

SECTION 8

BULKHEAD STRUCTURE

1 General

1.1 Application

1.1.1 The requirements of this Section apply to longitudinal or transverse bulkhead structures.

1.2 General

1.2.1 Bulkheads may be horizontally or vertically stiffened. Horizontally framed bulkheads consist of horizontal ordinary stiffeners supported by vertical primary supporting members. Vertically framed bulkheads consist of vertical ordinary stiffeners which may be supported by horizontal girders.

1.2.2 The number and location of watertight bulkheads are to be in accordance with the relevant requirements of damage stability criteria, when applicable, as defined in Part B, Chapter 3.

1.2.3 The structural continuity of the bulkhead vertical and horizontal primary supporting members with the surrounding hull structures is to be carefully ensured.

1.2.4 As a rule, openings may not be cut in the collision bulkhead below the freeboard deck^(m) (Refer also to Ch 2, Sec 1, [2]).

The number of openings in the collision bulkhead above the freeboard deck^(m) is to be kept to the minimum compatible with the design and proper working of the yacht.

All such openings are to be fitted with means of closing to weathertight standards.

1.2.5 Certain openings below the freeboard deck^(m) are permitted in the other bulkheads, but these are to be kept to a minimum compatible with the design and proper working of the yacht and to be provided with watertight doors having strength such as to withstand the head of water to which they may be subjected.

1.2.6 As a general rule, the transverse bulkheads are to be stiffened in way of deck primary girders by vertical stiffeners in line with the deck girder or by an equivalent system. Where the deck primary girder is not continuous, the vertical stiffener supporting the end of the deck girder is to be strong enough to sustain the bending moment at end of the deck girder.

2 Structural arrangement

2.1 Watertight bulkheads

2.1.1 The crossing of transverse watertight bulkheads and bottom, side shell or deck longitudinal stiffeners are to be watertight.

2.1.2 Ordinary stiffeners of watertight bulkheads are to end in way of hull structure members, and to be connected to hull structure members.

2.1.3 Where requirement of [2.1.2] is made not possible by hull lines, any other solution may be accepted provided the embedding of bulkhead ordinary stiffeners is satisfactorily achieved.

2.1.4 Watertight bulkheads are to be fitted with watertight doors in way of passage.

2.1.5 The scantling of watertight doors is to be not less than that of the adjacent bulkhead, taking account of their actual spacing.

2.1.6 Where vertical stiffeners are cut in way of watertight doors, reinforced stiffeners are to be fitted on each side of the door and suitably overlapped; cross-bars are to be provided to support the interrupted stiffeners.

2.2 Non-tight bulkheads

2.2.1 As a rule, the total area of openings in wash bulkheads fitted in tanks is to be between 10% and 30% of the total area of the wash bulkhead.

2.3 Bulkheads acting as pillars

2.3.1 Non-tight bulkheads acting as pillars (i.e. those that are designed to sustain the loads transmitted by a deck structure) are to be provided as a general rules with vertical stiffeners.

2.3.2 As a general rule, a vertical stiffening member is to be fitted on the bulkhead, in line with the deck primary supporting member transferring the load from the deck to the bulkhead.

This vertical stiffener, in association with a width of plating equal to 35 times the plating thickness, is to comply with the applicable requirements for pillars, the load supported being determined in accordance with the same requirements.

2.4 Bracketed ordinary stiffeners

2.4.1 Where bracketed ordinary stiffeners are fitted, their arrangement are to be provided on the principles defined in Ch 9, Sec 4, [1.5.3].

The bracket scantlings are carried out by direct calculation taking into account the flexural moment and shear force acting on the stiffener in way of the bracket.

2.4.2 The connection between the stiffener and the bracket is to be such that the section modulus of the connection is not less than that of the stiffener.