

6.12 Margin plates

6.12.1 A margin plate, if fitted, is to have a thickness as required for the inner bottom plating.

6.13 Wells

6.13.1 Small wells constructed in the double bottom are not to extend in depth more than necessary. A well extending to the outer bottom may, however, be permitted at the after end of the shaft tunnel of the craft. Other well arrangements (e.g. for lubricating oil under main engines) may be considered provided they give protection equivalent to that afforded by the double bottom.

6.14 Transmission of pillar loads

6.14.1 In double bottoms under widely spaced pillars, the connections of the floors to the girders, and of the floors and girders to the inner bottom, are to be suitably increased. Where pillars are not directly above the intersection of plate floors and girders, partial floors and intercostals are to be fitted as necessary to support the pillars. Manholes are not to be cut in the floors and girders below the heels of pillars. Where longitudinal framing is adopted in the double bottom, equivalent stiffening under the heels of pillars is to be provided, and where the heels of pillars are carried on a tunnel, suitable arrangements are to be made to support the load.

6.15 Drainage arrangements

6.15.1 Suitable arrangements are to be made to provide free passage of air and water from all parts of the tanks to the air pipes and pump suction.

6.15.2 Particular attention is to be given to the positioning of limbers to ensure adequate drainage and to avoid stress concentrations, *see also Pt 8, Ch 3, 5.7 Drainage arrangements.*

6.15.3 Openings in the webs of stiffening sections, baffle plates, etc. are to be suitably sealed in accordance with *Pt 8, Ch 3, 4.16 Combined framing systems.*

6.16 Manholes

6.16.1 Sufficient manholes are to be cut in the inner bottom, floors and side girders to provide adequate access to and ventilation of all parts of the double bottom. The size of the manhole openings in plate laminates is not, in general, to exceed 50 per cent of the double bottom depth unless edge reinforcement is provided. Holes are, in general, not to be cut in the centre girder, except in tanks at the forward and after ends of the craft, and elsewhere where tank widths are reduced unless additional stiffening and/or compensation is fitted to maintain the structural integrity.

6.17 Pressure testing

6.17.1 Double bottoms are to be tested upon completion with a head of water representing the maximum internal pressure which could be experienced in service, but not less than a head of water equivalent to the level of the upper deck.

■ Section 7 Bulkheads and deep tanks

7.1 General

7.1.1 The requirements of this Section apply to craft with bulkheads of either sandwich or single skin composite construction.

7.1.2 Watertight and collision bulkheads are to be fitted in accordance with the requirements of *Pt 3, Ch 2, 4 Bulkhead arrangements.*

7.1.3 FRP composite bulkheads and plywood bulkheads are, where practicable, to be suitably attached to receiving frames, *see also LR's Guidance Notes for Structural Details.* The bulkheads are to be attached using double angles or equivalent, *see Pt 8, Ch 3, 1.19 Boundary bonding.* Proposals to fit bulkheads and tank boundaries on receiving strips in lieu of frames, will be individually considered.