TYPE APPROVAL CERTIFICATE

Certificate No:
TAF00000TJ
Revision No:
2

This is to certify:

That the Class A and B Penetration

with type designation(s)
RGS cable penetration - A-class

Issued to
MCT Brattberg AB
Karlskrona, **Sweden**

is found to comply with
DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021
DNV rules for classification – Ships
DNV offshore standards

Application :

Approved for use as cable penetration system in A-class steel and aluminium bulkheads and decks for approved ship cables.

This certificate is recognized by Transport Canada.

Issued at **Høvik** on **2023-05-10**

This Certificate is valid until **2028-05-09**.
DNV local unit: **Sweden CMC**

Approval Engineer: **Helge Bjørnarå**

for **DNV**
Digitally Signed By: Permoda, Jowita
Location: DNV Gdynia, Poland

Jowita Permoda
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

RGS cable penetration - A-class,
is a rectangular multi-cable penetration system consisting of a frame filled with MCT Insert Blocks (Standard Block, Handiblock, AddBlock, U-Block and Spareblock), Stayplates and STG Endpacking with compression plate or PTG Presswedge.

Frame type(s): RGS (incl. RGSF, RGSC, RGSK and RGSR)
Frame type(s): RGSF(B) (incl. RGSFBO)
Frame type(s): RGSbtb

Frame is to be welded to the division. RGSFB and RGSFBO may also be bolted to the division.

For further details, see drawing listed under Type Approval documentation.

Application/Limitation

Approved for use as cable penetration system in A-class steel and aluminium bulkheads and decks for approved ship cables. Other applications are subject to case-by-case approval.

Class A-0, A-15 and A-30 shall be insulated as for A-60 and the division is to be fitted with A-60 insulation for a minimum distance of 200 mm around the penetration.

Table 1: Approved cable penetration in A-60 steel bulkhead:

Type	Size	Max cable diameter [mm]	Frame length [mm]	Frame thickness [mm]	Frame position	Frame insulation	Dwg. No.
RGS [1)]	1 - 8x3	50	60	10	Symmetrically	Partially insulated on one side	1220150
RGS	1 - 8+8x5	76	60	10	Symmetrically	Partially insulated on both sides	1220151
RGS	1 - 8+8x7	76	60	10	Symmetrically	Fully insulated on one side	1220138
RGS	180 - 240	150	60	10	Symmetrically	Fully insulated on one side	1230027
RGSF(B)	1 - 8x3	50	65	10	Either	Partially insulated on both sides	1220143
RGSF(B)	1 - 8x3	50	65	10	Either	Partially insulated on one side and fully insulated on other side	1220144
RGSFB	1 - 8x2	50	65	10	Insulated side	Partially insulated on one side	1220161
RGSFB	1 - 8+8x3	60	65	10	Either	Fully insulated on one side	1230026
RGSbtb	1 - 8+8x7	50	100	10	Insulated side	Partially insulated on one side	1220136
RGSbtb	1 - 8+8x7	50	100	10	Insulated side	Partially insulated on one side	1220159

1) Restricted application, fire against insulated side

Table 2: Approved cable penetration in A-60 steel deck:

Type	Size	Max cable diameter [mm]	Frame length [mm]	Frame thickness [mm]	Frame position	Frame insulation	Dwg. No.
RGS	1 - 8x9	76	60	10	Top or symmetrically	Partially insulated on underside	1220132
RGS	1 - 8+8+8x9	110	60	10	Top or symmetrically	Fully insulated on underside	1220141
RGSF(B)	1 - 8+8x5 1 - 8x10	76	60	10	Top	Partially insulated on underside	1220145 1220162
RGSF(B)	1 - 8+8x7 1 - 8x10	76	60	10	Top	Fully insulated on underside	1220146

Table 3: Approved cable penetration in A-0 steel bulkhead:

Type	Size	Max cable diameter [mm]	Frame length [mm]	Frame thickness [mm]	Frame position	Frame insulation	Dwg. No.
RGS	1 - 8x1	39	60	10	Symmetrically	Uninsulated	1220149
RGS [1)]	1 - 8+8x7	50	60	10	Symmetrically	Partially insulated on exposed side	1220148

RGS	1 - 8+8x7	76	60	10	Symmetrically	Partially insulated on both side	1220154
RGSbtb	1 - 8+8x7	100	60	10	Symmetrically	Uninsulated	1220153

1) Restricted application, fire against insulated side

Table 4: Approved cable penetration in A-0 steel deck:

Type	Size	Max cable diameter [mm]	Frame length [mm]	Frame thickness [mm]	Frame position	Frame insulation	Dwg. No.
RGS	1 - 8x3	36	60	10	Top or symmetrically	Uninsulated	1220155
RGS	1 - 8x9	76	60	10	Top or symmetrically	Partially insulated on underside	1220147
RGSF(B)	1 - 8x3	36	60	10	Top	Uninsulated	1220157
RGSbtb	1 – 8x3	36	60	10	Top	Uninsulated	1220156

