

Certificate Of Fire Approval

This is to certify that the product(s) detailed below will be accepted for compliance with the applicable Lloyd's Register Rules and Regulations for use on offshore units classed with Lloyd's Register, and for use on offshore units and onshore facilities when authorised by contracting governments to issue the relevant certificates, licences, permits etc.

Manufacturer	MCT Brattberg AB
Address	SE 37 192 Karlskrona, Sweden
Type	Cable Penetration (Hydrocarbon Fire Test)
Description	Multi Cable Penetration – Type: "MCT Brattberg 2000" RGS Mild Steel/Stainless Steel Frames
Trade Name	"MCT Brattberg 2000" Cable transits
Specified Standard	(UK) Department of Energy Hydrocarbon Time/Temperature Relationship and IMO Resolution A.517(13) and A.754(18)

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.

DESIGN APPRAISAL DOCUMENT

ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. LR21189156SF

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.

This Design Appraisal Document forms part of the Certificate.

This Certificate is a Renewal of Certificate Number:- SAS F160297

APPROVAL DOCUMENTATION

Loss Prevention Council (LPC), Borehamwood, United Kingdom, Test Report Nos. TE82003 and TE82384, dated February and May 1992, respectively, the SGS United Kingdom Ltd., Yarsley Technical Services Test Report No. J90290/1 dated 27 August 1992 and Warrington Fire Research Centre Ltd., Test Report WARRES No. 61482 dated 30 June 1994 and the Loss Prevention Council "Assessment of MCT Brattberg 2000 Transit in H120 Deck", reference CC85261 dated 7 October 1994 and Manufacturer's Drawing Nos. 004252 to 004259 inclusive, 004263, 004264, 004265, 004269 and 004270.

BRE Testing, Garston, United Kingdom, WD25 9XX, test report 219308, dated 23 March 2005, 223949 and 223950, dated 7 November 2005

Drawing Numbers: 1060074-1060082 inclusive, dated 15.02.06.

CONDITIONS OF CERTIFICATION

1. For use in H-0, H-0 (400°C), H-60 and H-120 bulkheads and decks when insulated in accordance with an approved arrangement suitable for the required fire rating on the hazard side
2. Frame Types: RGS, RGSC, RGSF, RGSF/B, RGSFO, RGSFO/B, RSGK, RGSO, RGSR and RGS-btb
3. Sizes 2, 4, 6, 8, 180, 240 and 360 or combinations
4. EMP (Electro Magnetic Pulse) types also acceptable
5. 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
6. "MCT Brattberg 2000" Cable transits comprising of steel frames filled with MCT Brattberg rubber blocks around cables and fitted to the steel division
7. The construction and installation of the cable transits onboard including their weld arrangements must be as-tested, in accordance with manufacturer's specifications and to the satisfaction of the attending project surveyor. Any additional requirements as specified by project surveyors for special applications (for example, installations in high stress locations) must also be complied with

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8. The certificate holder is solely responsible for the products supplied under this Certificate and to ensure that their products, whether manufactured by themselves or their licensee manufacturers, if agreed by Lloyd's Register, are fully compliant with the relevant statutory regulations and Lloyd's Register Class rules as applicable 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

NOTES

1. The cable penetration was subjected to a blast overpressure with an average value of 0.773 bar for a duration of 240 m seconds prior to fire testing. The "Report on Blast Loading on Steel Bulkhead fitted with Flexible Fire Seals" dated April 1994 by British Gas PLC at Spadeadam refers
2. The cable penetration was subjected to a hydrostatic pressure test on 18 November 1997 of 5 bar for 30 minutes without any leakage, as detailed in DNV Certificate No. F-15925

PLACE OF PRODUCTION

MCT Brattberg AB
SE-371 92 Karlskrona
Sweden

Jiwong Tech Co Ltd
#75 Nakdongnam-ro
533 Beon-Gil
Busan
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).