

4 ALBERT EMBANKMENT
LONDON SE1 7SR
Telephone: +44 (0)20 7735 7611 Fax: +44 (0)20 7587 3210

MSC.1/Circ.1440
1 June 2012

**ILLUSTRATIONS OF SEGREGATION OF CARGO TRANSPORT UNITS
ON BOARD CONTAINERSHIPS AND RO-RO SHIPS**

1 The Maritime Safety Committee, at its ninetieth session (16 to 25 May 2012), having considered the proposal by the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers, at its sixteenth session, with regard to illustrations of segregation of cargo transport units on board containerships and ro-ro ships, which apply to the carriage of packaged dangerous goods in pursuance of the requirements of SOLAS chapter VII and the relevant provisions of the IMDG Code, approved the illustrations of segregation of cargo transport units on board containerships and ro-ro ships, as set out in the attached annex.

2 Member Governments are invited to bring the illustrations of segregation of cargo transport units on board containerships and ro-ro ships, as set out in the annex, to the attention of competent authorities, seafarers and others concerned, taking into account the voluntary application date of 1 January 2013 of amendment 36-12 of the IMDG Code pending its envisaged mandatory entry-into-force date of 1 January 2014.

ANNEX**ILLUSTRATIONS OF SEGREGATION OF CARGO TRANSPORT UNITS
ON BOARD CONTAINERSHIPS AND RO-RO SHIPS****1 Scope**

1.1 The segregation requirements applicable to containerships with hatch covers, hatchless containerships and ro-ro ships are provided in 7.4.3 and 7.5.3 of the IMDG Code. To facilitate familiarization with these requirements and to support training of relevant personnel, the following illustrations have been developed. It should be noted that only the relevant tables in the IMDG Code are legally binding. In case of any discrepancy, they shall take precedence over the illustrations in this circular.

1.2 This circular contains illustrations of segregation of:

- containers on board containerships with hatch covers (see section 2 of this circular);
- containers on board hatchless containerships (see section 3 of this circular); and
- cargo transport units on board ro-ro ships.

2 Illustrations of segregation of containers on board containerships with hatch covers

2.1 The illustrations of this section apply to the segregation of containers which meet the definition of a container within the term of the International Convention for Safe Containers (CSC) 1972, as amended, and are transported on deck and in the cargo holds of containerships or on deck and in the cargo holds of other types of ships provided that these stowage positions are properly fitted to give a permanent stowage of containers during transport¹.

2.2 To determine locations in which containers are not permitted to contain dangerous goods that are incompatible with those in a reference container, the following method applies: container spaces (such as one container space, two container spaces) are identified in accordance with the applicable segregation provisions in the direct fore-and-aft and athwartships directions from the reference container. Lines are projected between the outermost corners of the containers occupying these spaces as shown in the figure. Containers located partially or completely between these lines and the reference container shall not contain dangerous goods that are incompatible with those in the reference container.

2.3 The deck/hold layout used for the illustrations is:

- two 20' containers stowed in a 40' container space
- distance between two 40' container spaces is 2 ft/60 cm

¹ For containerships with partly hatchless container cargo spaces, the illustrations of section 3 apply to such spaces.

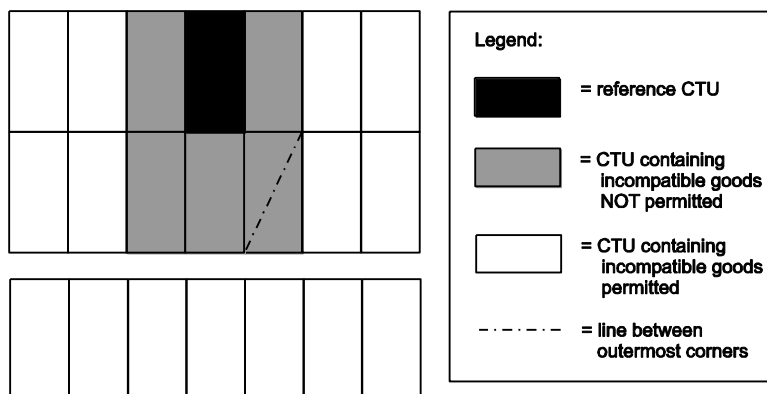
2.4 Explanation of the segregation terms

(1)	Reference container		
(2)	container containing incompatible goods NOT permitted ..		
	container containing incompatible goods permitted		
(4)	Distance athwarthships	(a) one container space	
		(b) two container spaces	
		(c) three container spaces ..	
(5)	Distance Fore and Aft:	(a) one container space	
		(b) two container spaces	

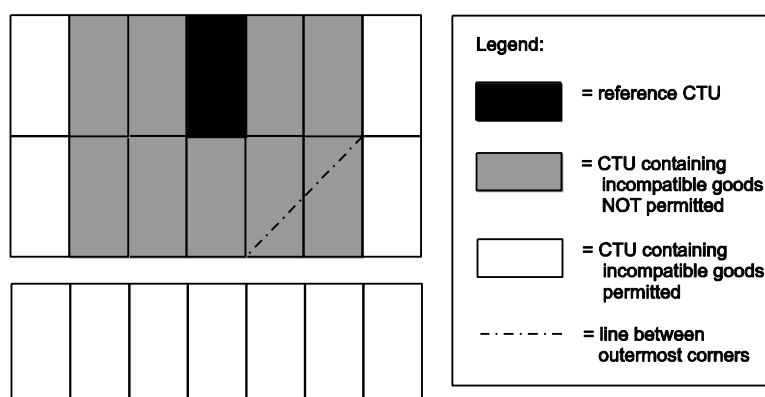
Note 1: All bulkheads and decks shall be resistant to fire and liquids.

Note 2: When an illustration has more than one reference container, only one should be used when interpreting the illustration. When an illustration contains several reference containers, they have to be considered as different examples.

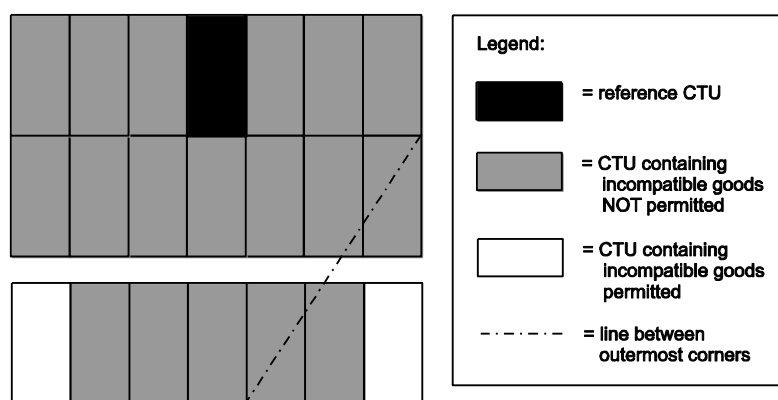
Situation fore & aft + athwartships: 1 container space



**Situation fore & aft: 1 container space
& athwartships: 2 container spaces**

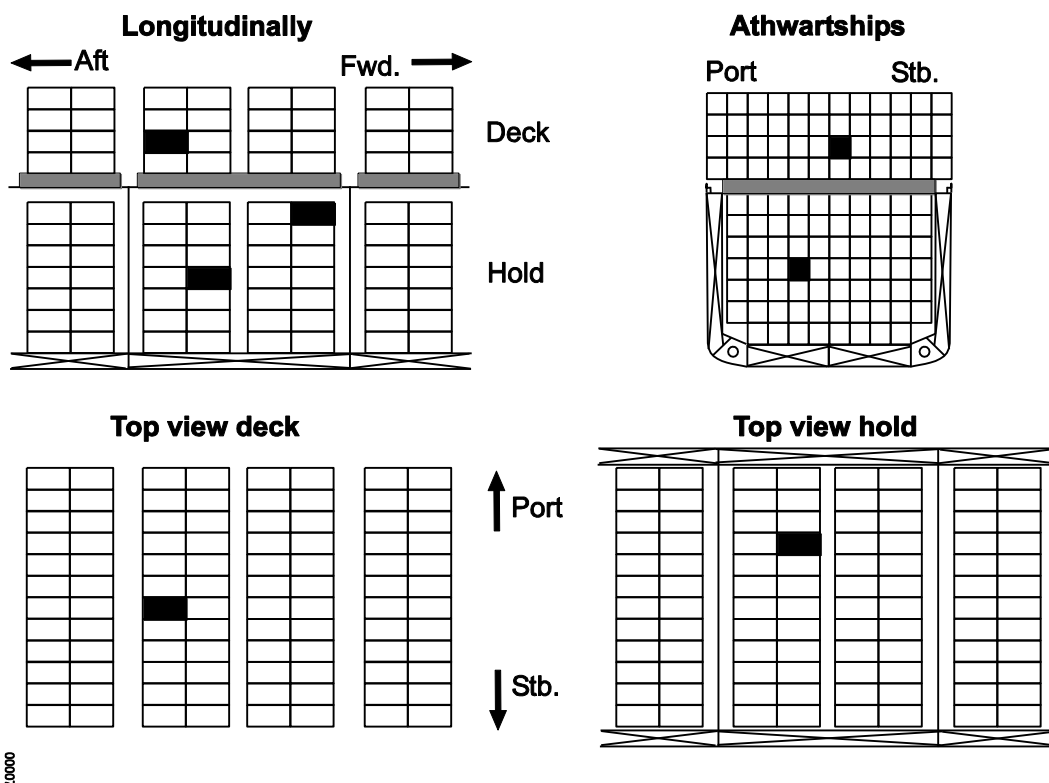


**Situation fore & aft: 2 container spaces
& athwartships: 3 container spaces**



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

"AWAY FROM" .1			
CLOSED VERSUS CLOSED	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	No Restriction	No Restriction	One on top of the other permitted
ATHWARTSHIPS	No Restriction	No Restriction	

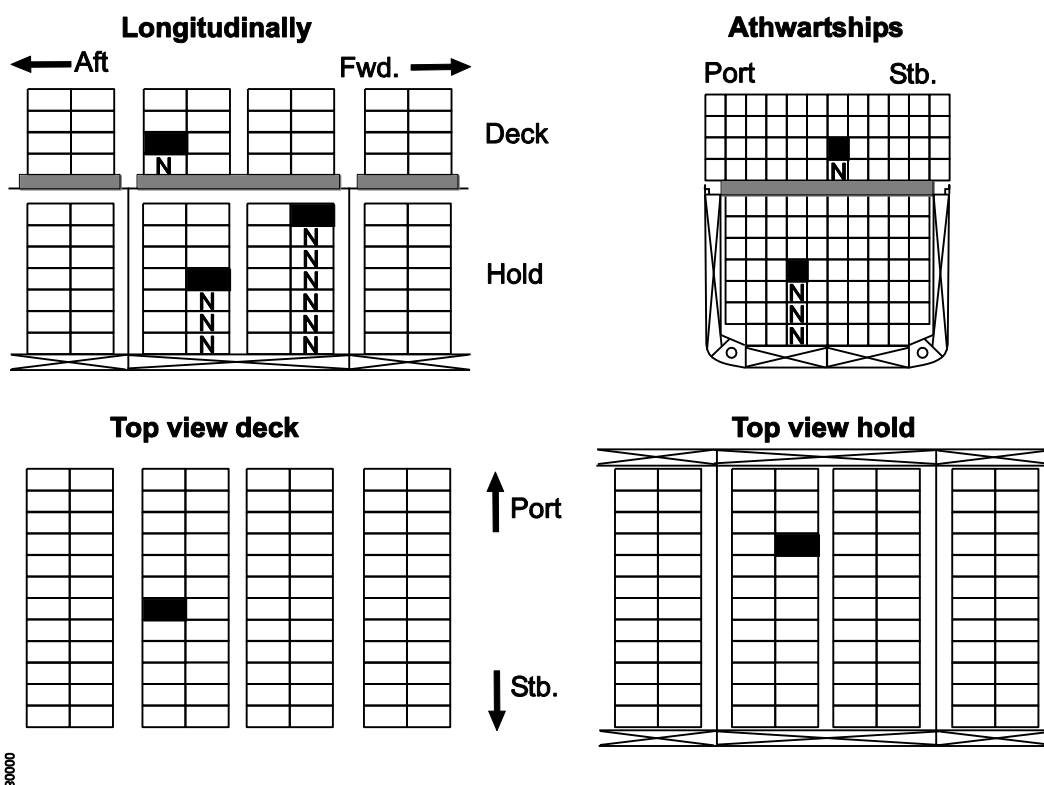


00007

1 – Situation *closed versus closed*

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

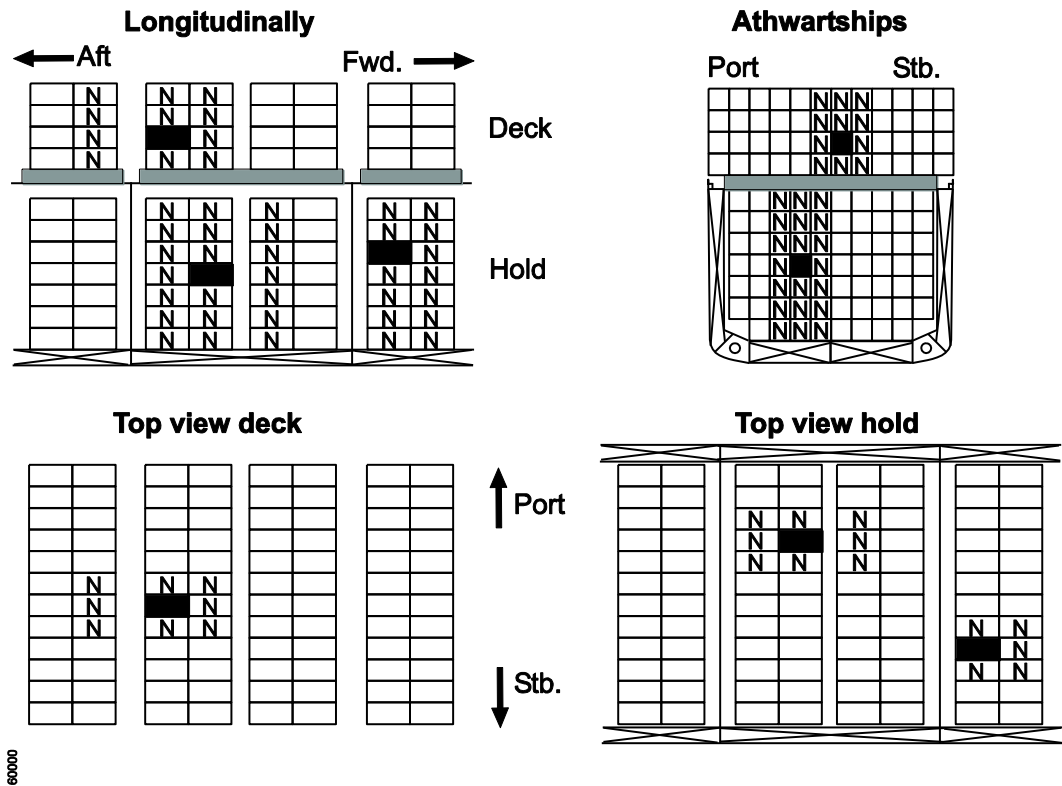
"AWAY FROM" .1			
CLOSED VERSUS OPEN	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	No Restriction	No Restriction	Open on top of closed permitted
ATHWARTSHIPS	No Restriction	No Restriction	Otherwise NOT in the same vertical line unless segregated by a deck



1 – Situation *closed versus open*

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

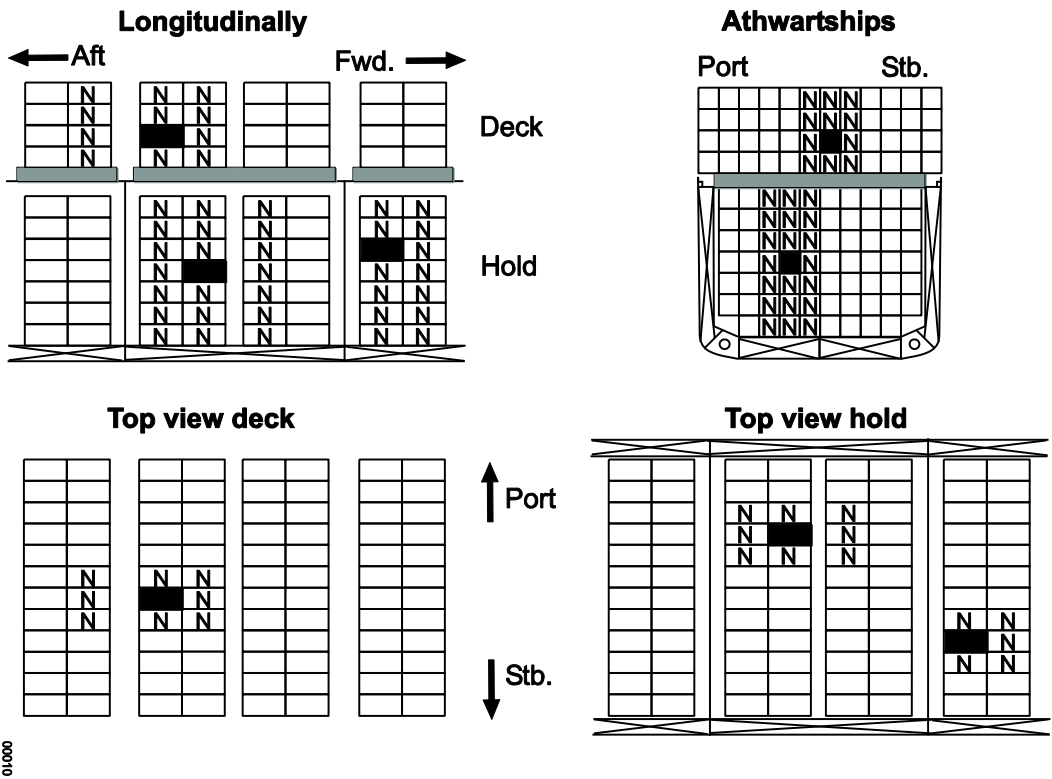
"AWAY FROM" .1			
OPEN VERSUS OPEN	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	One container space	One container space or one bulkhead	NOT in the same vertical line unless segregated by a deck
ATHWARTSHIPS	One container space	One container space	



