Maritime & Coastguard Agency

CERTIFICATE OF INSPECTION AND TESTS

Issued under the authority of
the Government of the United Kingdom of Great Britain and Northern Ireland,
by the Maritime and Coastguard Agency,
an Executive Agency of the Department for Transport

The Secretary of State in exercise of statutory powers is satisfied that information relating to the product below has been reviewed.

Information or Sample ☐

SECTION 1. PRODUCT DETAILS

Product Name / Model	
Manufacturer Details	Sea-Fire Europe Ltd
	Unit D2, Voyager Park
	Portfield Road
	Portsmouth,
	Hampshire
	PO3 5FN
MCA File Reference	MS 22 / 11 / 534

SECTION 2. Under powers conferred by

Merchant Shipping (Fire Protection) Regulations 2003

Regulation 7(1)

Statutory Instrument No.	2003	No.	2950	Act year and ch.	2003	0007

and has been found satisfactory for the purposes of:- Continued ☒ (continued overleaf)

1. MGN 280 (M) - Small Vessels in Commercial Use for Sport or Pleasure, Workboats and Pilot Boats - Alternative Construction Standards;

provided that the conditions attached to the Schedule are fulfilled and the product remains satisfactory in service.

SECTION 3. SCHEDULE including conditions or terms, if any, on which the certificate is issued:

Note: The Sea-Fire Novec 1230 pre-engineered fixed fire-extinguishing system is considered suitable for installation in unoccupied machinery spaces, containing fuel having a flash point of not less than 43˚C (closed cup test), of vessels constructed and certified in accordance with one of the above Codes, where the space to be protected does not exceed a deck height of 4 metres, and a volume of 51 cubic metres.

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This Certificate is valid until **11 November 2023** Continued ☐

NOTE: This certificate does not apply to a product which has been varied or modified from the product assessed. The manufacturer must submit modified products for consideration by this Agency if they wish to obtain for them a valid Certificate of Inspection and Test.

Issued at **SOUTHAMPTON** Signed

(Signature of Authorised Official issuing the certificate)

Date **12 November 2018** Name **LEANNE GRILLANDINI**

MCA Maritime & Coastguard Agency Survey and Inspection

Official Stamp

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2. The Codes of Practice for the Safety of Small Commercial Motor and Sailing Vessels of up to 24 metres Load Line length;

3. The Codes of Practice for the Safety of Small Workboats and Pilot Boats;

4. MSN 1871 (F) - The Code of Practice for the Safety of Small Fishing Vessels of Less than 15m Length Overall (Amendment 1)

5. MSN 1872 (F) - The Code of Safe Working Practice for the Construction and Use of Fishing Vessels of 15m Length Overall to Less than 24m Registered Length (Amendment 1)

6. MGN 466 (M) - The Code of Practice for Open Rescue Boats of Less Than 15 Metres in Length; and

7. The Codes of Practice for Police Boats.

SCHEDULE including conditions or terms, if any, on which the certificate is issued (Continued from Page 1)

PERFORMANCE TESTING:

The Sea-Fire Novec 1230 pre-engineered fixed fire-extinguishing system has been accepted on the basis of its satisfactory examination and testing performance carried out by Factory Mutual Approvals and RINA. The results are contained in the documents:- FM Approvals Report Project 3040508, dated November 2, 2011 and RINA approval report - RINA Offer Number: 2019/16416

APPROVED PRODUCTS:

The following Sea-Fire Novec 1230 products have been approved by the Maritime and Coastguard Agency (MCA) for use onboard vessels listed under Section 2 of this Certificate:

Sea-Fire Novec 1230 Models NFG and NFD – for combined manual and automatic operation
Sea-Fire Novec 1230 Models NMG and NMD – for manual operation only

PRODUCT DESCRIPTION:

1. The models NFG and NFD manual-automatic and models NMG and NMD manual-only clean agent fire-extinguishers are designed for the total flooding protection of spaces containing Class B hazards in enclosed, unoccupied compartments only. These extinguishers are intended to be located directly in the protected space. They are suitable for marine environments.

2. The models NFG and NFD units are standalone clean agent fire-extinguishers that are actuated automatically when a liquid-filled glass thermal bulb is heated to the appropriate operating temperature by a fire, releasing the extinguishing agent directly into the protected space. These units also have a manual actuation via a cable-pull system. They are suitable for the protection of Class B hazards.

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3. The following extinguisher activation temperature ranges for models NFG and NFD are included in the scope of this Approval:

Model Range	Automatic Activation Temperature Range
NFG 25-75	93˚C to 121˚C (200˚F to 250˚F)
NFG 100-200	79˚C to 107˚C (175˚F to 225˚F)
NFD 225-1800	79˚C to 107˚C (175˚F to 225˚F)

4. The model NMG and NMD units are standalone clean agent fire-extinguishers identical to the models NFG and NFD units, but have an empty glass bulb in place of the liquid-filled glass thermal bulb, and therefore do not activate automatically. These units can only be actuated manually via a cable-pull system, releasing the extinguishing agent directly into the protected space. They are suitable for the protection of Class B hazards in spaces that require manual-only activation of the fire suppression system.

