

FSS CODE

International Code for Fire Safety Systems

2015 Edition

Supplement

December 2019

Amendments to the International Code for Fire Safety Systems (FSS Code) were adopted by the Maritime Safety Committee (MSC) at its ninety-sixth and ninety-seventh sessions by resolutions MSC.403(96) and MSC.410(97) on 19 May 2016 and 25 November 2016, respectively. This supplement presents, in chronological order of their adoption, the aforementioned amendments, which will have entered into force before the next edition is published.

Resolution	Amends	Date of entry into force	Page
MSC.403(96)	Chapter 8 Automatic sprinkler, fire detection and fire alarm systems New chapter 17 Helicopter facility foam firefighting appliances	1 January 2020	2
MSC.410(97)	Chapter 13 Arrangement of means of escape	1 January 2020	5

Resolution MSC.403(96)

adopted on 19 May 2016

Chapter 8

Automatic sprinkler, fire detection and fire alarm systems

2 Engineering specifications

2.4 Installation requirements

2.4.1 General

1 *The text in existing paragraph 2.4.1 is replaced by the following:*

“2.4.1.1 Any parts of the system which may be subjected to freezing temperatures in service shall be suitably protected against freezing.

2.4.1.2 Special attention shall be paid to the specification of water quality provided by the system manufacturer to prevent internal corrosion of sprinklers and clogging or blockage arising from products of corrosion or scale-forming minerals.”

2 *A new chapter 17 is added after existing chapter 16 as follows:*

“Chapter 17

Helicopter facility foam firefighting appliances

1 Application

This chapter details the specifications for foam firefighting appliances for the protection of helidecks and helicopter landing areas as required by chapter II-2 of the Convention.

2 Definitions

2.1 *D-value* means the largest dimension of the helicopter used for assessment of the helideck when its rotors are turning. It establishes the required area of foam application.

2.2 *Deck integrated foam nozzles* are foam nozzles recessed into or edge mounted on the helideck.

2.3 *Foam-making branch pipes* are air-aspirating nozzles in tube shape for producing and discharging foam, usually in straight stream only.

2.4 *Helicopter landing area* is as defined in SOLAS regulation II-2/3.57.

2.5 *Helideck* is as defined in SOLAS regulation II-2/3.26.

2.6 *Hose reel foam station* is a hose reel fitted with a foam-making branch pipe and non collapsible hose, together with fixed foam proportioner and fixed foam concentrate tank, mounted on a common frame.

2.7 *Monitor foam station* is a foam monitor, either self-inducing or together with separate fixed foam proportioner, and fixed foam concentrate tank, mounted on a common frame.

2.8 *Obstacle free sector* is the take-off and approach sector which totally encompasses the safe landing area and extends over a sector of at least 210°, within which only specified obstacles are permitted.

2.9 *Limited obstacle sector* is a 150° sector outside the take-off and approach sector that extends outward from a helideck where objects of limited height are permitted.

3 Engineering specifications for helidecks and helicopter landing areas

3.1 The system shall be capable of manual release, and may be arranged for automatic release.

3.2 For helidecks, the foam system shall contain at least two fixed foam monitors or deck integrated foam nozzles. In addition, at least two hose reels fitted with a foam making branch pipe and non-collapsible hose sufficient to reach any part of the helideck shall be provided. The minimum foam system discharge rate shall be determined by multiplying the D value area by 6 L/min/m². The minimum foam system discharge rate for deck integrated foam nozzle systems shall be determined by multiplying the overall helideck area by 6 L/min/m². Each monitor shall be capable of supplying at least 50% of the minimum foam system discharge rate, but not less than 500 L/min. The minimum discharge rate of each hose reel shall be at least 400 L/min. The quantity of foam concentrate shall be adequate to allow operation of all connected discharge devices for at least 5 min.

3.3 Where foam monitors are installed, the distance from the monitor to the farthest extremity of the protected area shall be not more than 75% of the monitor throw in still air conditions.

3.4 For helicopter landing areas, at least two portable foam applicators or two hose reel foam stations shall be provided, each capable of discharging a minimum foam solution discharge rate, in accordance with the following table.