1 – Situation *open versus open*

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

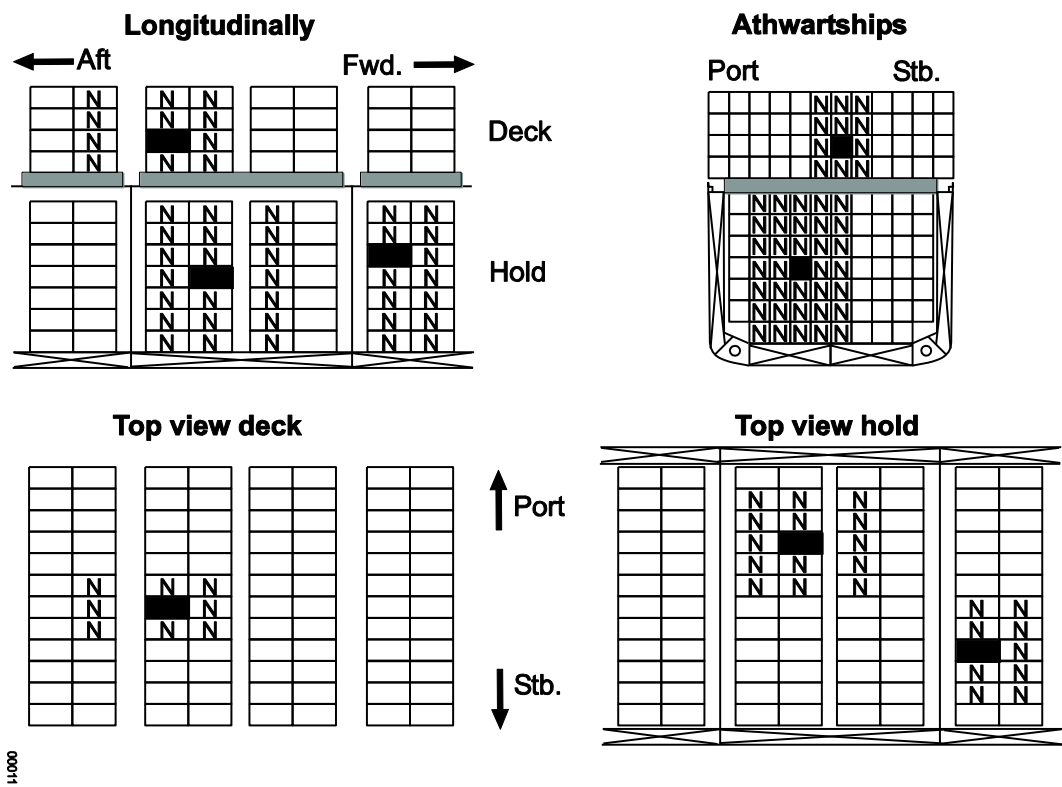
"SEPARATED FROM" .2			
CLOSED VERSUS CLOSED	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	One container space	One container space or one bulkhead	NOT in the same vertical line unless segregated by a deck
ATHWARTSHIPS	One container space	One container space	



2 – Situation *closed versus closed*

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

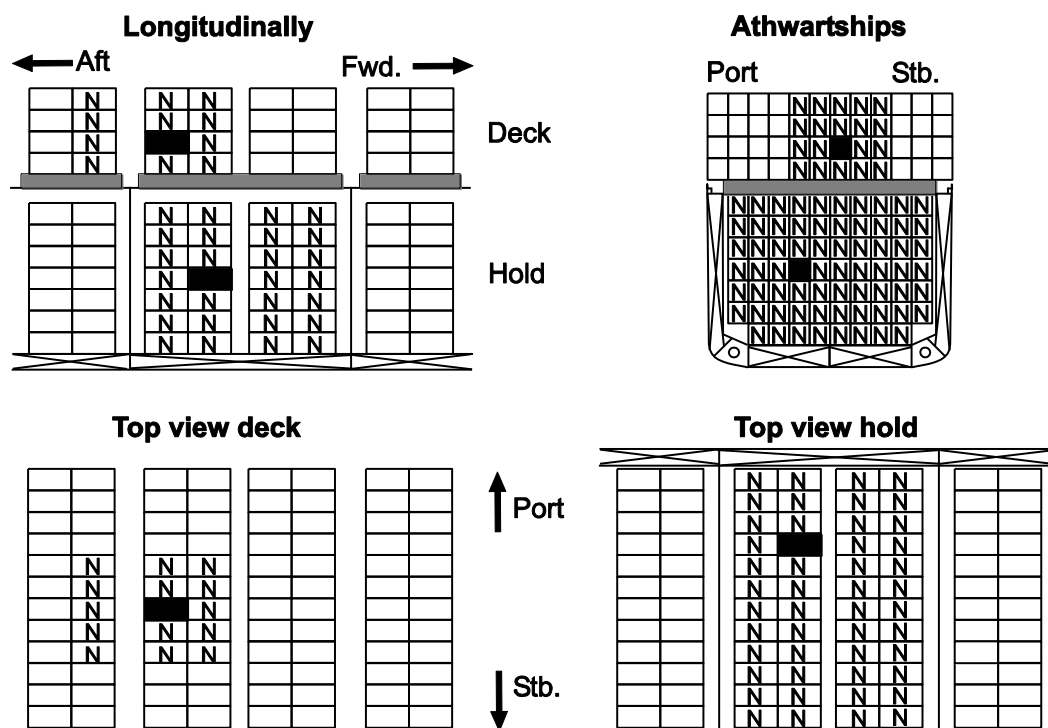
"SEPARATED FROM" .2			
CLOSED VERSUS OPEN	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	One container space	One container space or one bulkhead	NOT in the same vertical line unless segregated by a deck
ATHWARTSHIPS	One container space	Two container spaces	



2 – Situation closed versus open

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

"SEPARATED FROM" .2			
OPEN VERSUS OPEN	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	One container space	One bulkhead	NOT in the same vertical line unless segregated by a deck
ATHWARTSHIPS	Two container spaces	One bulkhead	

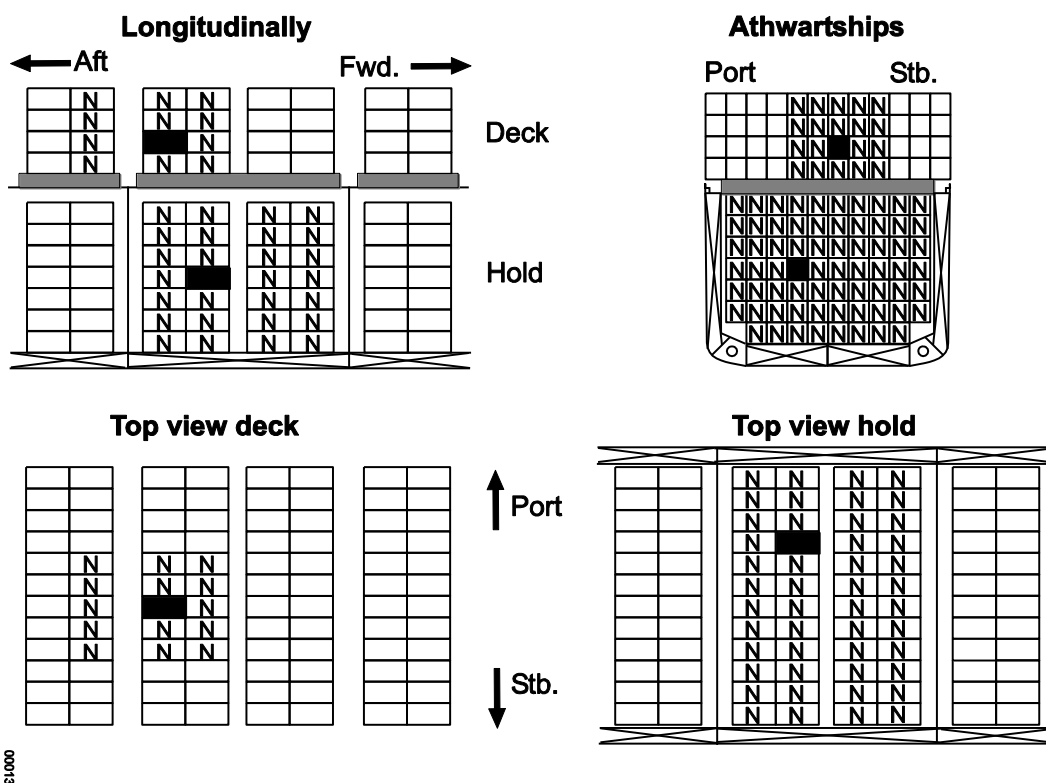


00012

2 – Situation *open versus open*

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

"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3			
CLOSED VERSUS CLOSED OR CLOSED VERSUS OPEN	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	One container space	One bulkhead	NOT in the same vertical line unless segregated by a deck
ATHWARTSHIPS	Two container spaces	One bulkhead	

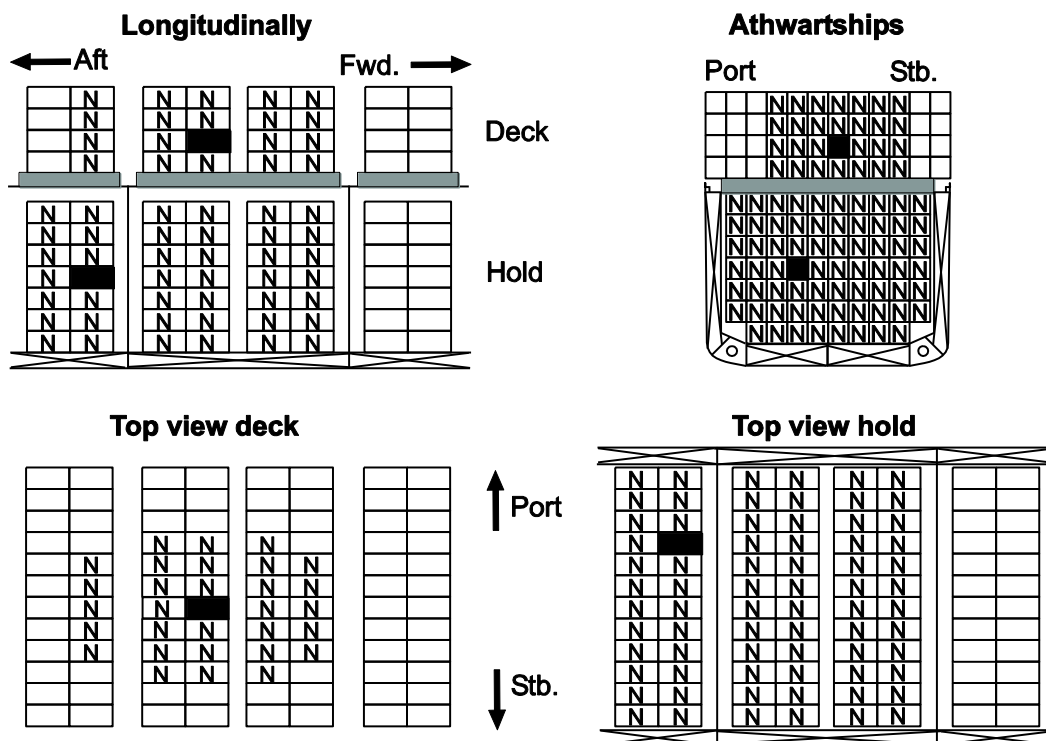


00013

3 – Situations *closed* versus *closed* and *closed* versus *open*

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

"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3			
OPEN VERSUS OPEN	HORIZONTAL		VERTICAL
	ON DECK	UNDER DECK	
FORE AND AFT	Two container spaces	Two bulkheads	NOT in the same vertical line unless segregated by a deck
ATHWARTSHIPS	Three container spaces	Two bulkheads	

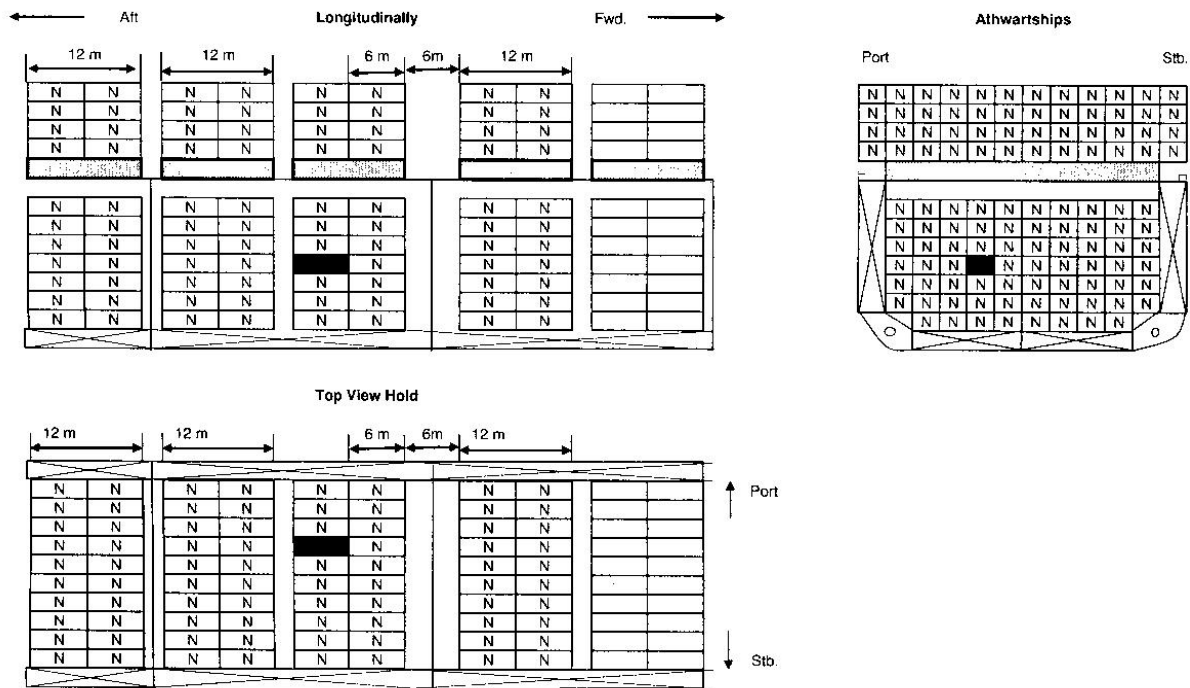


00014

3 – Situation *open versus open*

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

"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One bulkhead and minimum horizontal distance of 24 metres*	Prohibited
ATHWARTSHIPS	Prohibited	

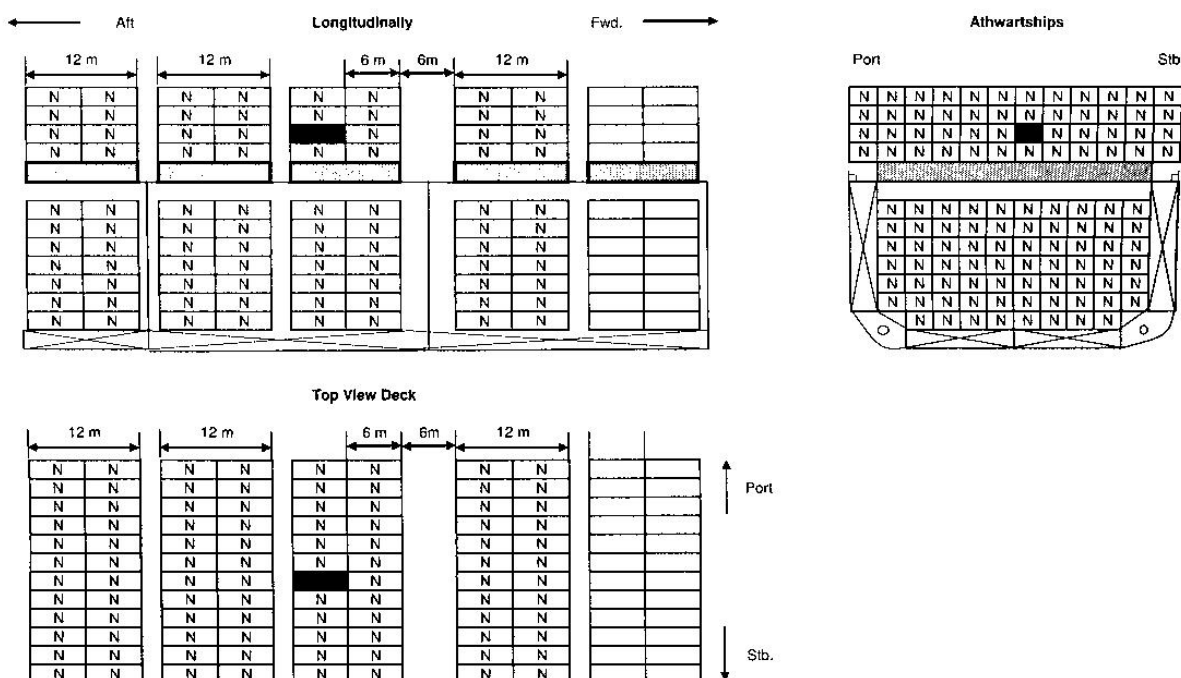


4 – Situation *closed versus closed* – UNDER DECK

Note: All bulkheads and decks shall be resistant to fire and liquids

* Containers not less than 6 m from intervening bulkhead.

