



RINA

RINA Società per azioni
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EC TYPE EXAMINATION (MODULE B)
CERTIFICATE Nr. MED026809CS

This is to certify, that RINA, specified as Notified Body N° 0474 by the Italian "Ministero delle Infrastrutture e dei Trasporti Direzione Generale per la navigazione ed il Trasporto Marittimo ed Interno" on 25 November 1998, did undertake the relevant type approval procedures for the equipment identified below which was found to be in compliance with the Fire Protection requirements of Marine Equipment Directive (MED) 96/98/EC as modified by Directive 2002/75/EC

MED Item N°
Description

A.1/3.45

Equivalent fixed gas fire extinguishing systems components for machinery spaces and cargo pump rooms

Type
Applicant

Fireboy-Xintex FM-200 FES

FIREBOY-XINTEX LTD.

10 HOLTON ROAD, HOLTON HEATH
BH16 6LT POOLE
UNITED KINGDOM

Testing standards
Reference standards

IMO MSC/Circ.848 and IMO MSC/Circ.1267

RINA Rules for the certification of Marine Equipment

Issued at Genoa on
March 16, 2009

This Certificate is valid until
March 15, 2014

This Certificate consists of this sheet plus an attachment



Paolo Salza

Senior Manager - Technical Function



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Manufacturer

FIREBOY-XINTEX LTD.

Place of Manufacturer

10 HOLTON ROAD
HOLTON HEATH
BH16 6LT POOLE
UNITED KINGDOM

Product description

Extinguishing agent	FM 200
Chemical denomination	1,1,1,2,3,3,3 - heptafluoropropane
Chemical formula	CF ₃ CHF ₂ CF ₃
Cylinder capacity:	8, 16, 32, 52, 106, 147, 180, 343 liters
Storage pressure	25 bars at 21° C (360 PSIG at 70° F)
Operating temperature	0° to 54° C (32° to 130° F)
Minimum design concentrate	8.9 %
NOAEL	9.0 %
LOAEL	10.5 %
Assembly cylinder position	Vertical only

Field of application

Fixed gas fire-extinguishing systems for use in machinery spaces of category A and cargo pump-rooms equivalent to fire-extinguishing systems required by SOLAS Ch II-2, Reg 7.

Reference documents

"Fireboy-Xintex Marine HFC-227ea System, Design & Installation Manual, dated January 30, 2006 and filed by RINA with n° CSST 2459.

Tests carried out

U.S.C.G Research and Development Center, report n°CG-D-02-99, filed by RINA with n° CSST 2462
Underwriters Laboratories Inc. Report n° Ex5104 dated August 17, 2001 and filed by RINA with CSST 2461



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Remarks

1. Prior to fitting the relevant system on board, the following details shall be submitted to RINA Head Office for approval for each installation:
 1. schematic arrangement of the system including sizes and material of piping and method of pipe jointing, nozzle types and temperature rating for each location;
 2. capacity calculations;
 3. wiring diagrams and cable specifications;
 4. isometric drawings and pressure loss calculations;
 5. testing/approval documentation of system components.
2. The approval of the system is subjected to the acceptance of the extinguishing agent by the flag Administration

Mass produced articles (Containers of mass produced articles) of the aforesaid material are to be marked or labelled with the trade name and the data of the Company to whom this Certificate is addressed. The validity of this Certificate is dependent on the compliance of each manufactured product with the prototype which underwent the type approval tests and such compliance shall be stated by the manufacturer. Moreover, the Company is fully responsible for ensuring compliance by performing all the necessary checks also in respect of its sub-suppliers. Notwithstanding the above, RINA reserves the right to make any checks it deems appropriate during production. The validity of this Certificate ceases in the case of amendments to the rules on the basis of which the Certificate was issued.

Duplicate power release lines shall be arranged to release all bottles simultaneously.

The arrangement of containers and the electrical circuits and piping essential for the release of any system should be such that in the event of damage to any power release line or container valve through mechanical damage, fire or explosion in a protected space, at least the amount of agent needed to achieve the minimum extinguishing concentration can still be discharged having regard to the requirement for uniform distribution of medium throughout the space.

System using only one bottle located inside the protected space, can not be accepted. Such systems shall be designed with the bottle located outside the protected space





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The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production control phase module (D, E or F) of Annex B of the Directive is fully complied with a written inspection agreement with a Notified Body



XXXX/YY

"WHEELMARK FORMAT"

XXXX *Notified Body number undertaking surveillance module*
YY *Last two digits of year mark affixed*

General conditions for the approval

- a) The initial conditions verified by RINA at the time of the approval are to be maintained
- b) Any changes to the initial conditions are to be promptly communicated to RINA, which reserves the right to repeat the relevant assessment
- c) This certificate will no be valid if the manufacturer makes any changes or modifications to the approved equipment, which have not been notified to, and agreed with RINA
- d) RINA personnel are to be allowed to witness during the performances of activities, upon their request
- e) The activities are to be carried out in compliance with the RINA Rules and/or other applicable Rules
- f) Should the specified regulations or standards be amended during the validity of this certificate, the product is to be reaproved prior to it being placed on board vessels to which the amended regulations or standards apply.

Y/G



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