Category	Helicopter overall length (D-value)	Minimum foam solution discharge rate (L/min)
H1	up to but not including 15 m	250
H2	from 15 m up to but not including 24 m	500
H3	from 24 m up to but not including 35 m	800

The quantity of foam concentrate shall be adequate to allow operation of all connected discharge devices for at least 10 min. For tankers fitted with a deck foam system, the Administration may consider an alternative arrangement, taking into account the type of foam concentrate to be used.

3.5 Manual release stations capable of starting necessary pumps and opening required valves, including the fire main system, if used for water supply, shall be located at each monitor and hose reel. In addition, a central manual release station shall be provided at a protected location. The foam system shall be designed to discharge foam with nominal flow and at design pressure from any connected discharge devices within 30 s of activation.

3.6 Activation of any manual release station shall initiate the flow of foam solution to all connected hose reels, monitors and deck integrated foam nozzles.

3.7 The system and its components shall be designed to withstand ambient temperature changes, vibration, humidity, shock impact and corrosion normally encountered on the open deck, and shall be manufactured and tested to the satisfaction of the Administration.

3.8 A minimum nozzle throw of at least 15 m shall be provided with all hose reels and monitors discharging foam simultaneously. The discharge pressure, flow rate and discharge pattern of deck integrated foam nozzles shall be to the satisfaction of the Administration, based on tests that demonstrate the nozzle's capability to extinguish fires involving the largest size helicopter for which the helideck is designed.

3.9 Monitors, foam-making branch pipes, deck integrated foam nozzles and couplings shall be constructed of brass, bronze or stainless steel. Piping, fittings and related components, except gaskets, shall be designed to withstand exposure to temperatures up to 925°C.

3.10 The foam concentrate shall be demonstrated effective for extinguishing aviation fuel spill fires and shall conform to performance standards not inferior to those acceptable to the Organization.* Where the

* Refer to the International Civil Aviation Organization *Airport Services Manual*, part 1, Rescue and Fire Fighting, chapter 8, Extinguishing Agent Characteristics, paragraph 8.1.5, Foam specifications, table 8-1, Performance Level B, or to the Revised guidelines for the performance and testing criteria, and surveys of foam concentrates for fixed fire extinguishing systems (MSC.1/Circ.1312).

foam storage tank is on the exposed deck, freeze protected foam concentrates shall be used, if appropriate, for the area of operation.

3.11 Any foam system equipment installed within the take-off and approach obstacle-free sector shall not exceed a height of 0.25 m. Any foam system equipment installed in the limited obstacle sector shall not exceed the height permitted for objects in this area.

3.12 All manual release stations, monitor foam stations, hose reel foam stations, hose reels and monitors shall be provided with a means of access that does not require travel across the helideck or helicopter landing area.

3.13 Oscillating monitors, if used, shall be pre-set to discharge foam in a spray pattern and have a means of disengaging the oscillating mechanism to allow rapid conversion to manual operation.

3.14 If a foam monitor with flow rate up to 1,000 L/min is installed, it shall be equipped with an air-aspirating nozzle. If a deck integrated nozzle system is installed, then the additionally installed hose reel shall be equipped with an air-aspirating handline nozzle (foam branch pipes). Use of non-air-aspirating foam nozzles (on both monitors and the additional hose reel) is permitted only where foam monitors with a flow rate above 1,000 L/min are installed. If only portable foam applicators or hose reel stations are provided, these shall be equipped with an air aspirating handline nozzle (foam branch pipes)."

Resolution MSC.410(97)

adopted on 25 November 2016

Chapter 13

Arrangement of means of escape

2 Passenger ships

2.1 Width of stairways

2.1.2 Calculation method of stairway widths

2.1.2.2 Calculation method for minimum value

2.1.2.2.2 Distribution of persons

In paragraph 2.1.2.2.1, the text of case 2 is replaced by the following:

“Case 2: Passengers in public spaces occupied to 3/4 of maximum capacity;
1/3 of the crew distributed in public spaces;
service spaces occupied by 1/3 of the crew; and
crew accommodation occupied by 1/3 of the crew.”