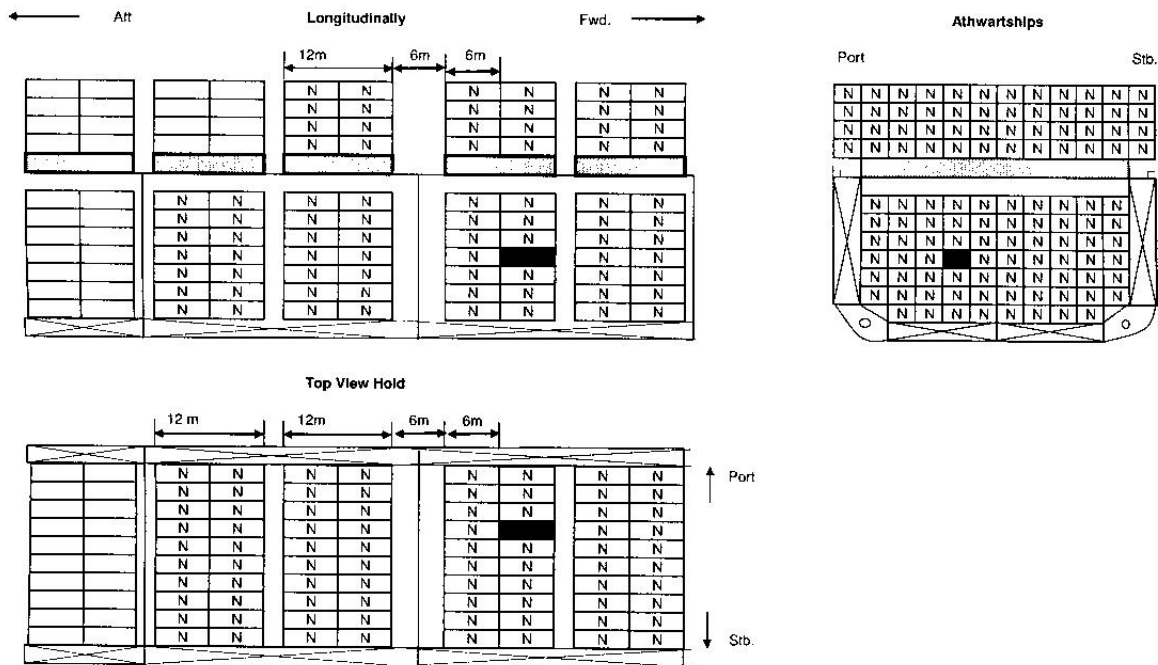
"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS OPEN OR OPEN VERSUS OPEN OR CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	Minimum horizontal distance of 24 metres	Prohibited
ATHWARTSHIPS	Prohibited	



**4 – Situation closed versus open, open versus open
and closed versus closed – ON DECK**

Note: All bulkheads and decks shall be resistant to fire and liquids

"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS OPEN OR OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	Two bulkheads	Prohibited
ATHWARTSHIPS	Prohibited	



4 – Situation *closed versus open* and *open versus open* – UNDER DECK
Note: All bulkheads and decks shall be resistant to fire and liquids

3 Illustrations of segregation of containers on board hatchless containerships

- 3.1 The illustrations of this section apply to the segregation of containers which are transported on board hatchless containerships provided that stowage positions are properly fitted to give permanent stowage of the containers during transport².
- 3.2 To determine locations in which containers are not permitted to contain dangerous goods that are incompatible with those in a reference container, the following method applies: container spaces (such as one container space, two container spaces) are identified in accordance with the applicable segregation provisions in the direct fore-and-aft and athwartship directions from the reference container. Lines are projected between the outermost corners of the containers occupying these spaces as shown in the figure. Containers located partially or complete completely between these lines and the reference container shall not contain dangerous goods that are incompatible with those in the reference container.

² For partly hatchless containerships with hatch-covered container cargo spaces, the illustrations of section 2 apply to such spaces.

3.3 The deck/hold layout used for the illustrations is:

- two 20' containers stowed in a 40' container space
- distance between two 40' container spaces is 2 feet/60 cm

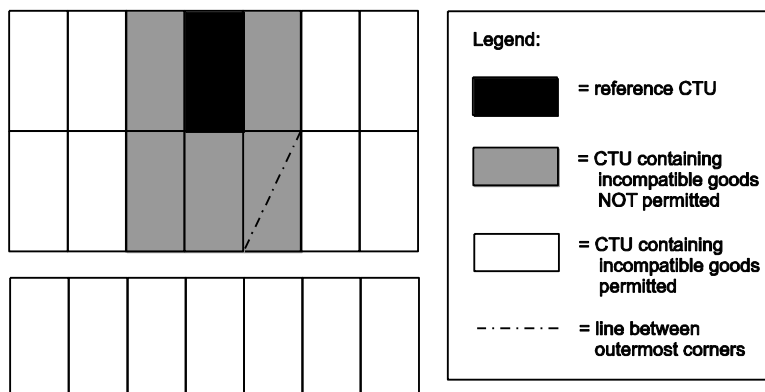
3.4 *Explanation of the segregation terms*

(1)	Reference container		
(2)	Container containing incompatible goods NOT permitted..		
	Container containing incompatible goods permitted		
(4)	Distance athwartships	(a) one container space	
		(b) two container spaces	
		(c) three container spaces ..	
(5)	Distance Fore and Aft:	(a) one container space	
		(b) two container spaces	

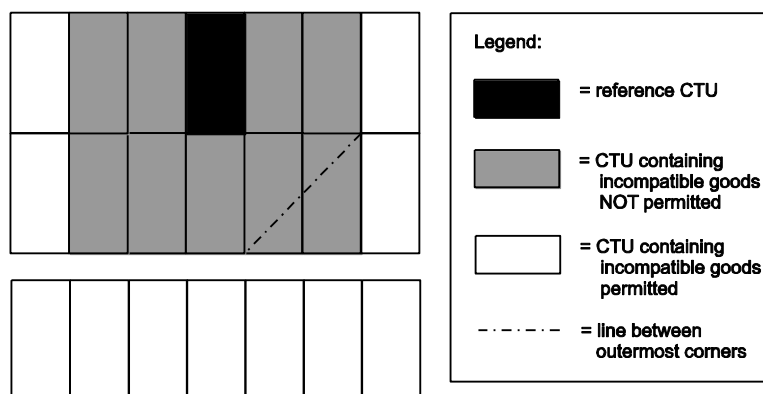
Note 1: All bulkheads and decks shall be resistant to fire and liquids.

Note 2: When an illustration has more than one reference container only one should be used when interpreting the illustration. When an illustration contains several references, containers they have to be considered as different examples.

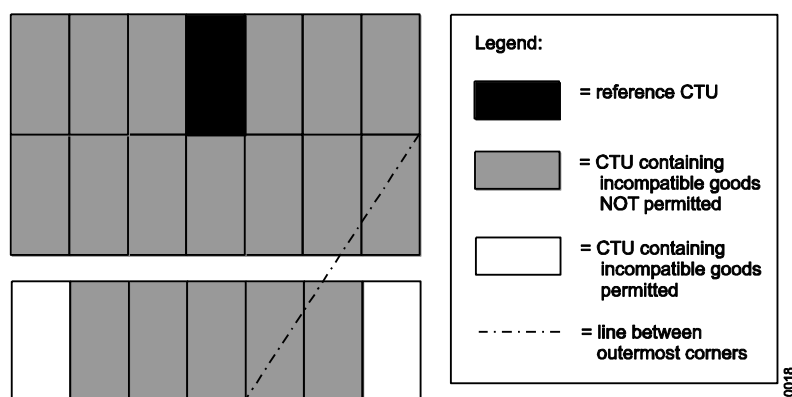
Situation fore & aft + athwartships: 1 container space



**Situation fore & aft: 1 container space
& athwartships: 2 container spaces**

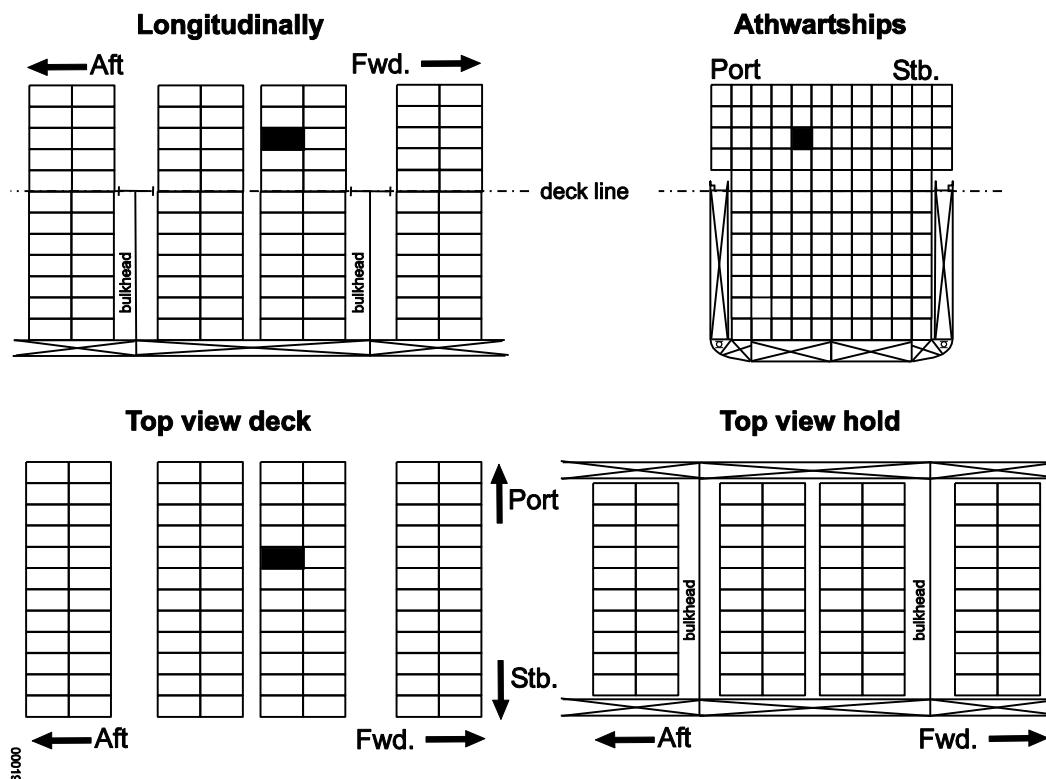


**Situation fore & aft: 2 container spaces
& athwartships: 3 container spaces**



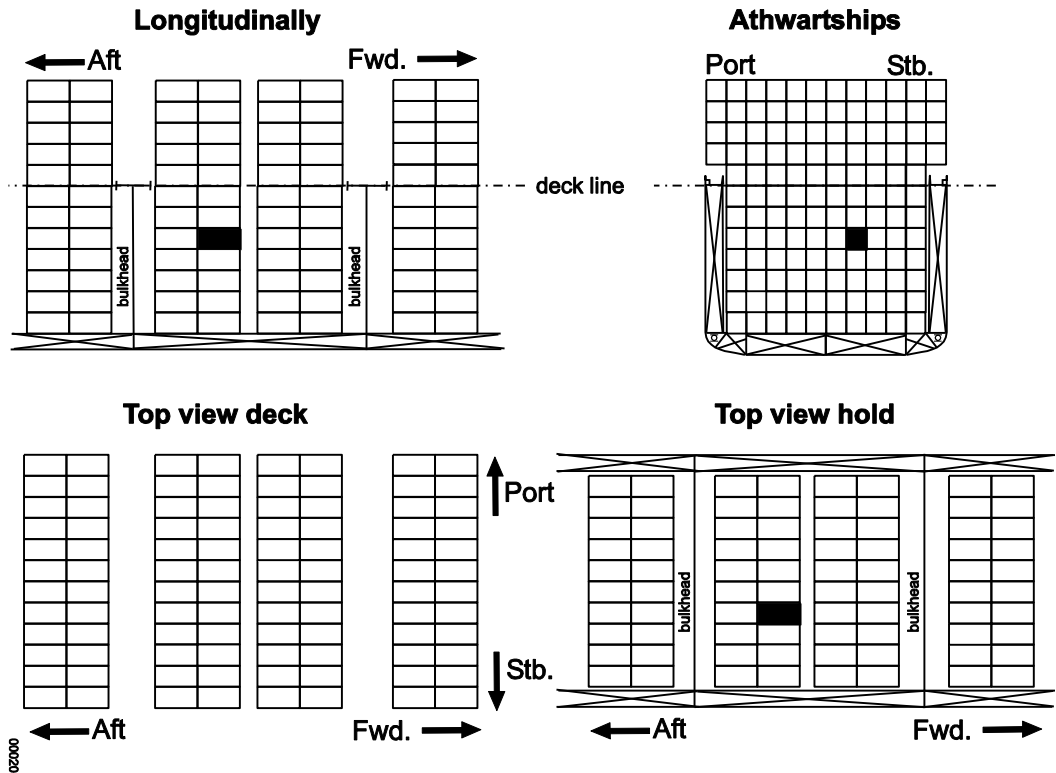
Note: All bulkheads and decks shall be resistant to fire and liquids.

"AWAY FROM" .1		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	No Restriction	One on top of the other permitted
ATHWARTSHIPS	No Restriction	



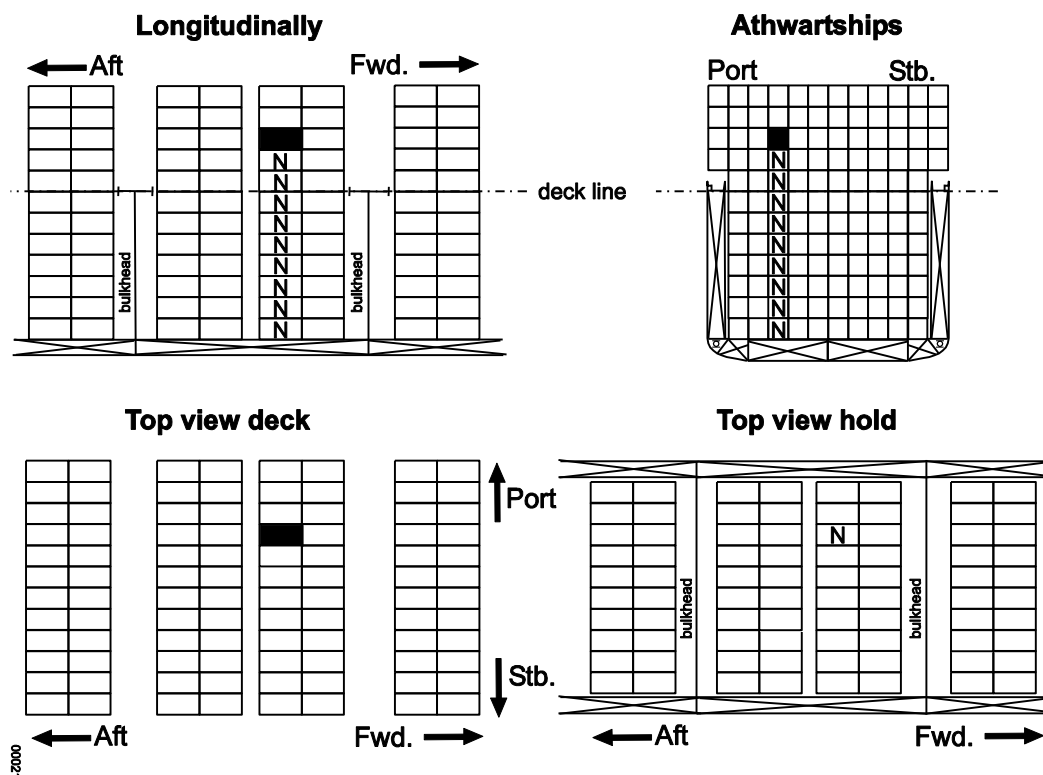
1 – Situation *closed versus closed* – ON DECK
Note: All bulkheads and decks shall be resistant to fire and liquids.

7"AWAY FROM" .1		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	No Restriction	One on top of the other permitted
ATHWARTSHIPS	No Restriction	



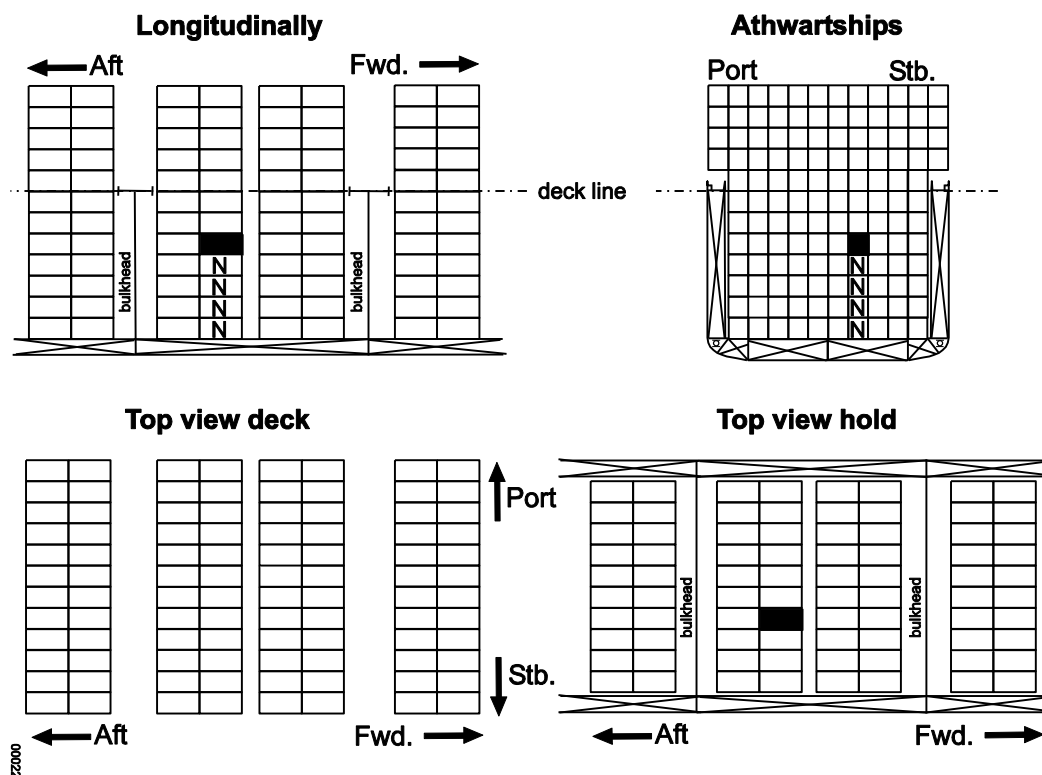
1 – Situation *closed versus closed* – UNDER DECK
Note: All bulkheads and decks shall be resistant to fire and liquids.

