



Confirmation of Product Type Approval 17/MAR/2009

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product.

This is to certify that, pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 07/JAN/2012. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 04/OCT/2012 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

3M

Model Name(s): ABS100Di, ABS150Dbi, ABS125Bi, ABS200Bi, ABS150Bi,
ABS200Bbi, ABS200B, ABS200B+

Presented to:

3M
10746 INNOVATION ROAD
COTTAGE GROVE
MN 55016
United States

Intended Service:

Product is intended for use in shipboard applications, as a fire-resisting and/or watertight lining in cable penetration coamings installed in bulkheads and decks of fire Class A-0 through A-60, and B-0 through B-30. Flexible, graphite-based, intumescent fire wrap and sealant-based transit system, used for maintaining fire integrity of cable penetrations in watertight and non-watertight bulkheads & decks. Typically, the transit consists of a length of steel welded pipe or a flat bar sleeve welded into a bulkhead or deck, with the fire wrap material lining the inside surface of the sleeve in two 1/8"(3.2 mm) thick layers. The packing material inside the transit & between the cables is 25% compressed 3M Fire Barrier Packing Material or densely-packed mineral wool of 4 lb./cu.ft density or greater (unless specified differently below). For decks, both faces of the transit are sealed (including between the cables), with the upper face of a deck transit being fully covered by an approved sealant which are 3M Fire Barrier 2000+ Silicone Sealant & 3M Fire Barrier 1000 N/S Silicone Sealant (watertight or non-watertight). and the other with at least a skim coat of 3M FireDam 200 Spray or the approved sealants. Both faces of bulkhead transits are to be fully covered with approved sealants. Approved sealants are 3M Fire Barrier 2000+ Silicone Sealant & 3M Fire Barrier 1000 N/S Silicone Sealant (watertight or non-watertight).

Description:

Transit configurations are: ABS100Di - 4" deep sleeve, 2"OD circ. through 20"x8.3" rectangular transit; watertight and non-watertight; deck-mounted, flush; FB 2000+

or 1000 N/S sealants and CP 25WB+ caulk, 1/2" thick (watertight) or 3/8" thick (non-watertight) applications; partially insulated at a min. up to the end of the sleeve. ABS150Dbi - 6" deep sleeve, 20"x 8.3" rectangular transit; non-watertight; deck-mounted, 2" protrusion below deck; FB 2000+ or 1000 N/S sealants, 1/2" thick (watertight) or 3/8" thick (non-watertight) applications; partially insulated at a min. up to the end of the sleeve. ABS125Bi - 5" deep sleeve, 2" OD circ. through 20"x8.3" rectangular transit; watertight and non-watertight; bulkhead-mounted, flush at exposed face; FB 2000+ or 1000 N/S sealants, 1/2" thick (watertight) or 3/8" thick (non-watertight) applications; partially insulated at a min. up to the end of the sleeve. ABS150Bi - 6" deep sleeve, 2" OD circ. through 20"x8.3" rectangular transit; watertight and non-watertight; bulkhead-mounted, flush at exposed face; FB 2000+ or 1000 N/S sealants, 1/2" thick (watertight) or 3/8" thick (non-watertight) applications; partially insulated at a min. up to the end of the sleeve. ABS200Bi - 8" deep sleeve, 2"OD circ. through 20"x8.3" rectangular transit; bulkhead-mounted, 2" protrusion at exposed face; FB 2000+ or 1000 N/S sealants, 1/2" thick (watertight) or 3/8" thick (non-watertight) applications; partially insulated at a min. up to the end of the sleeve. ABS200Bbi - 8" deep sleeve, 2" OD through 12" OD circ. and 4"x 4" through 24"x12" rectangular transit; 2" OD circ. through 20"x8.3" rectangular transit watertight otherwise non-watertight; bulkhead-mounted, 4" protrusion at exposed face, 2"OD circ. through 20"x8.3"rectangular transit FB 2000+ or 1000 N/S sealants 1/2"thick (watertight) or 3/8"thick (non-watertight) applications; partially insulated at a min. up to the end of the sleeve. ABS200B - 8"deep sleeve, 4"OD through 12"OD circ. and 4"x4"through 24"x12"rectangular transit; 4"OD circ. through 20"x8.3"rectangular transit watertight otherwise non-watertight; bulkhead-mounted, 4"protrusion at exposed face, FB 2000+ or 1000 N/S sealants 1/2"thick (watertight) or 3/8"thick (non-watertight) applications; packing material to be 3M Fire Barrier Packing Material compressed to at least 6.45 lbs per ft3, partially insulated at a min. up to the end of the sleeve. ABS200B+ - sleeves over 8"deep, 4"OD through 12"OD circ. and 4"x4"through 24"x12"rectangular transit, ends of the sleeves prepared 4"deep as ABS200B and entire length of the sleeve to be filled with 3M Fire Barrier Packing Material compressed to at least 6.45 lbs per ft3; bulkhead-mounted; 4"OD circ. through 20"x8.3"rectangular transit watertight otherwise non-watertight; 4"protrusion at exposed face, FB 2000+ or 1000 N/S sealants 1/2"thick (watertight) or 3/8"thick (non-watertight) applications; partially insulated at a min. up to the end of the sleeve.

