



**CERTIFIED
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CERTIFICATE OF FIRE APPROVAL

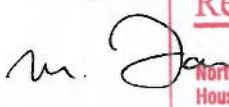
This is to certify that

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	3M Fire Protection Products
Address	3M Center Building 207-1S-02 St. Paul MN 55144 United States of America (USA)
Type	CABLE PENETRATION (STANDARD FIRE TEST)
Description	Multiple Cable Penetration - Type: "3M Marine Fire Barrier System"
Specified Standard	IMO Res. MSC.61(67)-(FTP Code) Annex 1, Part 3 IMO MSC/Circ. 1120

The attached Design Appraisal Document forms 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.

Date of issue	19 August 2010	Expiry date	18 August 2015
Certificate No.	SAS F100151	Signed	 North America Operations Office Houston
Sheet No	1 of 3	Name	M. Farrier Surveyor to Lloyd's Register EMEA A Member of the Lloyd's Register Group

Note:

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 of any modification or changes to the equipment in order to obtain a valid Certificate.

"Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract."



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DESIGN APPRAISAL DOCUMENT

Date 19 August 2010	Quote this reference on all future communications LDSS/TA/SFS/MF
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ATTACHMENT TO CERTIFICATE OF TYPE APPROVAL No. SAS F100151

This Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Warrington Fire Research Centre, WFRC, Warrington, United Kingdom, Test Report WARRES No. 125109, dated 13 January 2003 and WARRES No. 126014, dated 15 December 2002.

CONDITIONS OF CERTIFICATION

- For applications in A-60 Class Bulkheads or Decks with approved insulation arrangements. For applications in A-0, A-15 or A-30 Bulkheads or Decks the penetrations must be insulated as-tested and both sides of the bulkhead or the underside of deck is to be insulated with an approved A-60 insulation system for 200mm around the penetration.
- The cable penetration seal comprises:
 Two layers of 3M Marine Fire Wrap intumescent self adhesive sheet, lining the inside face of the transit frame (6.4mm thick per layer);
 Rockwool Firebatt 825 (density 110kg/m³) friction fitted within the transit after cables are fitted;
 10mm thick layer of 3M 1000 NS silicone sealant installed between the cables and on the Rockwool on each face of the seal.
- The transit frames are either circular or rectangular with a minimum 25mm radius rounded corners.
- Penetration types for Deck applications:

Penetration size (mm)	Coaming length (mm)	Coaming position in Deck	Maximum Rating
510mm x 210mm	150mm	At least 100mm above deck	A-60
50mm dia.	100mm	Any position in deck	A-60
510mm x 210mm	100mm	Any position in deck	A-30
50mm dia.	100mm	Any position in deck	A-30

- Penetration types for Bulkhead applications:

UNRESTRICTED APPLICATIONS - Where there is a fire risk on BOTH sides of the bulkhead.

Penetration size (mm)	Coaming length (mm)	Coaming position in Bulkhead	Maximum Rating
510mm x 210mm	200mm	Mid position in bulkhead	A-30
50mm dia.	200mm	Mid position in bulkhead	A-30

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RESTRICTED APPLICATIONS - Where there is a fire risk on ONE side of the bulkhead only.

Penetration size (mm)	Coaming length (mm)	Coaming position in Bulkhead	Maximum Rating
510mm x 210mm	200mm	Maximum of 50mm on fire risk side	A-60
50mm dia.	200mm	Maximum of 50mm on fire risk side	A-60
510mm x 210mm	125mm	Fitted on non-fire risk side	A-30
50mm dia.	125mm	Fitted on non-fire risk side	A-30

- Insulation specification for deck applications: the transit steel coaming is to be insulated on the underside with Rockwool Firebatt 825 (nominal density 110kg/m³), thickness 50mm).
- Insulation specification for bulkhead applications: the transit steel coaming is to be insulated on one side with Rockwool Firebatt 825 (nominal density 110kg/m³, thickness 75mm).
- The insulation material used should be approved in accordance with IMO Fire Test Procedures Code, Annex 1, Part 1.
- 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.

PLACE OF PRODUCTION

3M
 3M Cottage Grove
 10746 Innovation Road, Building 17
 Cottage Grove
 MN 55016
 United States of America



Martin Farrier
 Lead Specialist
 Statutory Fire & Safety
 London Design Support Office
 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).