhead):-

1200423 Rev A, 1200430 Rev A, 1200431 Rev A, 1200432 Rev A, 1200433 Rev A, 1200434 Rev A, 1200435 Rev A, 1200436 Rev A, 1200437 Rev A, 1200438 Rev A, 1200439 Rev A, 1200442 Rev A, 1200443 Rev A, 1200450 Rev A, 1220102 Rev A, 1240044 Rev A, 1240040 Rev B, 1240038 Rev A, 1240039 Rev A, 1230026 Rev D, 1210318 Rev B, 1210319 Rev B, 1240350 Rev C, 1240358 Rev C, 1240100 Rev.02.

For Aluminium division applications (Deck/Bulkhead):-

1200426 Rev A, 1200427 Rev A, 1200428 Rev A, 1200429 Rev A

Terms of Validity:

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STANDARDS

ABS Rules:

2026 ABS Marine Vessel Rules: 1A-1-4/7.7, 1A-1-A3, 1A-1-A4, 4-6-2/9.7, 4-8-4/21.13, 4-8-4/29.15.
2026 ABS Offshore Unit Rules: 1B-1-4/9.7, 1B-1-A2, 1B-1-A3, 4-2-1/11.15, 4-3-3/5.13, 5-1-1/3.19(i).

National:

NA

International:

SOLAS (2024 Consolidated Edition), Chapter II-2 Pt.C/Reg.9.3,
IMO Resolution MSC.307(88) - (2010 FTP Code), Annex I: Part 3.

Government:

NA

EUMED:

NA

OTHERS:

NA