Ratings:

ABS100Di - A-60 - 2" diameter transit only, where max cable dia. / fill ratio = 9 mm / 40%; A-30 - all other sizes, where max cable dia. / fill ratio = 9 mm / 40% except for 20" x 8.3" transit, where max cable dia. / fill ratio = 33 mm / 19% ABS125Bi - A-30 - 2" diameter transit only, where max cable dia. / fill ratio = 6 mm / 27%; A-15/B-30 - 4" diameter but less than 12" diameter transits only, where max cable dia. / fill ratio = 54 mm / 40%; A-60 - 12" diameter transit only, where max cable dia. / fill ratio = 54 mm / 38%; A-30 - sizes greater than 12" diameter up to 20" x 8.3" transit, where max cable dia. / fill ratio = 33 mm / 21%; ABS150Bi - A-30 - 2" diameter transit only, where max cable dia. / fill ratio = 6 mm / 27%; A-30/B-30 - 4" diameter only, where max cable dia. / fill ratio = 54 mm / 40%; A-30 - sizes greater than 4" diameter up to 20" x 8.3" transit, where max cable dia. / fill ratio = 33 mm / 21%; ABS200Bi - A-30 - 2" diameter up to 20" x 8.3" transit, where max cable dia / fill ratio = 6mm / 27% for 2" transits and 33mm / 21% otherwise, ABS200Bbi - A-60 - 2" OD through 12" OD circular and 4" long x 4" wide through 24" long through 12" wide rectangular transit, where max cable diameter/fill ratio = 6mm/27% for 2" transits and 73.8mm/40% otherwise. ABS200B and B+ - A0-A60, B0-B30 - 4" (102 mm) OD through 12"(305mm) OD circular and 4"(102mm) long x 4"(102mm) wide through 24"(610mm) long x 12"(305mm) wide rectangular transit, where max. cable diameter/fill ratio 2.875" (73mm) /40%. ABS150Dbi - A-60 - 20"(508mm) long x 8.3"(210mm) wide rectangular transit, where max. cable diameter/fill ratio = 6 mm/27% for 2"(51mm) transits and 73.8 mm/40% otherwise. For transits longer than 8"(200 mm), reference 3M Detail ABS200B+ for bulkheads and ABS200D+ for decks. Watertightness -See Approved ABS Details for additional information for Deck or bulkhead installation of the following: Transits up to 8" diameter - Fire Barrier 2000+ sealant - Up to 3 bar/43.5 PSI hydrostatic pressure ; Transits up to 8" diameter - Fire Barrier 1000 N/S sealant - Up to 2 bar/29 PSI hydrostatic pressure; All other sizes or sealant types are not rated watertight. Fumetightness, Airtightness - meets A-Class requirements for non-passage of smoke.