"AWAY FROM" .1		
CLOSED VERSUS OPEN	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	No Restriction	Open on top of closed permitted
ATHWARTSHIPS	No Restriction	Otherwise NOT in the same vertical line



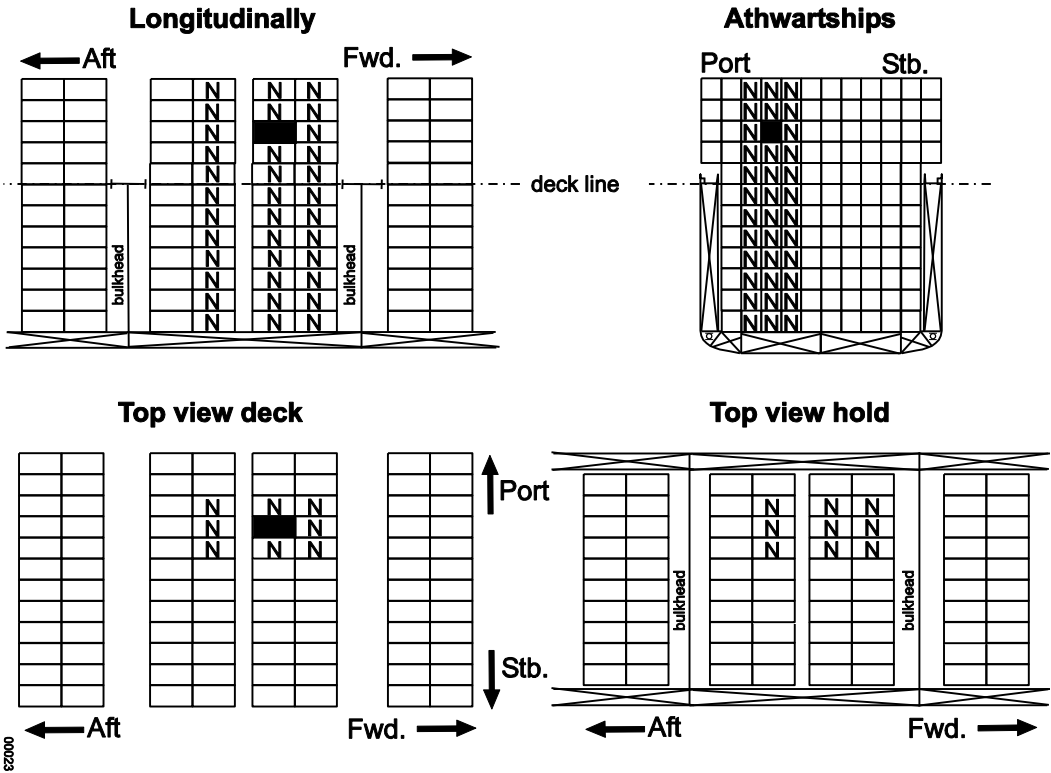
1 – Situation *closed versus open* – ON DECK
Note: All bulkheads and decks shall be resistant to fire and liquids.

"AWAY FROM" .1		
CLOSED VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	No Restriction	Open on top of closed permitted
ATHWARTSHIPS	No Restriction	Otherwise NOT in the same vertical line



1 – Situation *closed* versus *open* – UNDER DECK
Note: All bulkheads and decks shall be resistant to fire and liquids.

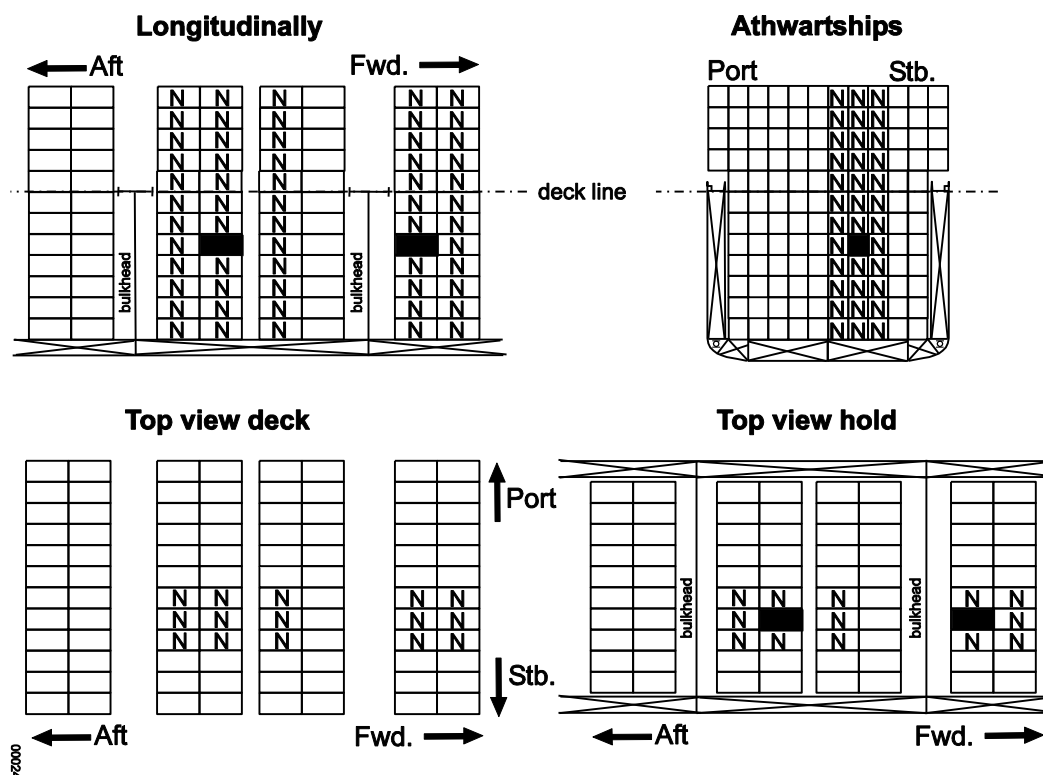
"AWAY FROM" .1		
OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	One container space	NOT in the same vertical line
ATHWARTSHIPS	One container space	



1 – Situation *open versus open* – ON DECK

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

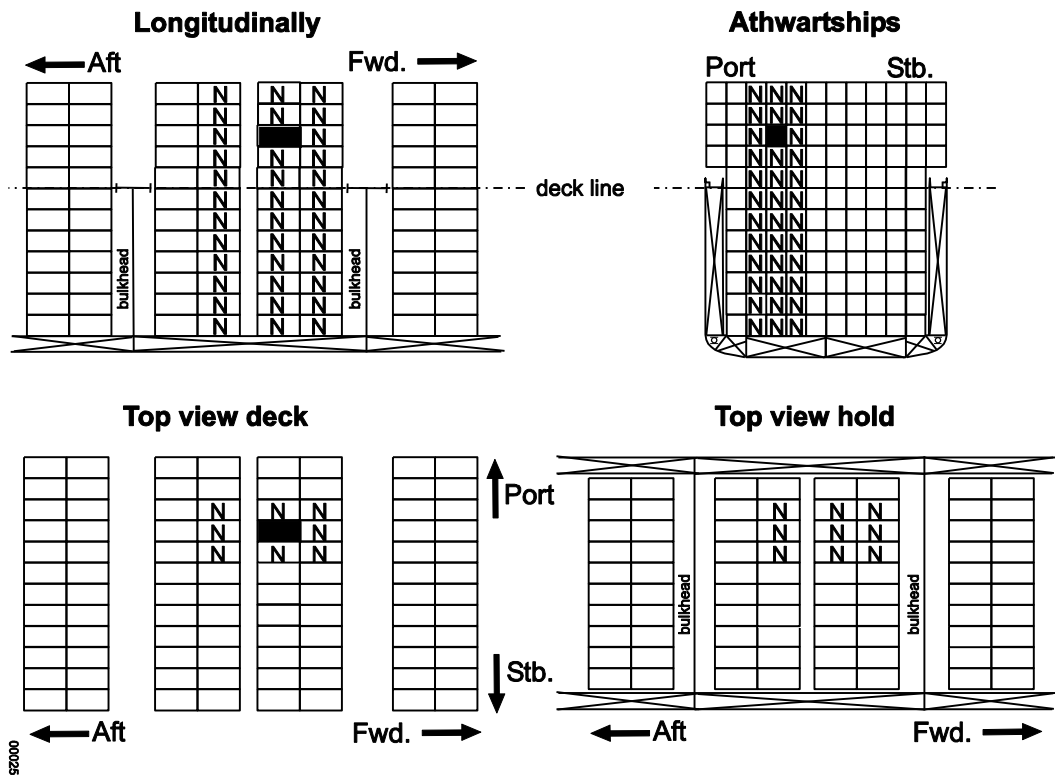
"AWAY FROM" .1		
OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One container space or one bulkhead	NOT in the same vertical line
ATHWARTSHIPS	One container space	



1 – Situation *open versus open* – UNDER DECK

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

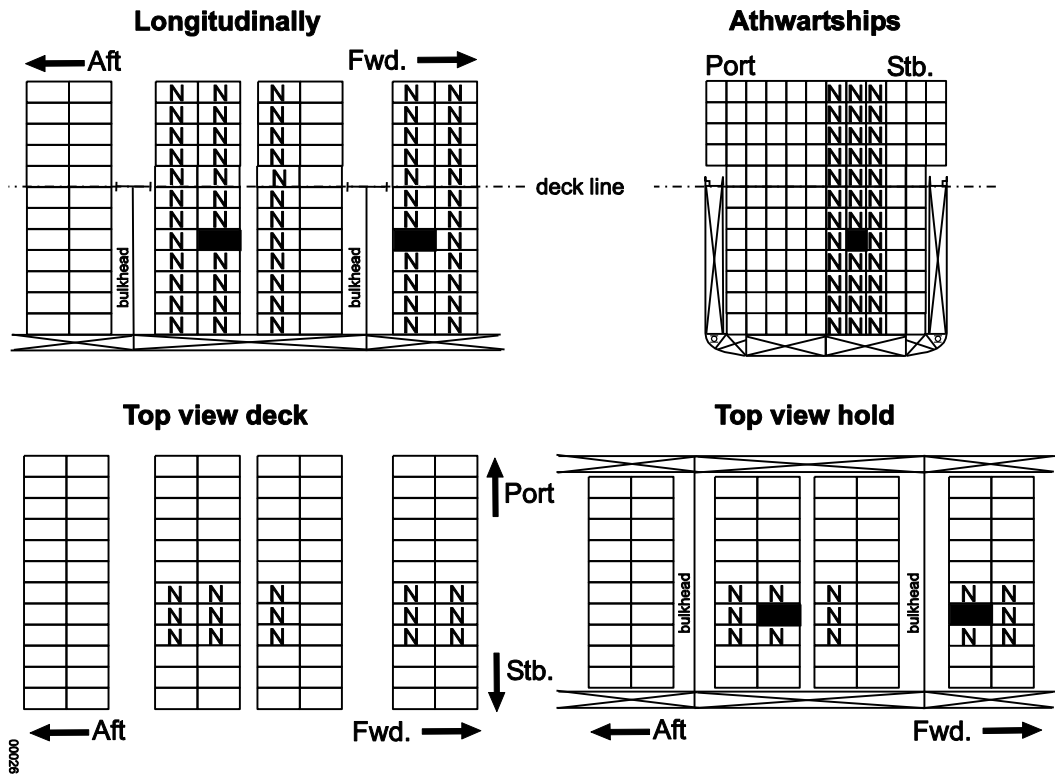
"SEPARATED FROM" .2		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	One container space	NOT in the same vertical line
ATHWARTSHIPS	One container space	



2 – Situation *closed versus closed* – ON DECK

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

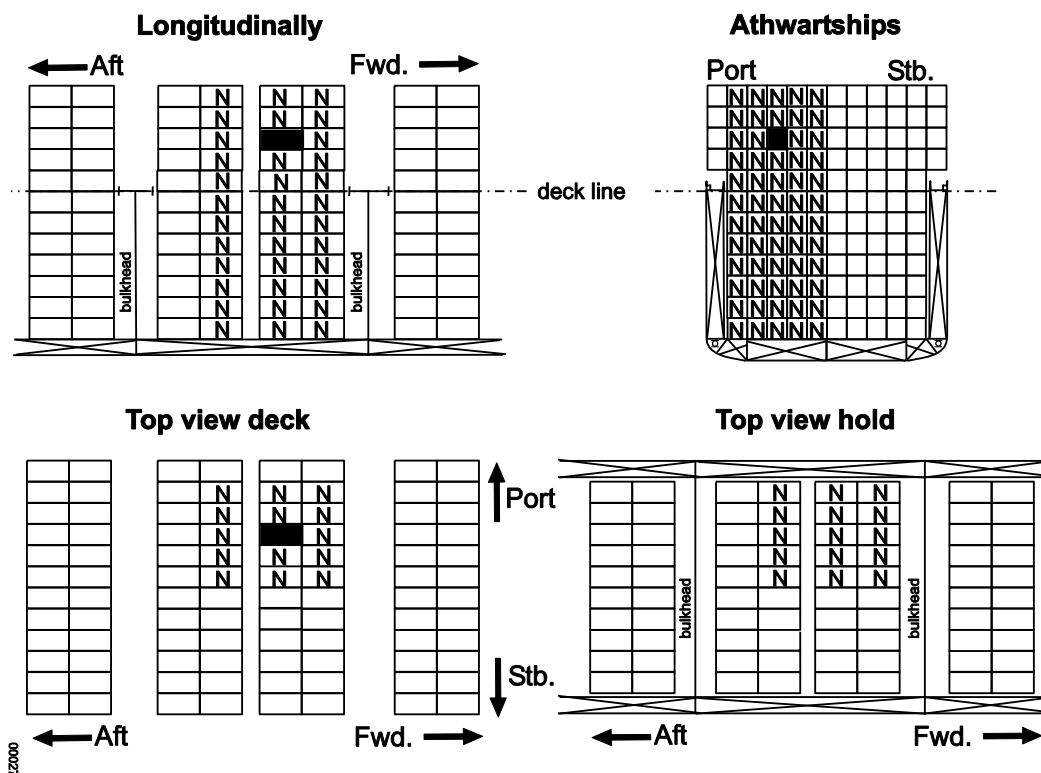
"SEPARATED FROM" .2		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One container space or one bulkhead	NOT in the same vertical line
ATHWARTSHIPS	One container space	



2 – Situation *closed versus closed* – UNDER DECK

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

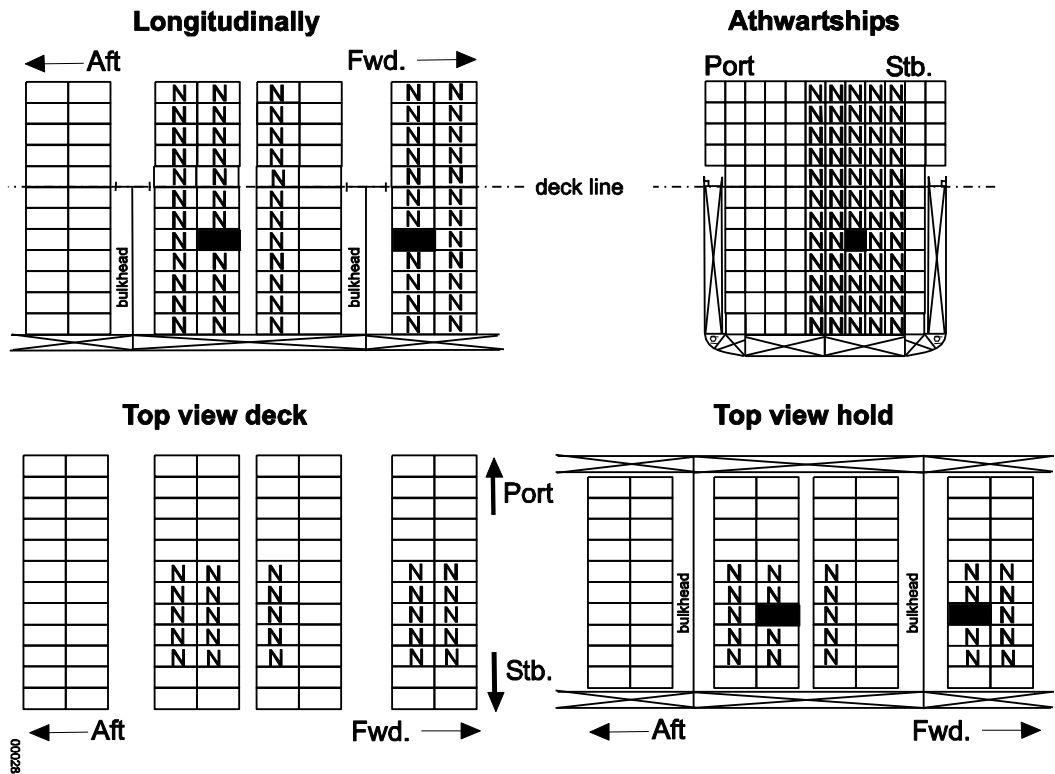
"SEPARATED FROM" .2		
CLOSED VERSUS OPEN	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	One container space	NOT in the same vertical line
ATHWARTSHIPS	Two container spaces	