5. The extinguishing agent used in these extinguisher models is Novec 1230 (chemically identified as dodecafluoro-2-methylpentan-3-one (CF3CF2C(O)CF(CF3)2), manufactured by 3M Fire Protection, Building 236-1B-07, Saint Paul, MN 55144, USA. This agent is FM Approved and listed in the Approval Guide, an online resource of FM Approvals (www.approvalguide.com) under Fire Protection - Fixed Extinguishing Systems - Clean Extinguishing Agents. The agent is superpressurised with dry Nitrogen to a pressure of 34.5 bar (500 psi) at 21˚C (70˚F) for use in these extinguishers. The agent is also identified as FK-5-1-12 in accordance with ISO 14520-5:2006 and NFPA 2001.

6. The Sea-Fire Novec 1230 models NFG and NFD Fire Suppression Systems Installation Instructions Owners Manual, P/N 123-330, Revision C, describes the installation, usage, limitations and maintenance of the models NFG and NFD extinguishers.

SCHEDULE including conditions or terms, if any, on which the certificate is issued (Continued from Page 1)

7. The Sea-Fire Novec 1230 models NMG and NMD Fire Suppression Systems Installation Instructions Owners Manual, P/N 123-331, Revision C, describes the installation, usage, limitations and maintenance of the models NMG and NMD extinguishers.

8. The following extinguisher unit storage temperature ranges are included in the scope of this Approval:

Model Range	Temperature Range
NFG NFD 225-825 NMG	-7˚C to 54˚C (20˚F to 130˚F)
NFD 850-1800 NMD 850-1800	0˚C to 54˚C (32˚F to 130˚F)

9. Operating conditions outside of the above temperature ranges may deteriorate the performance of the system. Provisions must be made to ensure that all system components are maintained within the above operational temperature ranges.

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10. The following extinguisher unit installation orientations are included in the scope of this Approval:

Model Range	Orientation
NFG NFD 225-825 NMD 225-825 NMG	Vertical or Horizontal
NFD 850-1800 NMD 850-1800	Vertical Only

11. The models NFG, NFD, NMG and NMD extinguishers come in a variety of sizes to protect a range of minimum and maximum protected space volumes, These ranges are detailed in the manuals listed in clauses 6 and 7 above, which form a part of this Approval.

12. The models NFG, NFD, NMG and NMD extinguishers are all designed and rated to achieve a minimum atmospheric concentration of 5.85% (by volume) Novec 1230 within the protected space within 10 seconds of system activation. Therefore, they are acceptable for use in machinery spaces that contain only Class B combustibles with a known minimum extinguishing concentration of 4.5% (by volume) Novec 1230 or less.

13. These systems are to be designed, installed, used and maintained explicitly as described in the manuals listed in clauses 6 and 7 above, which form a part of this Approval.

SCHEDULE including conditions or terms, if any, on which the certificate is issued (Continued from Page 1)

CONDITIONS OF USE:

1. The Sea-Fire Novec 1230 pre-engineered fixed fire-extinguishing system protecting an unattended machinery space must:

a) Be capable of manual activation from outside the protected space, in addition to automatic activation by a heat detector, if applicable;

b) Upon activation, automatically shut down all power ventilation systems and all engines that draw intake air from within the protected space;

c) Be provided with means to close all openings, which may admit air into the protected space;

d) Must prominently display notices at the entrance to the protected space to inform that the space is protected by an automatic Novec 1230 system, if applicable; and

e) Be installed in accordance with the manufacturer's instructions.

2. A vessel in which a Sea-Fire Novec 1230 pre-engineered fixed fire-extinguishing system is installed must have the following equipment at the operating station:

a) A light to indicate discharge;

b) An audible alarm that sounds upon discharge; and

c) A means to reset devices used to automatically shut down ventilation systems and engines as required by clause

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1(b) of this section.

3. Only one Sea-Fire Novec 1230 pre-engineered fixed fire-extinguishing system is allowed to be installed in each space protected by such a system.

SYSTEM MAINTENANCE:

The user should carry out weekly and other inspections of the fire suppression equipment installed as per the manufacturer's instructions. This should include looking out for obstructions of the discharge nozzles, checking of the pressure gauge reading, extension/alteration of the protected space, and that the position and orientation of the extinguisher remain in its installed position.

ADDITIONAL MCA REQUIREMENTS:

1. Plans for each intended system, together with details of components used and Test Certificates, are to be submitted to the relevant Maritime and Coastguard Agency Marine Office prior to installation and survey on the vessel. Surveyors should follow guidance in MSIS 12 Chapter 7 regards NOAEL.
2. The installation is to be to the satisfaction of the attending surveyor. Certificates of commissioning and acceptance tests are to be submitted on completion.

3. Clear and legible instructions for installation, maintenance, testing and operation, applicable to the specific system fitted on the vessel, are to be provided for use by the operating crew.

4. Clear and legible safety labels shall be placed at the entrance to the protected space and the manual release point. Additionally, clear and simple operating instructions are to be placed at the system operating position.

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5. An unoccupied space is a space that is not occupied by personnel under normal circumstances, but may be entered for brief periods. Whenever the protected space is entered, the manual release should not be activated until all personnel inside the protected space have been accounted for.

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