Service Restrictions:

Unit Certification is required for this product. 1. Not for use in tank boundaries. 2. In

all cases, cable sizes and combinations thereof are to be typical of marine installations. Armor-clad cables are not covered by this approval. 3. Spacing from cable to collar edge is to be at least ¼" (6.35 mm) for 3M Fire Barrier 2000+ or 1/4" (6.35mm) for 3M Fire Barrier 1000 N/S sealants. 4. For deck installations, the underside of the transit is to be sealed as an added means of retaining the 3M Packing Material or the tightly packed mineral wool packing in place. The same sealant used on the top may also be used at the underside of the transit. Alternatively, 3M FireDam Spray 200 can be used as underside sealant only. 5. The 3M Packing Material or mineral wool is to be tightly packed into the interstices between the cables in order to achieve smoke and water tightness, and should not depress more than ¼" or become dislodged in response to finger pressure. 6. Except for uninsulated bulkheads and unless otherwise stated, transits are to be partially insulated on one side at a minimum, such that the insulation is at least flush with the edge of the penetrating pipe sleeve.

Comments:

1. With the exception of A-0 Class bulkheads, the bulkhead or deck in way of the penetration is to be properly insulated in accordance with SOLAS 1974 (as amended) II-2 Pt.C/Reg.9.3 (2000 Amendments), and the rating of the transit is to be the same or better than the bulkhead or deck in which it is installed. 2. Where transits of a higher fire rating are installed in A-0 bulkheads, said bulkheads need not be insulated to suit the installed transit. 3. For installations on vessels exempted from SOLAS regulations, the requirements of the Flag Administration and ABS still apply, and separate approval is to be sought on a case-by-case basis. 4. Transits for watertight installations are to be fully welded in place. 5. Transits of different shapes may be substituted provided the inside cross-sectional area falls within the scope of this approval for the particular transit type and orientation. 6. Cable supports are to be installed at both sides of the division and close enough to the penetration so that cable deflection and/or ship vibration do(es) not compromise the integrity of the seal provided by the transit packing and sealing system, during installation or afterwards. 7. Installation is to be in accordance with manufacturer's instructions V.120303 "3M Marine Fire Wrap Installation Instructions" and also with the limitations set forth herein. 8. Installation of transits are only permissible where strength and fatigue characteristics are not diminished or where satisfactory structural compensation has been provided.

Notes / Documentation:

This Product Design Assessment (PDA) is valid only for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product. 1. Test reports (and test dates) used as bases for this PDA listing - Southwest Research Institute Reports 01-2102-001d (Mar.11, 1999), 01-2102-001e (Mar.11, 1999), 01-2102-001f (Jun.7, 1999), 01-2102-001j (June 2002). Warrington Fire Research Reports 125109 (Jan.13, 2003) and 126014 (Dec.15, 2002). Intertek Report 3085810 dated 21 June 2006 and 3092676 dated 26 May 2006. Letter from Intertek dated 26 June 2006 regarding small scale test. 2. Approved 3M drawings (and revision dates) include - Detail 1 (Sept.19, 2003), Detail 2 (Sept.19, 2003), ABS100Di (Sept.19, 2003), ABS150Dbi (Sept.19, 2003), ABS125Bi (Sept.19, 2003), ABS150Bi (Sept.19, 2003), ABS200Bi (Sept.19, 2003), ABS200Bbi (Sept.19, 2003).ABS200B, ABS200B+, Intertek fire test reports 3085810 dated 10 June 2006 and 3092676 dated 26 May 2006

Term of Validity:

This Design Assessment Certificate number 03-HS414640/2-PDA, dated 05/Oct/2007 will expire on 04/Oct/2012 or at an earlier date should there be alterations to the product's design or changes to the referenced ABS Rules and other specifications, which affect the product. Product use on or after 1 January 2008, will be subject to compliance with the ABS Rules or specifications in effect when the vessel, MODU or facility is contracted. The product's acceptability on board ABS-classed vessels or facilities is defined in the service restrictions of this certificate.

ABS Rules:

2007 Steel Vessel Rules 1-1-4/7.7; 2006 ABS MODU Rules 1-1-4/9.7

National Standards:

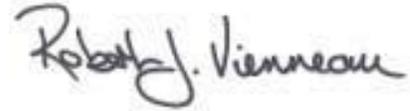
USCG NVIC 9-97 / 3.13 "Cable Penetration Fire Stop Approvals, Watertight Integrity"

International Standards:

SOLAS 1974 (as amended, 2000 Amendments), Chapter II-2 Pt.C/Reg.9.3

Government Authority:**EUMED:****Others:**

IMO Resolution A.754(18)



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.