2 – Situation *closed* versus *open* – ON DECK

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

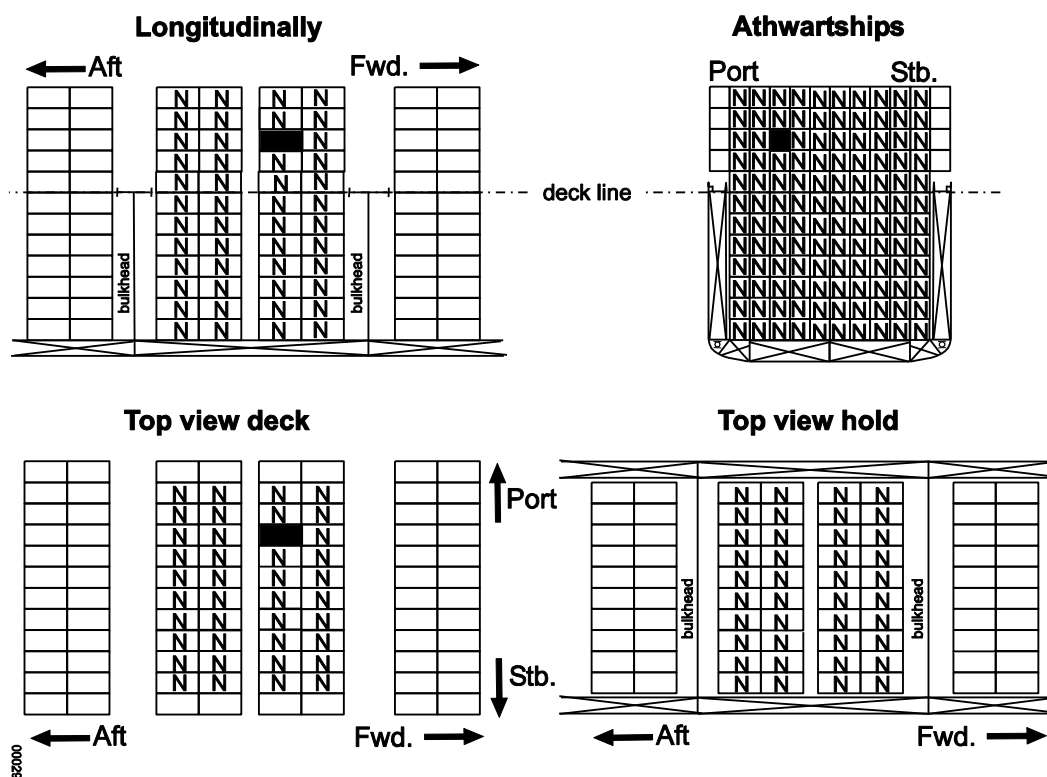
"SEPARATED FROM" .2		
CLOSED VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One container space or one bulkhead	NOT in the same vertical line
ATHWARTSHIPS	Two container spaces	



2 – Situation *closed* versus *open* – UNDER DECK

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

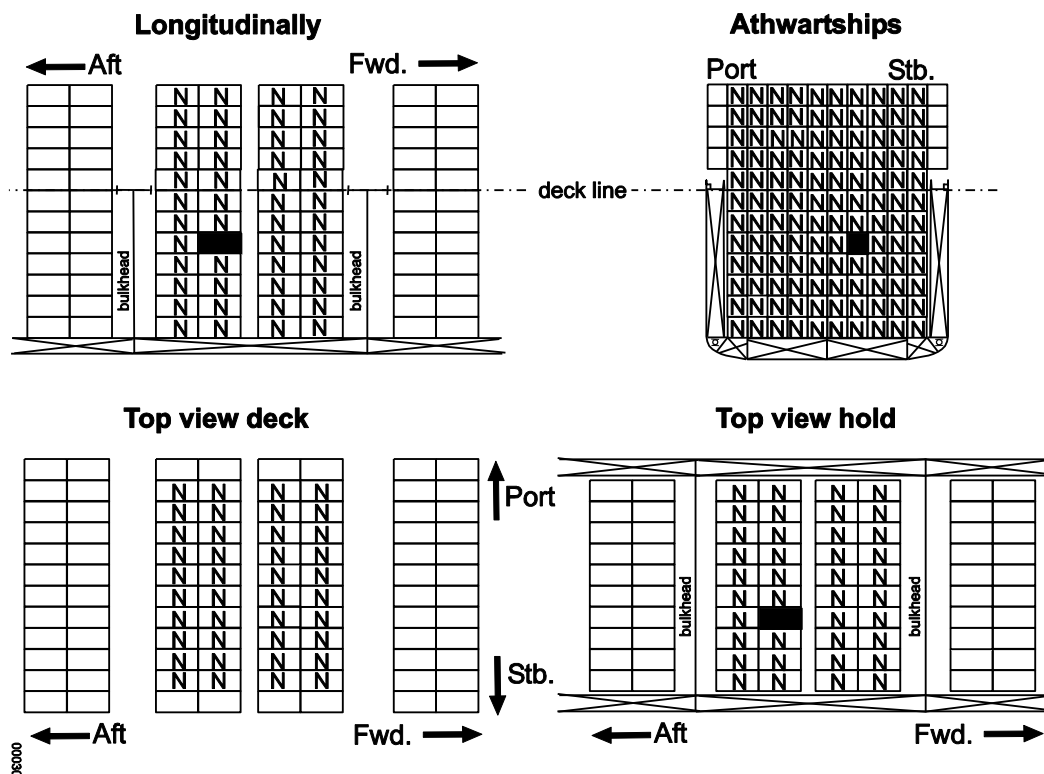
"SEPARATED FROM" .2		
OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	One container space and not in or above same hold	NOT in the same vertical line
ATHWARTSHIPS	Two container spaces and not in or above same hold	



2 – Situation *open versus open* – ON DECK

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

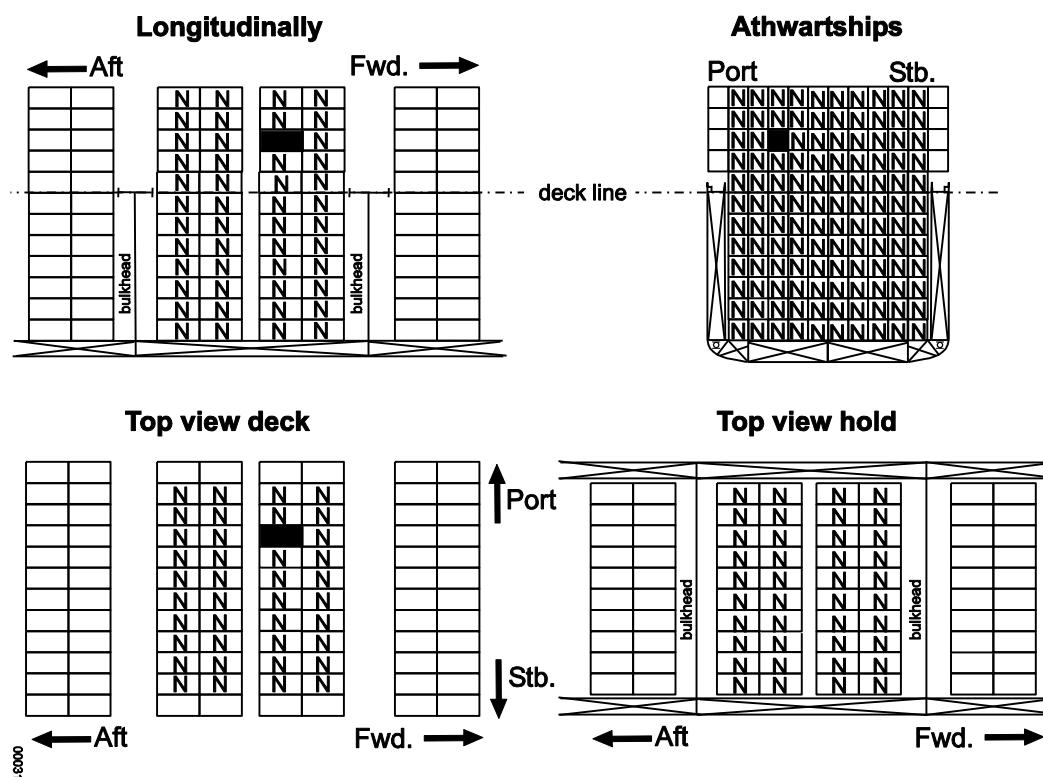
"SEPARATED FROM" .2		
OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One bulkhead	NOT in the same vertical line
ATHWARTSHIPS	One bulkhead	



2 – Situation *open versus open* – UNDER DECK

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

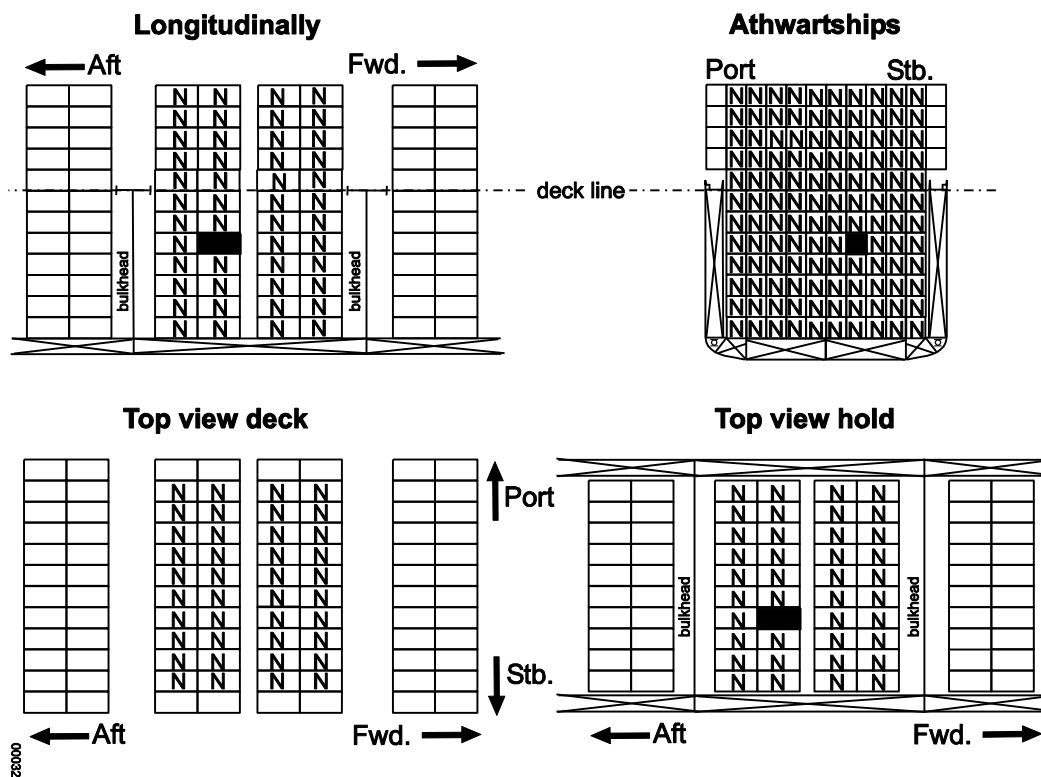
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	One container space and not in or above same hold	NOT in the same vertical line
ATHWARTSHIPS	Two container spaces and not above same hold	



3 – Situation *closed* versus *closed* – ON DECK

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

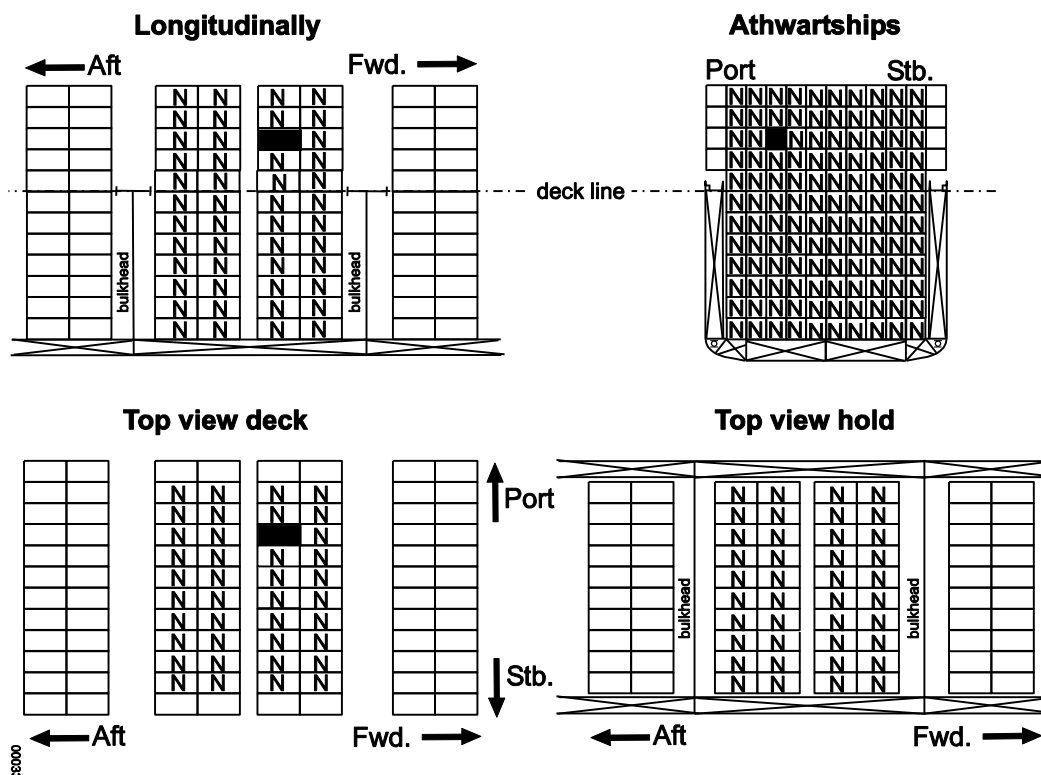
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One bulkhead	NOT in the same vertical line
ATHWARTSHIPS	One bulkhead	



3 – Situation *closed versus closed* – UNDER DECK

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

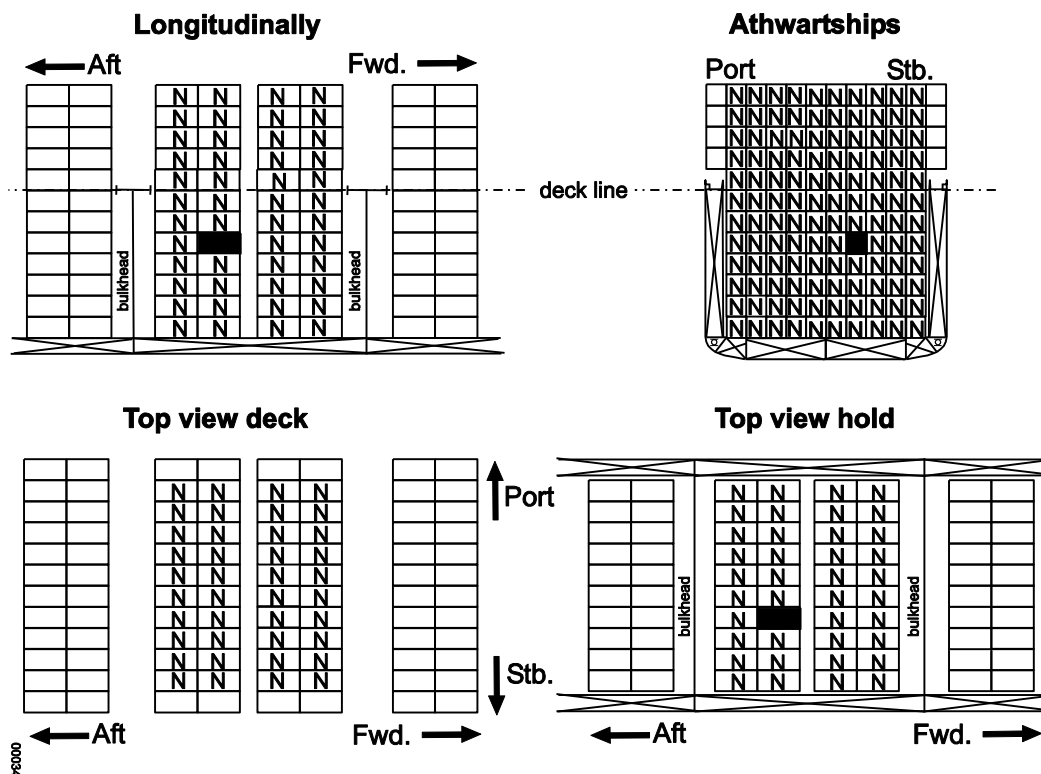
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
CLOSED VERSUS OPEN	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	One container space and not in or above same hold	NOT in the same vertical line
ATHWARTSHIPS	Two container spaces and not above same hold	



