

# Chapter 7.5

## *Stowage and segregation on ro-ro ships*

**Note:** To facilitate familiarization with these requirements and to support training of relevant personnel, illustrations applicable to the segregation requirements on ro-ro ships are given in MSC.1/Circ.1440.

### 7.5.1 Introduction

7.5.1.1 The provisions of this chapter apply to the stowage and segregation of cargo transport units which are transported in ro-ro cargo spaces.

7.5.1.2 For ro-ro ships which incorporate stowage positions which are properly fitted to give a permanent stowage of containers during transport, the provisions of chapter 7.4 apply for containers carried in these spaces.

7.5.1.3 For ro-ro ships which incorporate conventional cargo spaces, the provisions of chapter 7.6 apply in these spaces.

7.5.1.4 In case more than one container is loaded on the same chassis in a ro-ro cargo space, the segregation of chapter 7.4 applies between the containers.

### 7.5.2 Stowage provisions

7.5.2.1 Loading and unloading operations on each ro-ro cargo space shall take place under the supervision of either a working party consisting of officers and other crew members or responsible persons appointed by the master.

7.5.2.2 During the voyage, access to such spaces by passengers and other unauthorized persons shall only be permitted when such persons are accompanied by an authorized crew member.

7.5.2.3 All doors leading directly to these spaces shall be securely closed during the voyage and notices or signs prohibiting entrance to such spaces shall be conspicuously displayed.

7.5.2.4 The transport of dangerous goods shall be prohibited in any ro-ro cargo space in which the foregoing provisions cannot be met.

7.5.2.5 Closing arrangements for the openings between ro-ro cargo spaces and machinery and accommodation spaces shall be such as to avoid the possibility of dangerous vapours and liquids entering such spaces. Such openings shall normally be kept securely closed when dangerous cargo is on board, except to permit access by authorized persons or for emergency use.

7.5.2.6 Dangerous goods required to be carried on deck only shall not be carried in closed ro-ro cargo spaces, but may be carried in open ro-ro cargo spaces when authorized by the Administration.

7.5.2.7 Flammable gases or liquids having a flashpoint of less than 23°C c.c. shall not be stowed in a closed ro-ro cargo space or special category space on a passenger ship unless:

- the design, construction and equipment of the space comply with the provisions of regulation II-2/19 of SOLAS, as amended, or regulation II-2/54 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, as applicable, and the ventilation system is operated to maintain at least six air changes per hour; or
- the ventilation system of the space is operated to maintain at least ten air changes per hour and non-certified safe electrical systems in the space are capable of being isolated by means other than removal of fuses in the event of failure of the ventilation system or any other circumstance likely to cause accumulation of flammable vapours.

Otherwise stowage is restricted to *on deck only*.

7.5.2.8 Cargo transport units with flammable gases or liquids having a flashpoint of less than 23°C c.c. and transported on deck shall be stowed at least 3 m from any potential sources of ignition.

- 7.5.2.9 Mechanically operated refrigeration or heating equipment fitted to any cargo transport unit shall not be operated during the voyage when stowed in a closed ro-ro cargo space or a special category space on a passenger ship.
- 7.5.2.10 Electrically operated refrigeration or heating equipment fitted to any cargo transport unit stowed in a closed ro-ro cargo space or special category space on a passenger ship shall not be operated when flammable gases or liquids having a flashpoint of less than 23°C c.c. are present in the cargo transport unit or in the same space, unless:
- the design, construction and equipment of the space comply with the provisions of regulation II-2/19 of SOLAS, as amended, or regulation II-2/54 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, as applicable; or
  - the ventilation system of the space is operated to maintain at least ten air changes per hour and all electrical systems in the space are capable of being isolated by means other than removal of fuses in the event of ventilation failure or other circumstance likely to cause accumulation of flammable vapours;
  - and, in either case, the refrigeration or heating equipment of the cargo transport unit shall comply with paragraph 7.3.7.6.
- 7.5.2.11 In ships the keel of which was laid before 1 September 1984 and for which regulation II-2/20 of SOLAS, as amended, or regulations II-2/37 and 38 of SOLAS, as amended by the resolutions indicated in II-2/1.2.1, are not applicable to a closed ro-ro cargo space, mechanical ventilation shall be provided to the satisfaction of the Administration. The ventilation fans shall be operating at all times when vehicles are in such spaces.
- 7.5.2.12 If continuous ventilation is impracticable in a closed ro-ro cargo space other than a special category space on a passenger ship, ventilation fans shall be operated daily for a limited period, as weather permits. In any case, prior to discharge, the fans shall be operated for a reasonable period. The ro-ro cargo space shall be proved gas-free at the end of the period. When the ventilation is not continuous, electrical systems which are not certified safe shall be isolated.
- 7.5.2.13 The master of a ship carrying dangerous goods in ro-ro cargo spaces shall ensure that, during loading and unloading operations and during the voyage, regular inspections of these spaces are made by an authorized crew member or responsible person in order to achieve early detection of any hazard.

### 7.5.3 Segregation provisions

7.5.3.1 The provisions for segregation between cargo transport units onboard ro-ro ships are given in the table in 7.5.3.2.

7.5.3.2 Table of segregation of cargo transport units on board ro-ro ships

Segregation requirement		Horizontal					
		Closed versus closed		Closed versus open		Open versus open	
		On deck	Under deck	On deck	Under deck	On deck	Under deck
“Away from” .1	Fore and aft	No restriction	No restriction	No restriction	No restriction	At least 3 m	At least 3 m
	Athwartships	No restriction	No restriction	No restriction	No restriction	At least 3 m	At least 3 m
“Separated from” .2	Fore and aft	At least 6 m	At least 6 m or one bulkhead	At least 6 m	At least 6 m or one bulkhead	At least 6 m	At least 12 m or one bulkhead
	Athwartships	At least 3 m	At least 3 m or one bulkhead	At least 3 m	At least 6 m or one bulkhead	At least 6 m	At least 12 m or one bulkhead
“Separated by a complete compartment or hold from” .3	Fore and aft	At least 12 m	At least 24 m + deck	At least 24 m	At least 24 m + deck	At least 36 m	Two decks or two bulkheads
	Athwartships	At least 12 m	At least 24 m + deck	At least 24 m	At least 24 m + deck	Prohibited	Prohibited
“Separated longitudinally by an intervening complete compartment or hold from” .4	Fore and aft	At least 36 m	Two bulkheads or at least 36 m + two decks	At least 36 m	At least 48 m including two bulkheads	At least 48 m	Prohibited
	Athwartships	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited

**Note:** All bulkheads and decks shall be resistant to fire and liquid.