SECTION 9 SUPERSTRUCTURES

1 General

1.1 Application

1.1.1 The requirements of this Section apply to front, side and aft bulkheads and decks of superstructures and deckhouses as defined in Ch 2, Sec 2, [2.2.2], which may or may not contribute to the longitudinal strength.

1.2 General

1.2.1 The pressures acting on superstructures are given in Ch 7, Sec 1, [3] for decks and Ch 7, Sec 1, [4] for side and front walls.

In addition, for superstructures contributing to the hull girder longitudinal strength, global loads according to Part B, Chapter 6, as relevant, are also to be considered.

1.2.2 The strength of plating and stiffeners of superstructures is to be checked according to Ch 8, Sec 3 and Ch 8, Sec 4 respectively.

In addition, for superstructures contributing to the hull girder longitudinal strength, overall strength is also to be checked according to Ch 8, Sec 2, [1].

2 Structural arrangement

2.1 Connections of superstructures and deckhouses with the hull structure

2.1.1 Superstructure and deckhouse frames are to be fitted as far as practicable as extensions of those underlying and are to be effectively connected to both the latter and the deck beams above.

Ends of superstructures and deckhouses are to be efficiently supported by bulkheads, diaphragms, webs or pillars.

Where hatchways are fitted close to the ends of superstructures, additional strengthening may be required.

2.1.2 Connection to the deck of corners of superstructures and deckhouses is considered by the Society on a case by case basis. Where necessary, local reinforcements, doublers or reinforced welding may be required.

2.1.3 The side plating at ends of superstructures is to be tapered into the bulwark or sheerstrake of the strength deck.

Where a raised deck is fitted, this arrangement is to extend over at least 3 frame spacings.

2.2 Structural arrangement of superstructures and deckhouses

2.2.1 Strengthening in way of superstructures and deckhouses

As a general rule, web frames, transverse partial bulkheads or other equivalent strengthening are to be fitted inside deckhouses of at least 0,5B in breadth extending more than 0,15L in length within 0,4L amidships. These transverse strengthening reinforcements are to be arranged, where practicable, in line with the transverse bulkheads below.

Web frames are also to be arranged in way of large openings, tender davits, winches, provision cranes and other areas subjected to point loads.

Web frames, pillars, partial bulkheads and similar strengthening are to be arranged, in conjunction with deck transverses, at ends of superstructures and deckhouses.

2.2.2 Openings

Continuous coamings are to be fitted above and below doors or similar openings, as defined in Ch 2, Sec 2, [3].

2.2.3 Access and doors

Access openings cut in sides of enclosed superstructures are to be fitted with doors having a strength equivalent to the strength of the surrounding structure.

Special consideration is to be given to the connection of doors to the surrounding structure.

Securing devices which ensure watertightness are to include tight gaskets, clamping dogs or other similar appliances, and are to be permanently attached to the bulkheads and doors. These doors are to be operable from both sides.

2.2.4 Superstructure materials

Special attention is to be given to any specific requirements from the Administration about the structural materials and the structural fire protection in the superstructures.

2.2.5 Strengthening of deckhouses in way of tenders and liferafts

Stiffening of sides of deckhouses in way of tenders and liferafts, if any, is to be compatible with the launching operation. Deckhouses in way of launching appliances are to be adequately strenghtened.

2.2.6 Attention is drawn on any possible specific requirement that could be issued by Administration with respect to structural fire protection.

2.2.7 Constructional details

Lower tier stiffeners are to be attached to the decks at their ends.

Brackets are to be fitted at the upper and preferably also the lower ends of vertical stiffeners of exposed front bulkheads of engine casings and superstructures.