3 – Situation *closed* versus *open* – ON DECK

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

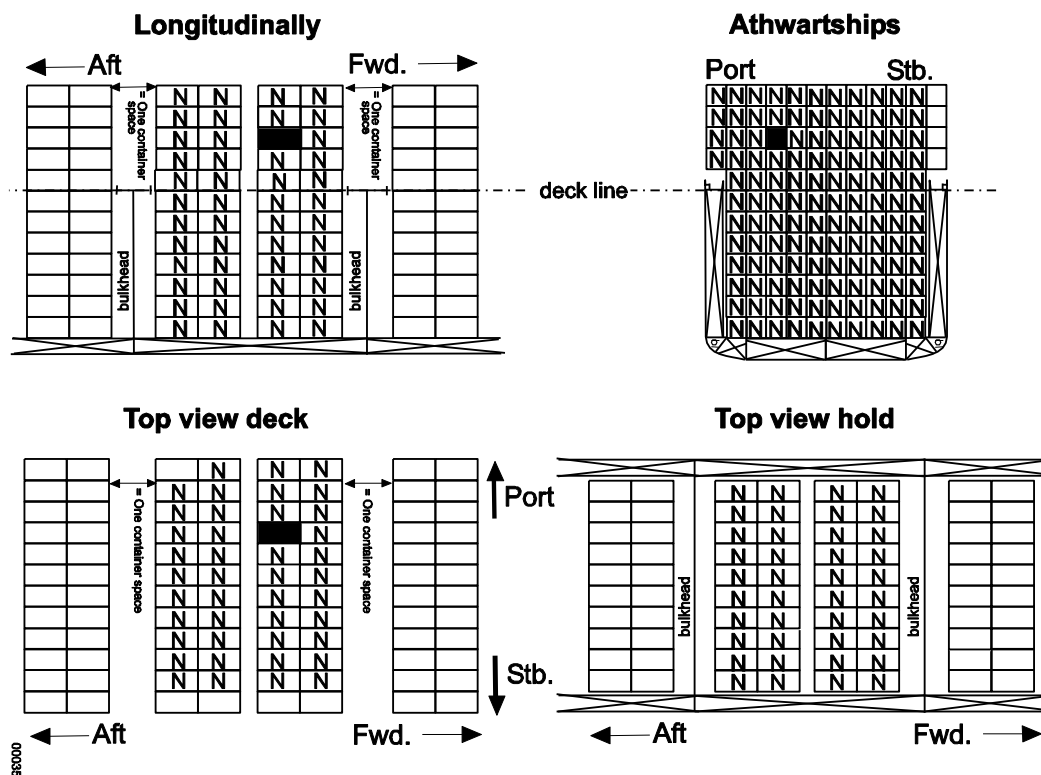
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
CLOSED VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One bulkhead	NOT in the same vertical line
ATHWARTSHIPS	One bulkhead	



3 – Situation *closed* versus *open* – UNDER DECK

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

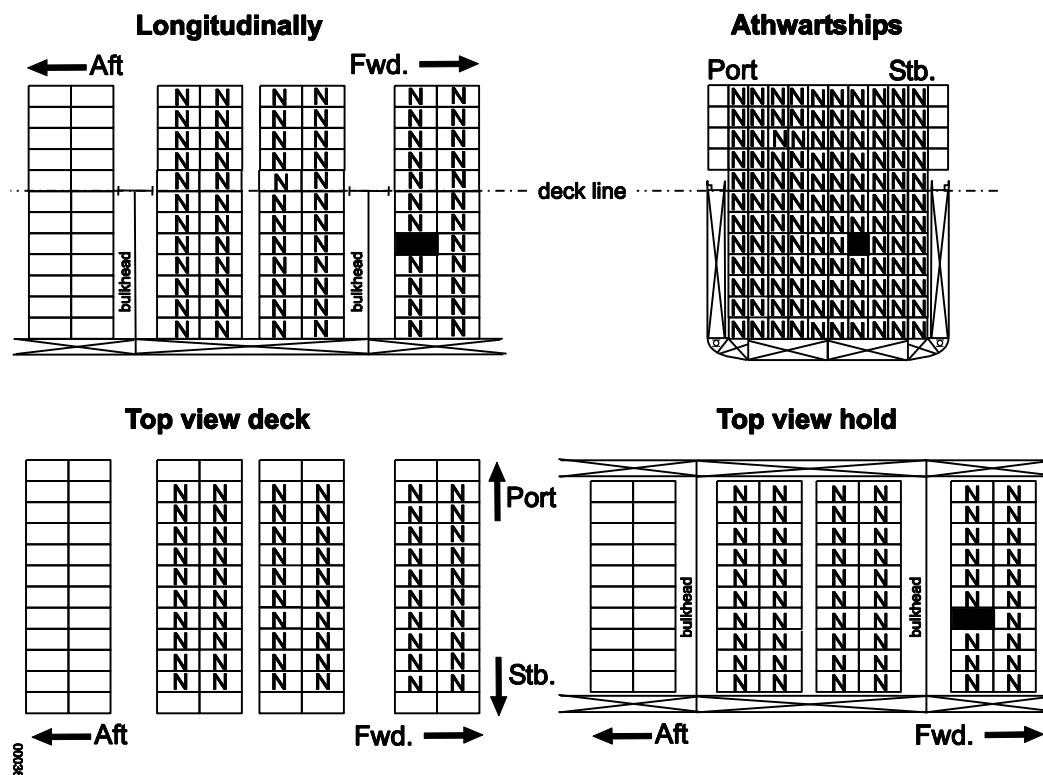
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	Two container spaces and not in or above same hold	NOT in the same vertical line
ATHWARTSHIPS	Three container spaces and not above same hold	



3 – Situation *open versus open* – ON DECK

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

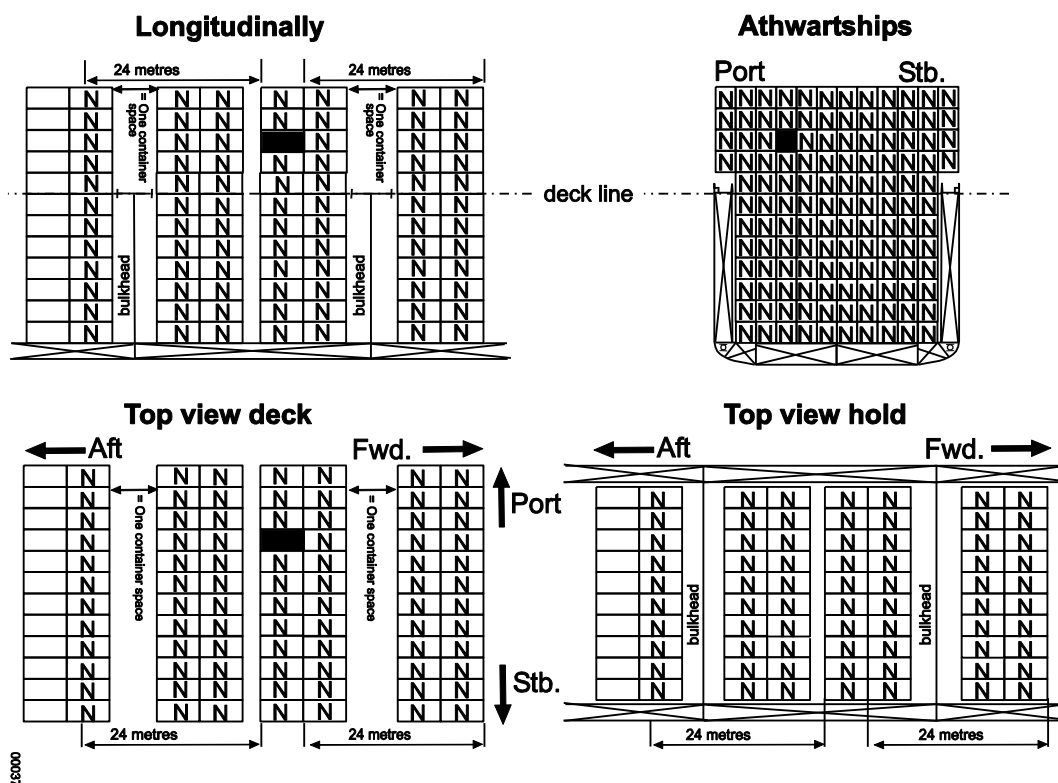
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	Two bulkheads	NOT in the same vertical line
ATHWARTSHIPS	Two bulkheads	



3 – Situation *open versus open* – UNDER DECK

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

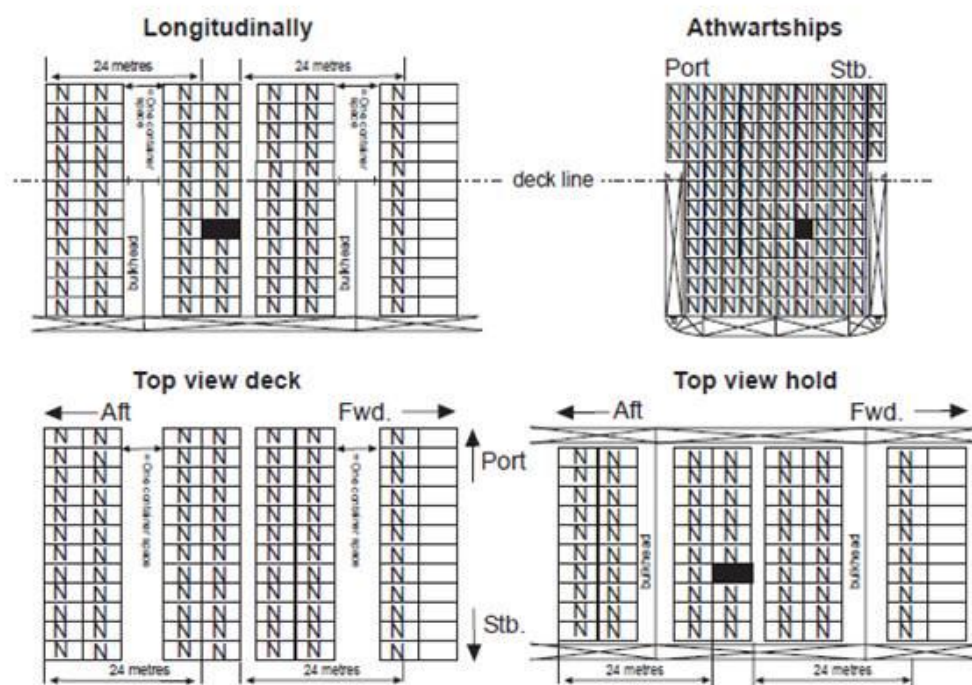
"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	Minimum horizontal distance of 24 metres and not in or above same hold	Prohibited
ATHWARTSHIPS	Prohibited	



4 – Situation *closed versus closed* – ON DECK

Note: All bulkheads and decks shall be resistant to fire and liquids

"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS CLOSED	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	One bulkhead and minimum horizontal distance of 24 metres*	Prohibited
ATHWARTSHIPS	Prohibited	

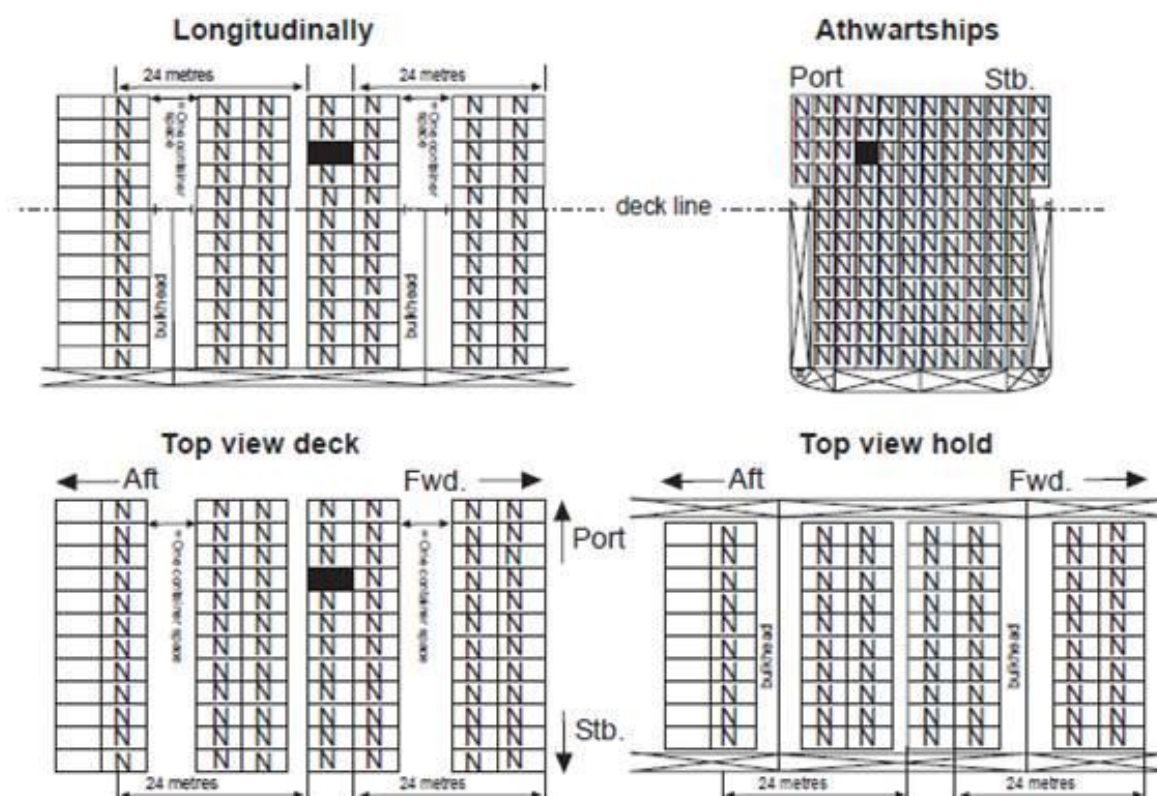


4 – Situation closed versus closed – UNDER DECK

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

*Containers not less than 6 m from intervening bulkhead.

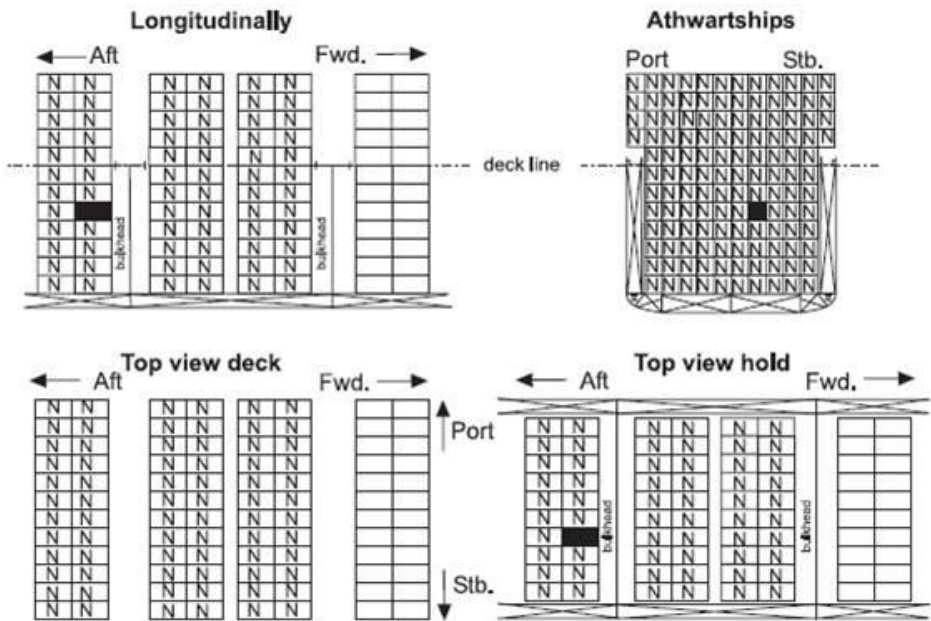
"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS OPEN OR OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	ON DECK	
FORE AND AFT	Minimum horizontal distance of 24 metres and not above same hold	Prohibited
ATHWARTSHIPS	Prohibited	



4 – Situations closed versus open and open versus open – ON DECK

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

"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS OPEN OR OPEN VERSUS OPEN	HORIZONTAL	VERTICAL
	UNDER DECK	
FORE AND AFT	Two bulkheads	Prohibited
ATHWARTSHIPS	Prohibited	

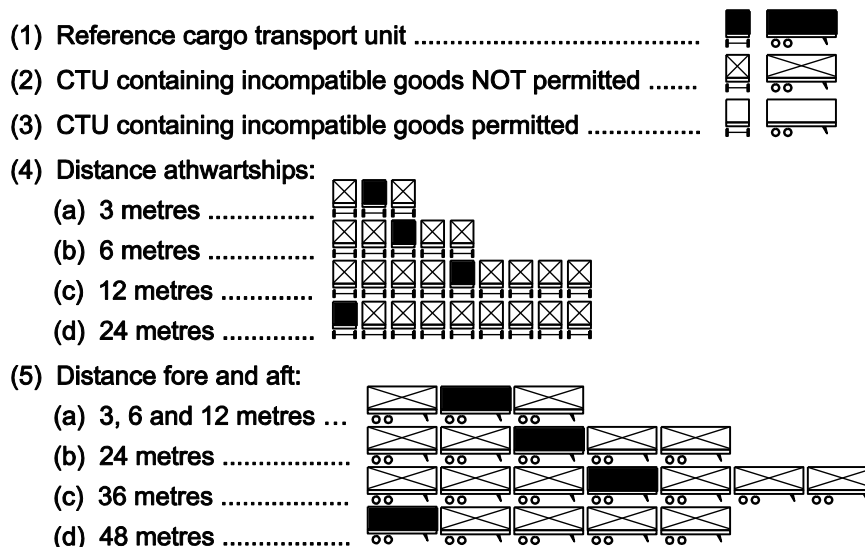


4 – Situations closed versus open and open versus open – UNDER DECK
Note: All bulkheads and decks shall be resistant to fire and liquids.

