

# IGF Code

## International Code of Safety for Ships using Gases or other Low-flashpoint Fuels

2016 Edition

### Supplement

January 2024

*Since the publication of the 2016 edition of the International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (IGF Code), the following amendments were adopted by the Maritime Safety Committee, at its one hundred first and one hundred second sessions.*

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# Resolution MSC.458(101)

adopted on 13 June 2019

## Part A

### 2 General

#### 2.2 Definitions

1 *The following new paragraph 2.2.42 is introduced after existing paragraph 2.2.41:*

**“2.2.42** *Ship constructed on or after 1 January 2024 means:*

- .1** *for which the building contract is placed on or after 1 January 2024; or*
- .2** *in the absence of a building contract, the keels of which are laid or which are at a similar stage of construction on or after 1 July 2024; or*
- .3** *the delivery of which is on or after 1 January 2028.”*

## Part A-1

*Specific requirements for ships using natural gas as fuel*

### 5 Ship design and arrangement

#### 5.3 Regulations – General

2 *The text defining  $f_v$  in paragraph 5.3.4.2 is replaced by the following:*

*“ $f_v$  is calculated by use of the formulations for factor  $v$  contained in SOLAS regulation II-1/7-2.6.1.1 and reflects the probability that the damage is extending vertically above the lowermost boundary of the fuel tank. The formulations to be used are:”*

### 6 Fuel containment system

#### 6.8 Regulations on loading limit for liquefied gas fuel tanks

3 *The following regulation is added after existing regulation 6.8.2:*

**“6.8.3** *For ships constructed on or after 1 January 2024, in cases where the tank insulation and tank location make the probability very small for the tank contents to be heated up due to an external fire, special considerations may be made to allow a higher loading limit than calculated using the reference temperature, but never above 95%.”*

### 9 Fuel supply to consumers

#### 9.5 Regulations for fuel distribution outside of machinery space

4 *The following regulations are added after existing regulation 9.5.2:*

**“9.5.3** *The requirements in 9.5.4 to 9.5.6 shall apply to ships constructed on or after 1 January 2024 in lieu of the requirements in 9.5.1 and 9.5.2.*

**9.5.4** Where gaseous fuel pipes pass through enclosed spaces in the ship, they shall be protected by a secondary enclosure. This enclosure can be a ventilated duct or a double wall piping system. The duct or double wall piping system shall be mechanically under pressure ventilated with 30 air changes per hour, and gas detection as required in 15.8 shall be provided. Other solutions providing an equivalent safety level may also be accepted by the Administration.

**9.5.5** The requirement in 9.5.4 need not be applied for fully welded fuel gas vent pipes led through mechanically ventilated spaces.

**9.5.6** Liquefied fuel pipes shall be protected by a secondary enclosure able to contain leakages. If the piping system is in a fuel preparation room or a tank connection space, the Administration may waive this requirement. Where gas detection as required in 15.8.1.2 is not fit for purpose, the secondary enclosures around liquefied fuel pipes shall be provided with leakage detection by means of pressure or temperature monitoring systems, or any combination thereof. The secondary enclosure shall be able to withstand the maximum pressure that may build up in the enclosure in case of leakage from the fuel piping. For this purpose, the secondary enclosure may need to be arranged with a pressure relief system that prevents the enclosure from being subjected to pressures above their design pressures.”

## **10 Power generation including propulsion and other gas consumers**

### **10.3 Regulations for internal combustion engines of piston type**

#### **10.3.1 General**

5 *New regulation 10.3.1.1.1 is added after existing regulation 10.3.1.1 as follows:*

“**10.3.1.1.1** For ships constructed on or after 1 January 2024, the exhaust system shall be equipped with explosion relief systems unless designed to accommodate the worst case overpressure due to ignited gas leaks or justified by the safety concept of the engine. A detailed evaluation of the potential for unburnt gas in the exhaust system is to be undertaken covering the complete system from the cylinders up to the open end. This detailed evaluation shall be reflected in the safety concept of the engine.”

## **11 Fire safety**

### **11.3 Regulations for fire protection**

6 *Regulation 11.3.3 is replaced by the following:*

“**11.3.3** The space containing the fuel containment system shall be separated from the machinery spaces of category A or other rooms with high fire risks. The separation shall be done by a cofferdam of at least 900 mm with insulation of A-60 class. When determining the insulation of the space containing the fuel containment system from other spaces with lower fire risks, the fuel containment system shall be considered as a machinery space of category A, in accordance with SOLAS regulation II-2/9. For type C tanks, the fuel storage hold space may be considered as a cofferdam.”

7 *The following new regulation 11.3.3.1 is added after regulation 11.3.3:*

“**11.3.3.1** Notwithstanding the last sentence in 11.3.3, for ships constructed on or after 1 January 2024, the fuel storage hold space may be considered as a cofferdam provided that:

- .1** the type C tank is not located directly above machinery spaces of category A or other rooms with high fire risk; and
- .2** the minimum distance to the A-60 boundary from the outer shell of the type C tank or the boundary of the tank connection space, if any, is not less than 900 mm.”

# Resolution MSC.475(102)

adopted on 11 November 2020

## Part A-1

### *Specific requirements for ships using natural gas as fuel*

#### **6 Fuel containment system**

##### **6.7 Regulation for pressure relief system**

###### **6.7.1 General**

1 *Regulation 6.7.1.1 is replaced by the following:*

“All fuel storage tanks shall be provided with a pressure relief system appropriate to the design of the fuel containment system and the fuel being carried. Fuel storage hold spaces, interbarrier spaces and tank connection spaces, which may be subject to pressures beyond their design capabilities, shall also be provided with a suitable pressure relief system. Pressure control systems specified in 6.9 shall be independent of the pressure relief systems.”

#### **11 Fire safety**

2 *The following new regulation 11.8 is added after existing regulation 11.7:*

##### **“11.8 Regulation for fuel preparation room fire-extinguishing systems**

For ships constructed on or after 1 January 2024, fuel preparation rooms containing pumps, compressors or other potential ignition sources shall be provided with a fixed fire-extinguishing system complying with the provisions of SOLAS regulation II-2/10.4.1.1 and taking into account the necessary concentrations/application rate required for extinguishing gas fires.”

## Part B-1

#### **16 Manufacture, workmanship and testing**

##### **16.3 Welding of metallic materials and non-destructive testing for the fuel containment system**

###### **16.3.3 Welding procedure tests for fuel tanks and process pressure vessels**

3 *Regulation 16.3.3.5.1 is replaced by the following:*

“.1 tensile tests: cross-weld tensile strength is not to be less than the specified minimum tensile strength for the appropriate parent materials. For materials such as aluminium alloys, reference shall be made to 6.4.12.1.1.3 with regard to the regulations for weld metal strength of under-matched welds (where the weld metal has a lower tensile strength than the parent metal). In every case, the position of fracture shall be recorded for information;”