



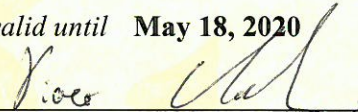
TYPE APPROVAL CERTIFICATE
No. FPE139615CS

This is to certify that the product identified below satisfies the requirements of the standard quoted under "Reference standard"

| | |
|-----------------------------|---|
| <i>Description</i> | FIXED CLEAN AGENT FIRE EXTINGUISHING SYSTEM FOR MACHINERY SPACES |
| <i>Type</i> | FIXED CLEAN AGENT HFC227ea FIRE EXTINGUISHING SYSTEM SERIES "MARE" |
| <i>Applicant</i> | EMME ANTINCENDIO S.R.L. VIA DEL MOLINO 40 - LOC. CORSALONE 52010 CHIUSI DELLA VERNA (AR) ITALY |
| <i>Manufacturer</i> | EMME ANTINCENDIO S.R.L. |
| <i>Place of manufacture</i> | VIA DEL MOLINO 40 - LOC. CORSALONE 52010 CHIUSI DELLA VERNA (AR) ITALY |
| <i>Reference standards</i> | ISO 9094-1:2003 ; ISO 9094-2:2002 |
| <i>Reference documents</i> | Rules for the Type Approval of Fixed Clean Agent Fire-Extinguishing Systems in Machinery Spaces |

Issued in **Genoa** on **May 19, 2015**. *This Certificate is valid until* **May 18, 2020**



Vice 

RINA Services S.p.A.
Piero Moncheroni

This certificate consists of this page and 1 enclosure

TYPE APPROVAL CERTIFICATE**No. FPE139615CS****Enclosure - Page 1 of 1****FIXED CLEAN AGENT HFC227ea FIRE EXTINGUISHING SYSTEM SERIES "MARE"****Product description**

Fixed clean agent fire-extinguishing system for machinery space with the following main characteristics:

| System characteristics | | | |
|----------------------------------|------------------------------------|--|---|
| Components | System type | MARE 3 / MARE 6 / MARE 12 | MARE EASY 3 / MARE EASY 6 MARE EASY 12 |
| | Clean agent container | One cylinder stored into the protected space upside | One cylinder stored into the protected space upside down |
| | Discharge devices and distribution | Discharge valve assembled on the cylinder connected by copper pipe (10x1) with two discharge nozzles | Discharge sprinkler valve with thermosensible bulb (93°C) assembled on the cylinder |
| System activation | | Manual activation with steel wire | Automatic |
| Extinguishing agent | | Non ozone-depleting fire suppressant heptafluoropropane HFC 227 - Trading name FM 200 | |
| Installation requirements | | | |
| FM 200 quantity (kg) | | Max gross volume of the protected space (m ³) | |
| 3 | | 5 | |
| 6 | | 10 | |
| 12 | | 20 | |

Field of application

A and B Class fires in unmanned machinery spaces of pleasure vessels having a length not exceeding 24 m and machinery spaces with a gross volume not exceeding 20 m³, to which Directive 96/98/EC as amended is not applicable.

Reference documents

- Manuale Tecnico Impianto MTI 01, issued by EMME Antincendio Srl and filed by RINA with n° CSST 12492;
- Layout impianti a gas modello MARE, issued by EMME Antincendio Srl and approved by RINA with n° CSST 12493;
- Nozzle for fixed fire extinguishing system MARE, dwg n° 2163, issued by EMME Antincendio Srl and approved by RINA with n° CSST 12498;

Tests carried out

- Fire tests n°2015CS011396/RSA witnessed and filed by RINA with n° CSST 12499;

Remarks

- In case of vessels certified according to directive 94/25/CE (CE marked), reference is to be made at ISO Standards 9094-1:2003 and 9094-2:2002.
- The system is to be activated from the main steering position. If the main steering position is more than 5 m away from the protected space means of local activation are to be provided close to such a space.
- The release device is to be labelled, readily accessible and operable.
- Visual indication of discharge is to be provided on CE marked vessels, audible indication is to be added on in RINA vessels.
- Operation of the system is to be performed after closing of any protected space opening.
- Automatic release of the system is accepted on RINA vessels with protected spaces' gross volume up to 14 m³ and on CE marked vessels only.
- Maximum agent concentration per net volume is not to exceed the NOAEL level - 9%.

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.

Genoa May 19, 2015