- 4 **Illustrations of segregation of cargo transport units on board ro-ro ships**
- 4.1 The illustrations of this section apply to the segregation of cargo transport units which are transported on board roll-on/roll-off ships or in roll-on/roll-of cargo spaces³.
- 4.2 To determine locations in which cargo transport units are not permitted to contain dangerous goods that are incompatible with those in a reference cargo transport unit, the following method applies: locations where incompatible dangerous goods are not permitted with respect to the referenced cargo transport unit are first determined in the direct fore and aft and athwartships directions. The relevant segregation distances to be considered in both directions are defined in metres as shown in the figure. Cargo transport units located partially or completely within these distances from the reference cargo transport unit shall not contain dangerous goods that are incompatible with those in the reference cargo transport unit.
- 4.3 The standard dimension of a cargo transport unit used for the illustrations is:
- length: 12 m
 - width: 2.50 m

³ For ro-ro ships which carry containers on decks or in holds, the illustrations of section 2 apply to such spaces.

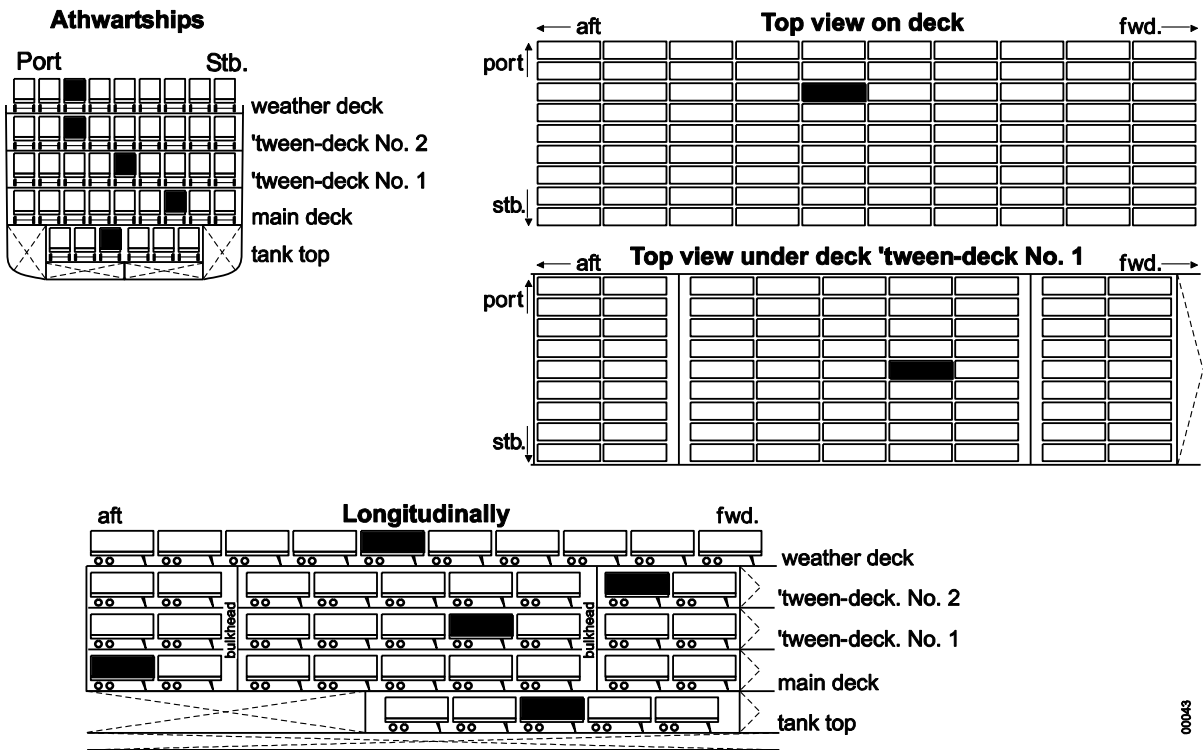
4.4 Explanation of the segregation terms



Note 1: All bulkheads and decks shall be resistant to fire and liquid.

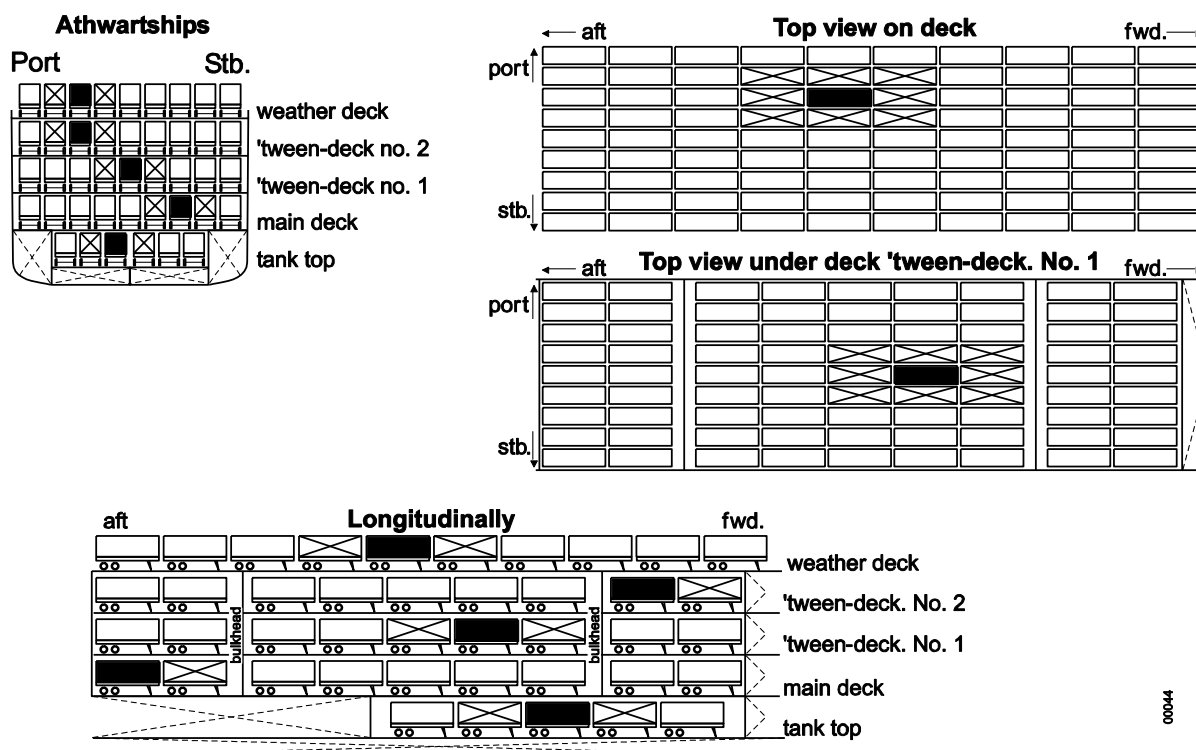
Note 2: When an illustration has more than one reference cargo transport units, only one should be used when interpreting the illustration. When an illustration contains several reference cargo transport units, they have to be considered as different examples.

"AWAY FROM" .1		
CLOSED VERSUS CLOSED OR CLOSED VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	No restriction	No restriction
ATHWARTSHIPS	No restriction	No restriction



1 – Situations *closed versus closed* and *closed versus open*
Note: All bulkheads and decks shall be resistant to fire and liquids.

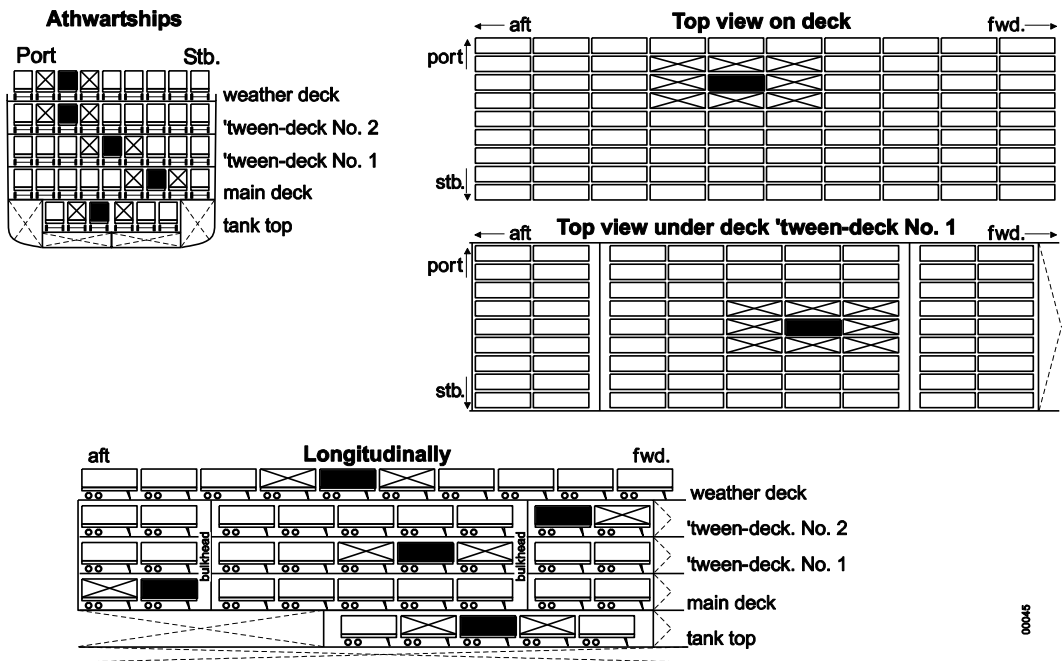
"AWAY FROM" .1		
OPEN VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	At least 3 metres	At least 3 metres
ATHWARTSHIPS	At least 3 metres	At least 3 metres



1 – Situation *open versus open*

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

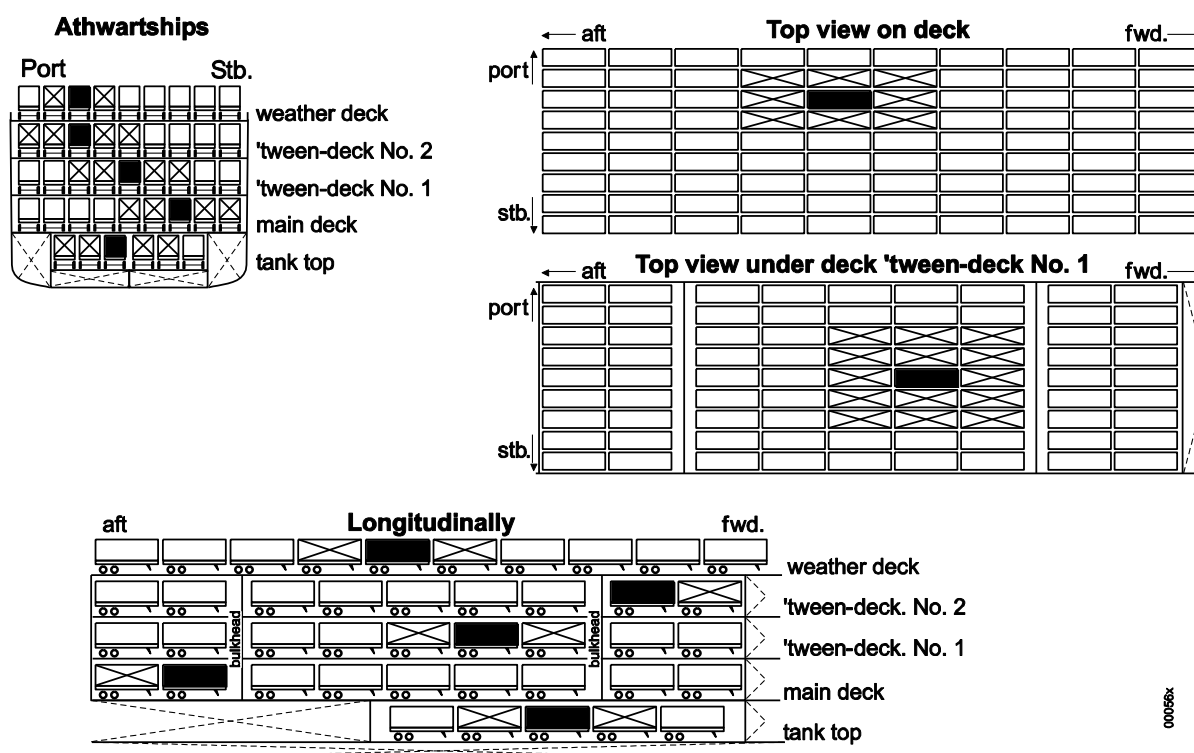
"SEPARATED FROM" .2		
CLOSED VERSUS CLOSED	ON DECK	UNDER DECK
FORE AND AFT	At least 6 metres	At least 6 metres or ONE bulkhead
ATHWARTSHIPS	At least 3 metres	At least 3 metres or ONE bulkhead



2 – Situation *closed versus closed*

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

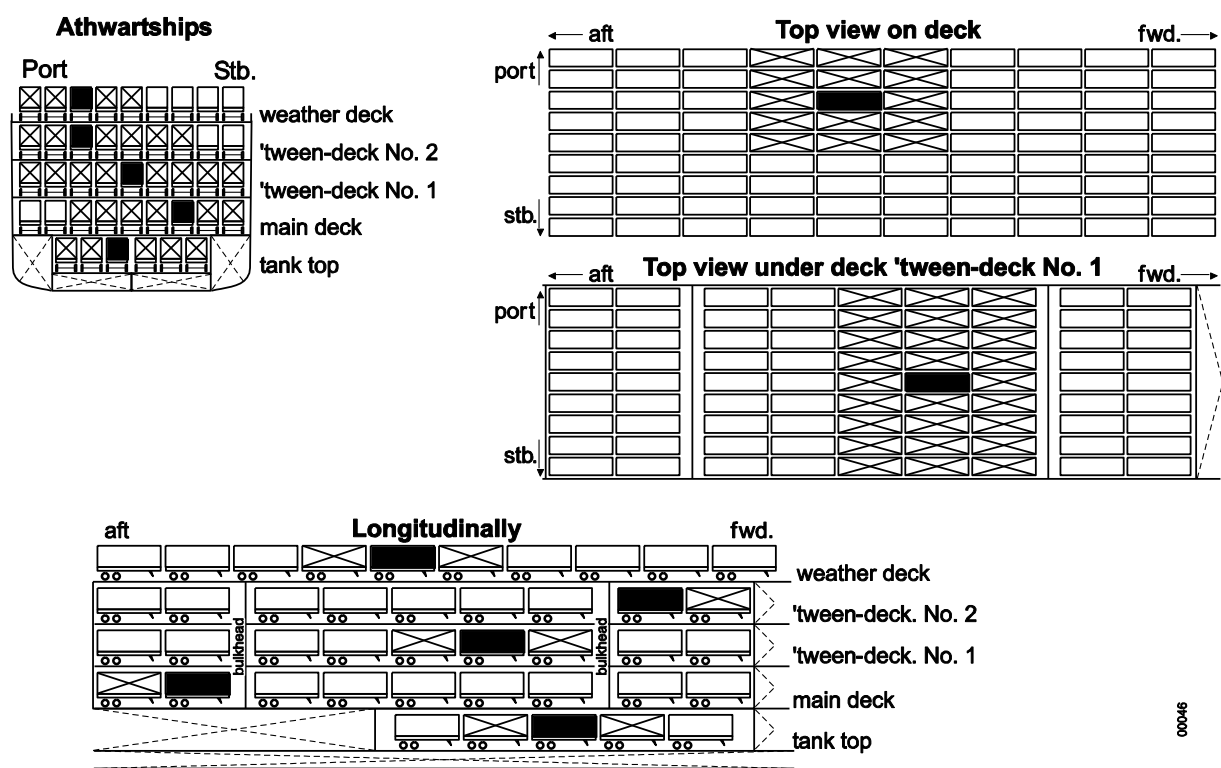
"SEPARATED FROM" .2		
CLOSED VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	At least 6 metres	At least 6 metres or ONE bulkhead
ATHWARTSHIPS	At least 3 metres	At least 6 metres or ONE bulkhead