Table 5: Approved cable penetration in A-60 aluminium bulkhead:

Type	Size	Max cable diameter [mm]	Frame length [mm]	Frame thickness [mm]	Frame position	Frame insulation	Dwg. No.
RGS	1 - 8+8x7	50	60	10	Symmetrically	Fully insulated on both sides	1220134
RGS [1)]	1 - 8+8x5	50	60	10	Symmetrically	Fully insulated on exposed side and partially insulated on unexposed side	1220133

1) restricted application, fire against fully insulated side

Table 6: Approved cable penetration in A-60 aluminium deck:

Type	Size	Max cable diameter [mm]	Frame length [mm]	Frame thickness [mm]	Frame position	Frame insulation	Dwg. No.
RGS	1 - 8x9	50	60	10	Top or symmetrically	Partially insulated on underside	1220158
RGS	1 - 8+8x7	50	60	10	Top or symmetrically	Fully insulated on underside	1220135

Each product is to be supplied with its manual for installation and use.

Type Approval documentation

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Test report No. 241204, dated 13 June 2008 from BRE Global, Watford, UK.
Test report No. 241205, dated 1 August 2008 from BRE Global, Watford, UK.
Test report No. 259264A dated 3 June 2010 from BRE Global, Watford, UK.
Test report No. 259264B, dated 3 June 2010 from BRE Global, Watford, UK.
Test report No. 260191, dated 22 September 2010 from BRE Global, Watford, UK.
Test report No. 262822 dated 1 October 2010 from BRE Global, Watford, UK.
Test report No. 266413 dated 10 March 2011 from BRE Global, Watford, UK.
Test report No. 267923 dated 1 June 2011 from BRE Global, Watford, UK.
Test report No. 271351 dated 7 August 2012 from BRE Global, Watford, UK.
Test report No. 271353A dated 30 July 2012 from BRE Global, Watford, UK.
Test report No. 271353B dated 5 September 2012 from BRE Global, Watford, UK.
Test report No. 282342 dated 15 February 2013 from BRE Global, Watford, UK.
Test report No. 290298 dated 15 May 2015 from BRE Global, Watford, UK.
Test report No. 301124C dated 2 March 2016 from BRE Global, Watford, UK.
Test report No. P101462-1000 dated 8 September 2016 from BRE Global, Watford, UK.
Test report No. P101462-1002 dated 8 August 2018 from BRE Global, Watford, UK.
Test report No. P101462-1001 dated 14 September 2018 from BRE Global, Watford, UK.
Test report No. P101462-1010 dated 27 November 2019 from BRE Global, Watford, UK.
Test report No. P101462-1021, issue 1, dated 17 April 2020 from BRE Global, Watford, UK.
Test report No. P101462-1013, issue 1, dated 1 May 2020 from BRE Global, Watford, UK.
Test report No. P101462-1022, issue 1, dated 12 May 2021 from BRE Global, Watford, UK.
Test report No. O100409-170218-1 dated 25 February 2022 from RISE, Borås, Sweden.
Test report No. P101462-1026, issue 1, dated 8 November 2022 from BRE Global, Watford, UK.

Test report No. P101462-1027, issue 1, dated 4 January 2023 from BRE Global, Watford, UK.
Test report No. P101462-1028, issue 1, dated 10 February 2023 from BRE Global, Watford, UK.

Assessment report No. CC 269831 dated 21 April 2011 from BRE Global, Watford, UK.

Drawing No. 1220150, Rev. B, dated 3 November 2022 from maker.
Drawing No. 1220151, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220138, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1230027, Rev. A, dated 26 January 2023 from maker.
Drawing No. 1220143, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220144, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220161, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1230026, Rev. A, dated 26 January 2023 from maker.
Drawing No. 1220136, Rev. A, dated 2 Mau 2022 from maker.
Drawing No. 1220159, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220132, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220141, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220145, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220162, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220146, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220149, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220148, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220154, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220153, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220155, Rev. B, dated 3 November 2022 from maker.
Drawing No. 1220147, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220157, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220156, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220134, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220133, Rev. B, dated 3 November 2022 from maker.
Drawing No. 1220158, Rev. A, dated 2 May 2022 from maker.
Drawing No. 1220135, Rev. A, dated 2 May 2022 from maker.

Tests carried out

Tested in accordance with IMO FTPC Part 3 and in compliance with IMO 2010 FTP Code Ch. 8 and IMO 2010 FTP Code Part 3.

Marking of product

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

Transport Canada Approval

Based on the procedures laid down in the Transport Canada publication entitled “Procedures for Approval of Life-Saving Appliances, Fire Safety Systems, Equipment and Products (TP14612)”, DNV confirms that the product/s listed in this certificate is/are in accordance with Transport Canada's requirements.

Periodical assessment

DNV’s surveyor is to be given permission to perform Periodical Assessments at any time during the validity of this certificate and at least every second year. The arrangement is to be in accordance with procedure described in DNV-CP-0338 Section 4.