

Certificate Of Fire Approval

This is to certify that the product detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations and with the International Convention for the Safety of Life at Sea, (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	MCT Brattberg AB
Address	SE-37 192, Karlskrona Sweden
Type	Pipe Penetration (Standard Fire Test)
Description	MCT Brattberg RGS Series Single or Multiple Pipe Rectangular Penetrations with mild steel or stainless-steel frames, for use in Restricted A Class steel bulkheads and A Class steel decks.
Trade Name	MCT Brattberg RGS Series Single or Multiple Pipe Rectangular Penetrations
Specified Standard	IMO Res. MSC.61(67)-(FTP Code) Annex 1 Part 3 IMO MSC/Circ.1120 IMO Res. MSC.307 (88)-(2010 FTP Code) Section 8 IMO MSC.1/Circ.1488

This certificate is not valid for equipment, the design or manufacture of which has been varied or modified from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document and its supplementary Type Approval Terms and Conditions form part of this Certificate.

This certificate remains valid unless cancelled or revoked, provided the conditions in the attached Design Appraisal Document are complied with and the equipment remains satisfactory in service.

Saji Abraham

Surveyor to Lloyd's Register EMEA
A member of the Lloyd's Register group

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DESIGN APPRAISAL DOCUMENT

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR21282447SF

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions, and this Design Appraisal Document forms part of the Certificate.
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This certificate is an amendment and renewal of SAS F160031

EXAMINED DOCUMENTATION

TEST REPORTS

BRE Global, Watford, United Kingdom, Test report Nos. 245539A dated 28 April 2009, 241204 dated 13 June 2008 and 241205 dated 11 August 2008.

Manufacturer's Drawing Nos. 1080748, 1080749, 1080750, 1080751, 1080752, 1080753, 1080754, 1080755, 1080756, 1080757, 1080758, 1080759, 1080760, 1080761 and 1080762 all dated 23 April 2009.

CONDITIONS OF CERTIFICATION

1. For applications in A-60 Class steel bulkheads insulated on the fire exposed side (restricted fire risk) and in A-60 Class steel decks insulated on the fire exposed side (underside), with the penetrations and pipes insulated as tested and generally in accordance with Manufacturer's drawings listed above.
2. For applications in A-0, A-15, A-30 Class steel bulkheads and decks, penetrations are to be fitted with the same or equivalent A-60 Class insulation arrangements as those used in the fire tests (including any insulation fitted on the penetration itself in the tests) for a minimum distance of 200mm around the penetration, on all fire risk sides of bulkheads and decks (as identified by the design Plan Approval Authority) and insulation should be extended to cover the full side(s) and the end face(s) of the steel frame, with an overlap of at least 30mm from the steel edges. The above mentioned A-60 Class insulation arrangements should be additional to any thermal or acoustic insulation, but may include any fire rated insulation (e.g. A-15, or A-30) already fitted on the bulkhead or deck and/or on the penetration itself, such that the total fire rating is A-60. The above requirement does not apply to penetrations of up to a maximum equivalent area of 336cm² and they can be accepted for applications in A-0 Class steel bulkheads and decks without additional insulation.
3. Frame sizes: 2, 4, 6, 8 and combinations thereof to a maximum size equivalent to RGS 8x2 transit.
4. For use with single steel pipes up to 114mm outside diameter and multiple steel pipes up to 30mm outside diameter and copper pipes up to 22mm outside diameter, insulated for minimum lengths as described in Manufacturer's drawings listed above.
5. Frames to be made of mild steel or stainless-steel.
6. Rectangular Frame types: RGS, RGSF, RGSF/B, RGSFO, RGSFO/B, RGSK, RGSO, RGSR, RGSC and RGS-b+b.
7. EMP (Electro Magnetic Pulse) Frame types may also be accepted.

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8. MCT Brattberg RGS series pipe penetrations consisting of: a mild steel/stainless steel frame, insert blocks and a compression unit. The frame is welded or bolted to an approved A Class steel division and packed with insert blocks suited for each pipe dimension. The compression unit is inserted to compress the insert blocks against pipes to establish a tight seal.
9. Pipe penetrations are to be fitted with the as-tested insulation materials in all cases. Any alternative insulation system proposed must be separately approved by the final Project Authority as being equivalent, at least in fire performance, material properties, thickness and density as the fire tested insulation system. Final insulation arrangements onboard must be to the satisfaction of the attending project surveyor in all cases.
10. The penetration installation arrangements onboard must be as-tested, in accordance with manufacturer's specifications and to the satisfaction of the attending project surveyor. Any additional requirements specified by the project surveyors for special applications (for example, installations in high stress locations) must also be complied with.
11. Production items are to be manufactured in accordance with a quality control system which shall be maintained to ensure that items are of the same standard as the approved prototype.
12. The certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products are fully compliant with the relevant statutory regulations and designed, manufactured and installed to the same quality and specifications as the prototype tested, including components that are designed and manufactured by third parties.

PLACE OF PRODUCTION

MCT Brattberg AB
SE-37192 Karlskrona
Sweden

Jiwong Tech Co Ltd
#75 Nakdongnam-ro
533 Beon-Gil
Busan
Republic of Korea



Saji Abraham
Senior Specialist
Fire & Safety, Statutory Discipline Team
UK&I Technical Support Office, Marine & Offshore
Lloyd's Register EMEA

Supplementary Type Approval Terms and Conditions

This certificate and Design Appraisal Document relates to type approval, it certifies that the prototype(s) of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein, it does not mean or imply approval for any other use, nor approval of any products designed or manufactured otherwise than in strict conformity with the said prototype(s).