



EC TYPE EXAMINATION (MODULE B) CERTIFICATE



This is to certify that:

LLOYD'S REGISTER VERIFICATION LIMITED (LRV), designated as a "notified body" under the terms of the Merchant Shipping (Marine Equipment) Regulations 2016 (S.I. 2016 No. 1025) did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the essential Fire protection equipment requirements of Marine Equipment Directive (MED) 2014/90/EU and Commission Implementing Regulation (EU) 2017/306 indicating design, construction and performance requirements and testing standards for marine equipment, subject to any conditions in the Design Appraisal Document attached hereto.

Manufacturer (Applicant)	BSB Engineering Services Ltd
Address	56 Trinity Trade Centre Mill Way Sittingbourne Kent ME10 2PD United Kingdom (UK)
Reference Regulation Item (No & Item designation)	Regulation 2017/306 MED/3.22 FIRE DAMPERS
USCG Category Number	164.139 - FIRE DAMPERS
Product Type	FIRE DAMPER (STANDARD FIRE TEST)
Product Description	Single/Multi Bladed Rectangular Fire Damper – Type: "BSB Marine Fire Damper A60"
Specified Standard	IMO Res. MSC.307(88) – (2010 FTP Code) Annex 1 Part 3

The attached Design Appraisal Document (schedule) forms part of this certificate.

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

Date of issue	11 June 2018	Expiry date	30 April 2023
Certificate No.	MED 1850080/M1	Signed	 
Sheet No	1 of 4	Name	J. M. Evans For and on behalf of Lloyd's Register Verification LRV EC Distinguishing No. 0038

Note:

This certificate is issued under the authority of the MCA.

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 the notified body named on this certificate of any modification or changes to the equipment in order to obtain a valid Certificate.

USCG-EU MRA - This product has been assigned a U.S. Coast Guard Module B number: USCG Module B number: 164.139/EC0038 to note type approval to Module B only as it pertains to obtaining U. S. Coast Guard approval as allowed by the "Corrigendum to Council Decision 2004/425/EC of 21 April 2004 on the conclusion of an Agreement between the European Community and the United States of America on the mutual recognition of certificates of conformity for marine equipment."

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Document number MED 1850080/M1
Issue number 1

DESIGN APPRAISAL DOCUMENT

Date 11 June 2018	Quote this reference on all future communications SOUTSO/SFS/TA/JE/WP31077506
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ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. MED 1850080/M1

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

APPROVAL/EXAMINED DOCUMENTATION

RINA Fire Protection Research Laboratory, Genova, Italy; Fire Test Report No. 2017CS011024/1 and 2017CS011024/2 both dated 27th July 2017.

LGAI Technological Center S.A., Campus UAB, Ronda de la Font del Carme, 08193 Bellaterra, Barcelona, Spain; Fire Test Report No. 17/14594-1339 dated 20th September 2017.

CONDITIONS OF CERTIFICATION

- For use in conjunction with approved 'A-15', 'A-30' and A-60 class steel divisions with the ducting protected by the as-tested A-60 Class insulation system or equivalent
- The internal cross-sectional area of the fire damper tested, application, maximum fire rating achieved and the minimum duct insulation lengths applicable for all fire ratings are as described in Table 1 below. The minimum duct insulation lengths for any intermediate damper sizes within the tested range (if applicable) may be determined by linear interpolation based on the internal cross-sectional area of the duct. For use in A-0 Class divisions the damper or ducting need not be insulated

Table 1

Tested damper sizes (width x height)	Application	Maximum Fire rating achievable	Minimum length of A-60 insulation layer to be provided on exposed side of the duct	Minimum length of A-60 insulation layer to be provided on unexposed side of the duct	Approved Actuator Type
100mm x 100mm (Single)	Deck	A-60	130mm	950mm	PMC-TF
300mm x 300mm (Multi)	Deck	A-60	130mm	950mm	PMC-TF
1000mm x 1000mm (Multi)	Deck	A-60	130mm	1400mm	PM-TF
1000mm x 1000mm (Multi)	Bulkhead	A-60	130mm	1250mm	PM-TF
2080mm x 1000mm (Multi) (dual units 2 x 1000mm x 1000mm)	Bulkhead	A-60	130mm	2000mm	PM-TF

- Maximum permissible clear openings of damper combinations as shown in Table 1



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4. Dampers with smaller clear openings may also be considered for use as A60 for bulkheads in addition to decks if they have identical construction / insulation lengths / actuators as the as-tested 1000mm x 1000mm damper
5. Minimum damper length/depth: 210mm
6. Single or multi-bladed fire dampers with 1.2mm thick galvanised steel damper frame and 0.7mm thick steel hollow profile blades of height 108mm and depth 21mm. Different steels and thicknesses of 2mm and 3mm may be considered for use on a case by case basis subject to final project authority approval considering the weight of the blades and the closing performance times of the dampers
7. Coaming consisting of 3mm thick steel for 100mm x 100mm and 300mm x 300mm dampers, and of 5mm thick steel for 1000mm x 1000mm damper
8. Frame of damper fixed to coaming with M10 steel bolts and nuts
9. Ducting of single unit dampers insulated with 'SEAROX SL620' (100 kg/m³ density, thickness 50mm + 25mm). Total insulation thickness 75mm. Insulation retained to structure with steel pins and washers. Dual unit dampers: unexposed ducting of dual unit 1000mm x 1000mm dampers insulated with one layer of 'FireMaster Marine Plus Blanket' (128 kg/m³ density, thickness 45mm) manufactured by Morgan Thermal Ceramics and thickness 25mm on joints; exposed ducting covered with two layers of 'FireMaster Marine Plus Blanket' (128 kg/m³ density, thickness 45mm + 25mm) manufactured by Morgan Thermal Ceramics. Equivalent insulation could be accepted; such acceptance of equivalent insulation is subject to agreement by the design Plan Approval Authority for the project
10. Dual unit dampers installed side by side horizontally with 75mm wide central joining strips of 1.2mm thick galvanised steel, and fitted together between 1.2mm thick galvanised steel sheets each side, secured with self-tapping screws
11. To be fitted with spring return, fail safe close type actuators Type 'PM-24 and PMC-TF of torque rating 20/20Nm with associated thermo electric release closing mechanisms (72°C) type 'BAE72B-S' as tested
12. Composition, application and installation of sub components, including insulation and any fire retardants, to be maintained in production and use in accordance with originally tested composition formula and method of application and installation, and manufacturer's instructions
13. Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place
14. This product has been assigned a U.S. Coast Guard Module B number USCG Approval Category 164.139 /EC0038 to note type approval to Module B only as it pertains to obtaining U. S. Coast Guard approval as allowed by the "Corrigendum to Council Decision 2004/425/EC of 21 April 2004 on the conclusion of an Agreement between the European Community and the United States of America on the mutual recognition of certificates of conformity for marine equipment"

In those instances where the Notified Body conducting the conformity assessment in accordance with either Module D, E or F of the Marine Equipment Directive is not Lloyd's Register Verification Ltd., such Notified Body would use the above U.S. Coast Guard Module B number to provide the manufacturer with the U.S. Coast Guard approval number by noting it on the Certificate of Conformity, thereby authorizing the manufacturer to mark the product accordingly

Note: For products placed on board U.S. flagged ships there is no declaration of conformity required to meet U.S. Coast Guard requirements

15. Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place



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PLACE OF PRODUCTION

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For and on behalf of Lloyd's Register Verification
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