

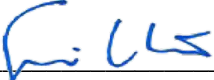


TYPE APPROVAL CERTIFICATE
No. FPE239421CS/004

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>	FIREKILL HFC227
<i>Applicant</i>	ANAF FIRE PROTECTION S.P.A. VIA DEL COMMERCIO, 4 27020 Torre D'Isola (PV) ITALY
<i>Reference standards</i>	ISO 9094:2015 (EN ISO 9094:2017)
<i>Reference documents</i>	Rules for the Type Approval of Fixed Clean Agent Fire-Extinguishing Systems in Machinery Spaces

Issued in **Genoa** on **June 9, 2021**. *This Certificate is valid until* **May 31, 2026**



RINA Services S.p.A.
Giovanni Carratino

This certificate consists of this page and 1 enclosure

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FIREKILL HFC227*Manufacturer***ANAF Fire Protection spa***Place of Manufacturer*VIALE LOMBARDIA, 310
20861 BRUGHERO (MB)
ITALY*Alternative site*Via del Commercio, 4
27020 TORRE D'ISOLA (PV)
ITALY**Product description**

Components	Clean agent container	1 storage bottle inside the space - Storage pressure: 1.0 N/mm
	Discharge devices	Brass nozzles as per installation requirements
	Distribution	Metallic piping as per installation requirements
System activation	Manual	Manual handle with sheathed steel wire Remote electric control box with pyrotechnic cartridge
	Automatic	<i>Sprinkler</i> type glass bulb set at 68°C / 79°C / 93°C
Extinguishing agent	Non ozone-depleting fire suppressant heptafluoropropane HFC 227 - Trading name FM 200	

Installation requirements

HFC227 quantity (kg)	Protected space gross volume m ³	Nozzles n°	Distribution pipes max length (m)
1	1.7	2	2
2	3.3	2	3
3	5.1	2	4
4	6.6	2	4
6	10	2	5
9	15	4	6
12	20	4	8

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 2014/90/UE as amended is not applicable.

Reference documents

- A.B.S. S.r.l. Technical specification booklet filed with n° FPE-8589 and datasheet "Firekill systems 1-3-6-9-12 Kg HFC227" issued by A.B.S. Srl and filed by RINA with n° CSST 13523.
- ANAF Instructions filed with n° PSST-26781.

Tests carried out

- Fire tests n°FPE/4345/1 dated 04/11/2004 witnessed by RINA and performed at Manufacturer's facility,



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Firekill HFC 227

Remarks

- In case of vessels certified according to Directive 2013/53/UE as amended (CE marked), reference is to be made to ISO 9094:2015 (EN ISO 9094:2017).
- In case of manual activation, the release device shall be readily accessible and labelled with a means of preventing accidental discharge.
- Automatic release of the system is accepted on RINA class vessels with protected spaces gross volume up to 14 m³ and on CE marked vessels only.
- For automatic systems a remote discharge indicator shall be installed and shall be clearly perceptible from the main helm position.
- If the cylinders are located inside the protected space or if the activation of the fixed system is automatic, a visual indication of discharge shall be provided outside the space.
- 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 June 9, 2021