



Confirmation of Product Type Approval

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 20-FEB-2024. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

Product Name: Fixed Fire Extinguishing System
Model Name(s): Kidde Fire Systems Marine ECS 500 psi FK-5-1-12 Fire Suppression System

Presented to:
KIDDE-FENWAL INC.
400 MAIN STREET
MA 01721
United States

Intended Service: Marine and Offshore Applications - Fixed fire extinguishing systems for the protection of machinery spaces, cargo pump rooms, and other enclosed spaces with Class B and Class C hazards.

Description: ECS FK-5-1-12 (500 PSI) total flooding clean agent fixed fire extinguishing systems.

Tier: 3

Ratings: Ratings to be in accordance with Manual P/N 06-237589-001. Refer to the attached document.

Service Restrictions: 1. Unit Certification is not required for this product. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined. 2. The Type approval only covers the individual control, activation, distribution, and alarm components as listed in document P/N 06-237589-001, May 2017. Complete details for each installation must be submitted to an ABS Technical Office for review and approval. 3. Kidde Fire Systems ECS 500 psi Fire Suppression System Flow Calculation Software (P/N 06-237588-001) is the only calculation method to be used with Kidde ECS 500 psi Marine System equipment. No other calculation method is authorized by or acceptable. 4. The agent shall not

be used on fires involving the following materials, unless they have been tested to the satisfaction of the Flag Administrations: a) Certain chemicals or mixtures of chemicals, such as cellulose nitrate and gunpowder, that are capable of rapid oxidation in the absence of air. b) Reactive metals such as lithium, sodium, potassium, magnesium, titanium, zirconium, uranium and plutonium. c) Metal hydrides. d) Chemicals capable of undergoing autothermal decomposition, such as certain organic peroxides and hydrazine. 5. Automatic actuation may be allowed in addition to manual actuation, provided that the conditions are met in accordance with ABS Marine Vessels Rules 4-7-3/3.13.4(c). 6. Ordinary cast-iron pipe, steel pipe conforming to ASTM A-120, or nonmetallic pipe must not be used.

Comments: The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes / Documentation: 06-237589-001, Design, Installation, Operation, and Maintenance Manual
 06-237588-001, Flow Calculation Software User's Guide
 EX4674-4788267101-TestReport, UL Test Report - EX4674-4788267101, tested on March 30, 2018 EX4674_Proj 04NK23160, UL Test Report - EX4674_Proj 04NK23160, tested on February 1, 2005 USCG_500PSI-FK-5-1-12_Cert 162, USCG Certification 500PSI-FK-5-1-12

Term of Validity: This Product Design Assessment (PDA) Certificate 19-HS1827191-PDA, dated 21/Feb/2019 remains valid until 20/Feb/2024 or until the Rules or specifications used in the assessment are revised (whichever occurs first). This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product. Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA. Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

ABS Rules: Rules for Conditions of Classification, Part 1 – 2019 Rules for Building and Classing Marine Vessels 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following: 2019 Marine Vessels Rules 4-7-3/3.1 through 3.9 and 3.11

National Standards:
International Standards: IMO MSC/Circ.848 as amended by MSC.1/Circ.1267 dated 4 June 2008 UL 2166 Standard for Halocarbon Clean Agent Extinguishing System Units (May 2017)

Government Authority: US Coast Guard Approval No: 162.161/15/0; Expires: 06 Nov 2023; Approval Date: 06 Nov 2018

EUMED:
Others:

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA	19-HS1827191-PDA	22-FEB-2019	20-FEB-2024



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.