2 – Situation *closed versus open*

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

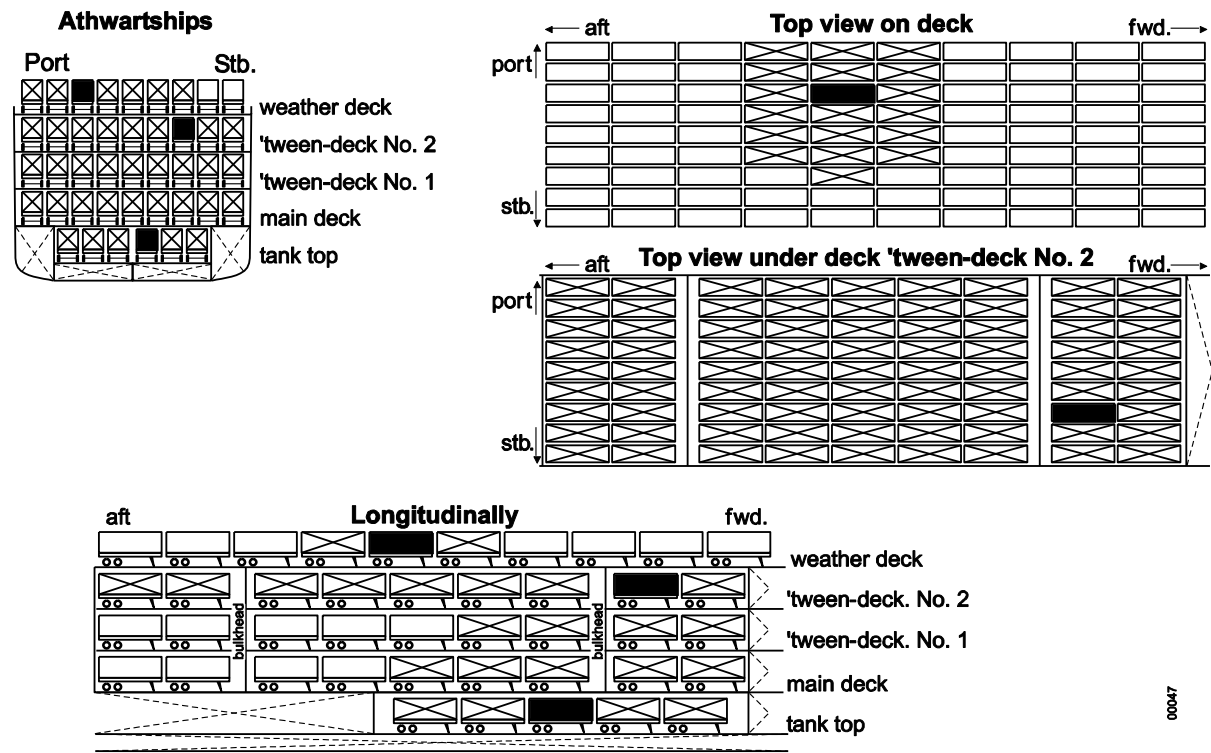
"SEPARATED FROM" .2		
OPEN VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	At least 6 metres	At least 12 metres or ONE bulkhead
ATHWARTSHIPS	At least 6 metres	At least 12 metres or ONE bulkhead



2 – Situation open versus open

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

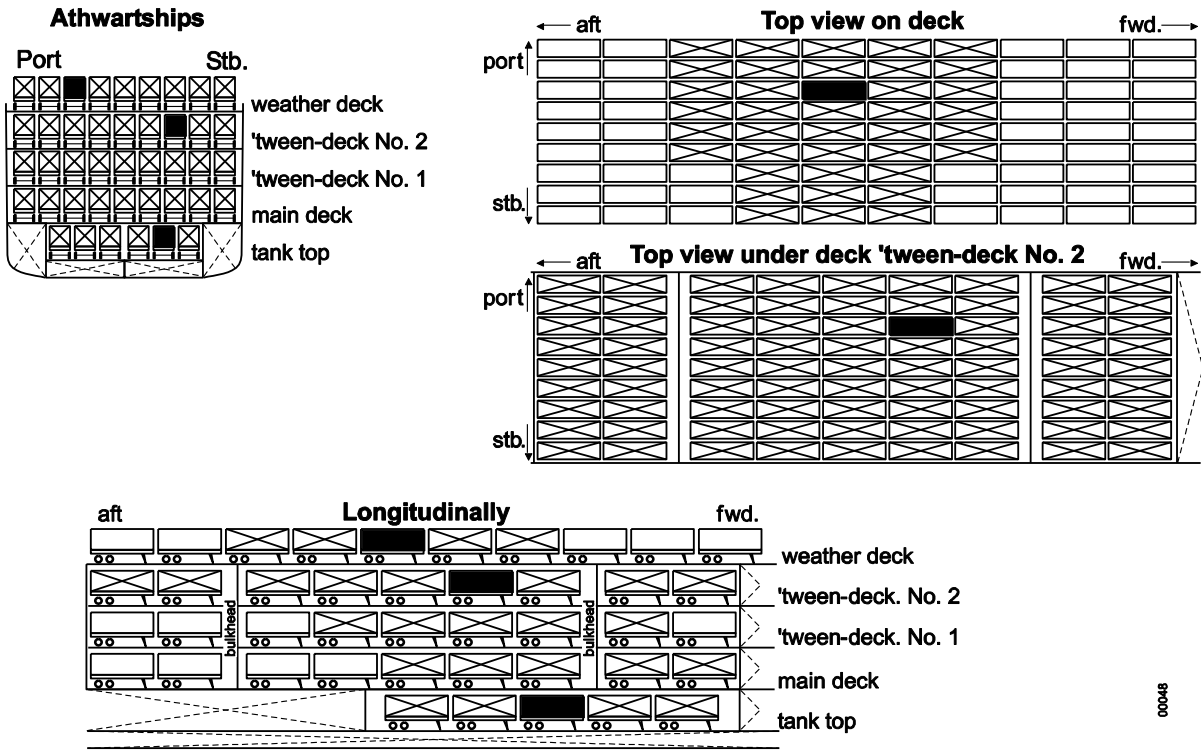
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
CLOSED VERSUS CLOSED	ON DECK	UNDER DECK
FORE AND AFT	At least 12 metres	At least 24 metres + deck
ATHWARTSHIPS	At least 12 metres	At least 24 metres + deck



3 – Situation *closed versus closed*

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

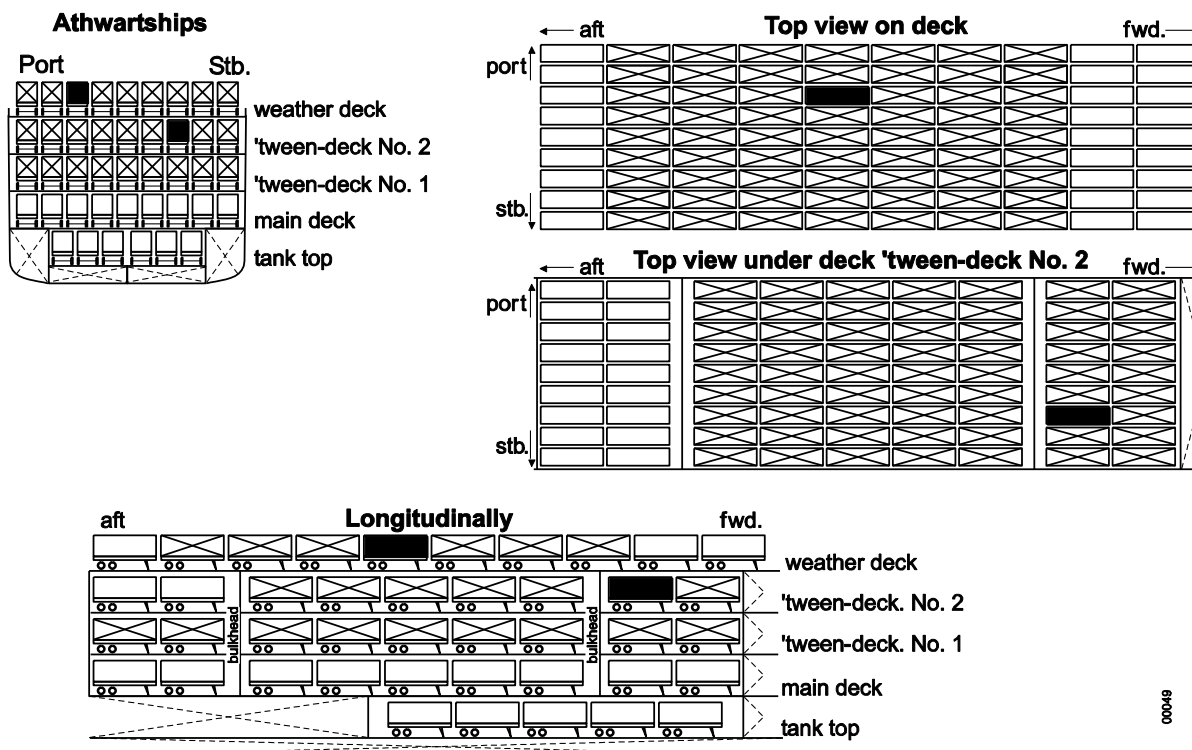
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
CLOSED VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	At least 24 metres	At least 24 metres + deck
ATHWARTSHIPS	At least 24 metres	At least 24 metres + deck



3 – Situation *closed versus open*

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

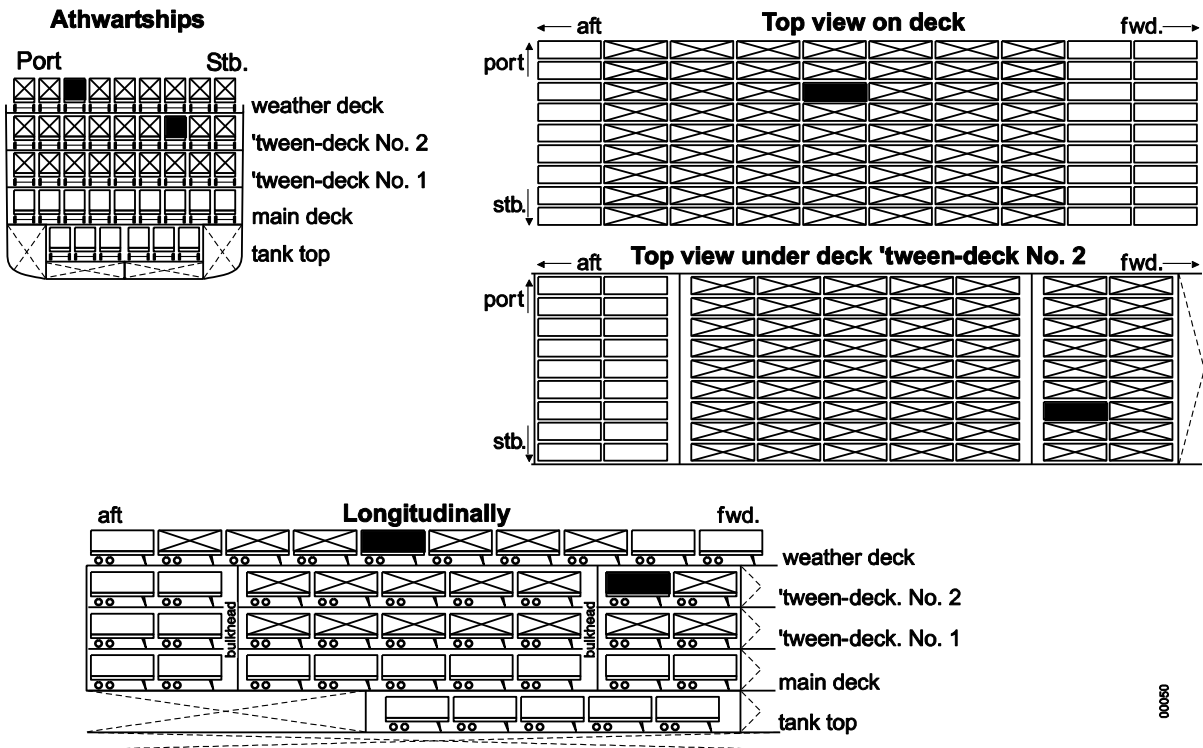
"SEPARATED BY A COMPLETE COMPARTMENT OR HOLD FROM" .3		
OPEN VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	At least 36 metres	Two decks or TWO bulkheads
ATHWARTSHIPS	Prohibited	Prohibited



3 – Situation *open versus open*

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

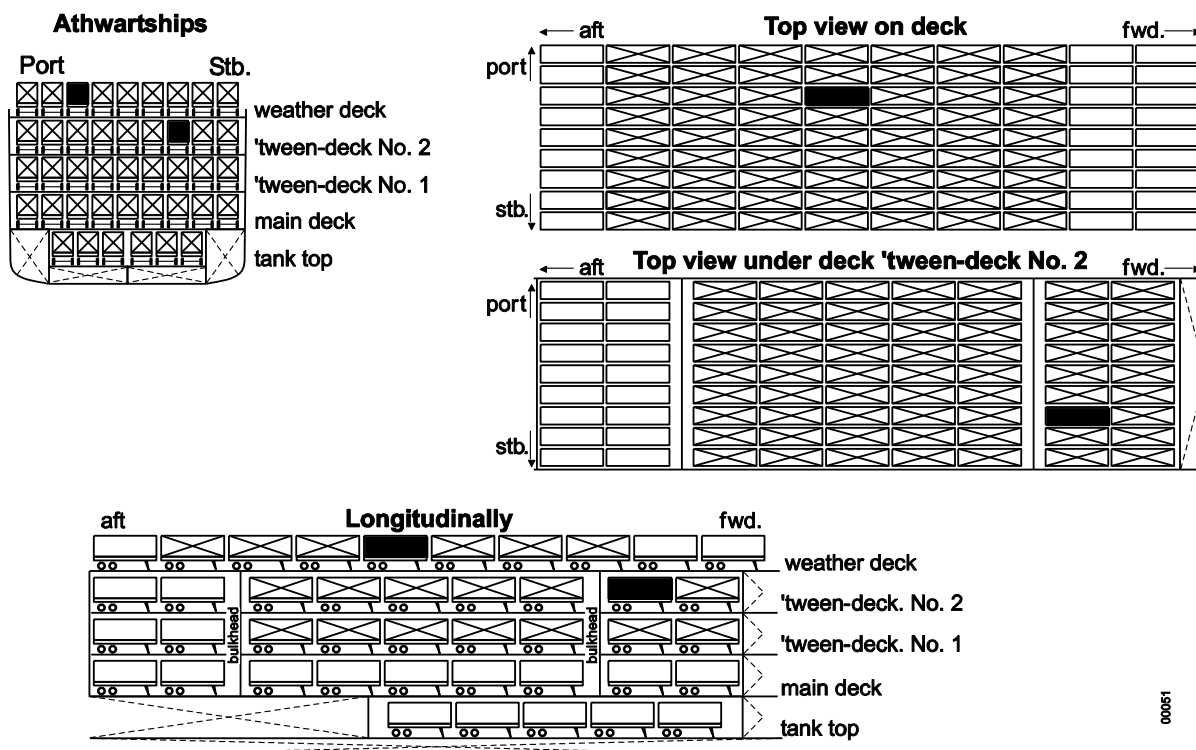
"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS CLOSED	ON DECK	UNDER DECK
FORE AND AFT	At least 36 metres	Two bulkheads or at least 36 metres + two decks
ATHWARTSHIPS	Prohibited	Prohibited



4 – Situation *closed* versus *closed*

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

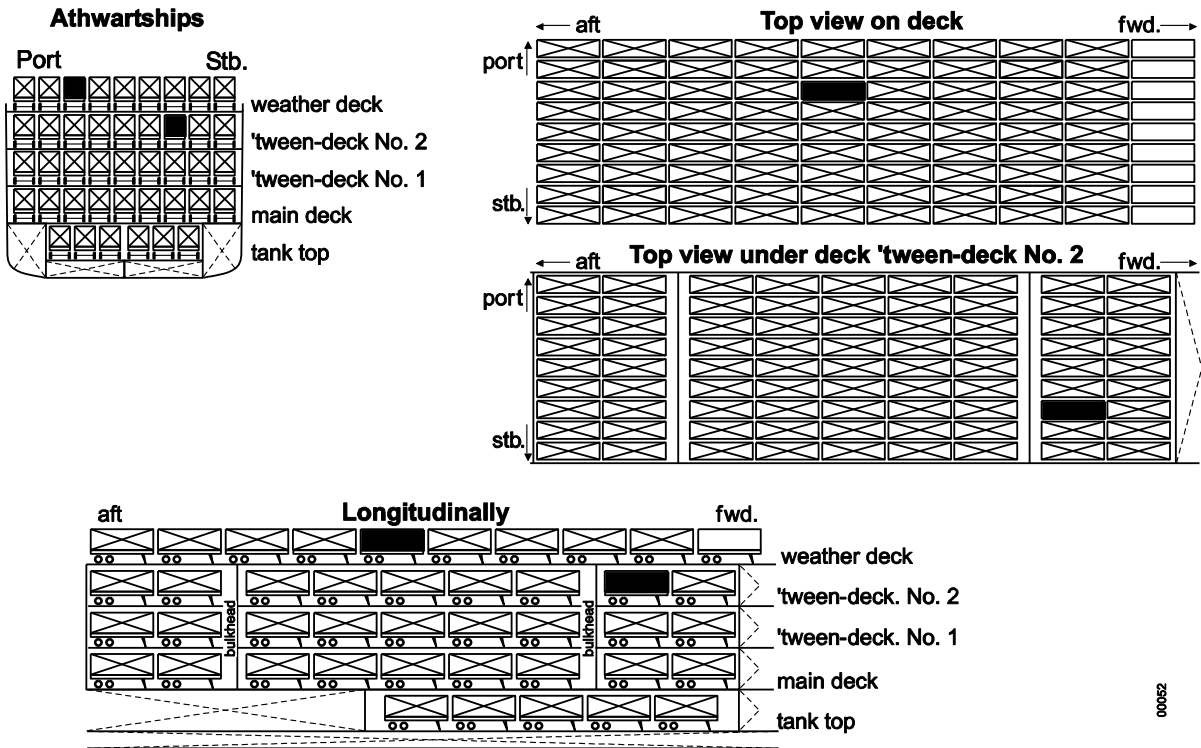
"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
CLOSED VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	At least 36 metres	At least 48 m including TWO bulkheads
ATHWARTSHIPS	Prohibited	Prohibited



4 – Situation *closed versus open*

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

"SEPARATED LONGITUDINALLY BY AN INTERVENING COMPLETE COMPARTMENT OR HOLD FROM" .4		
OPEN VERSUS OPEN	ON DECK	UNDER DECK
FORE AND AFT	At least 48 metres	Prohibited
ATHWARTSHIPS	Prohibited	Prohibited



4 – Situation open versus open

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