



TECHNICAL CIRCULAR

Circular No: S-P 11/13

Revision: 1

Page: 1 Adoption Date: 22.04.2013

Related Requirement: TL- I SC209

Subject: SOLAS XII/6.5.3 in terms of redundancy of stiffening structural members for vessels not designed according to CSR for Bulk Carriers

Entry into Force Date:

SOLAS regulation XII/6.4.3 and SLS.14/Circ.250

Regulations

Regulation 6 “Structural and other requirements for bulk carriers” contains the following in Regulation XII/6.4:

In bulk carriers of 150 m in length and upwards, carrying solid bulk cargoes having a density of 1,000 kg/m³ and above, constructed on or after 1 July 2006:

.1 the structure of cargo holds shall be such that all contemplated cargoes can be loaded and discharged by standard loading/discharge equipment and procedures without damage which may compromise the safety of the structure;

.2 effective continuity between the side shell structure and the rest of the hull structure shall be assured; and

.3 the structure of cargo areas shall be such that single failure of one stiffening structural member will not lead to immediate consequential failure of other structural items potentially leading to the collapse of the entire stiffened panels.

Interpretation

Ships which shall comply with SOLAS XII/6.4.3 are to satisfy either 1) or 2) as given below:

1) CSR for bulk carriers, Ch 3 Sec.1 “Material” and Ch. 6 Sec. 3, “Buckling & ultimate strength of ordinary stiffeners and stiffened panels”.

2) For ships not designed according to CSR for Bulk Carriers (Ch 3 Sec.1 and Ch. 6 Sec. 3):

a) For ships with single side structures the material grade shall not be less than grade D/DH for:

- lower bracket of side frame

Note: This interpretation is implemented from 1 July 2006

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- side shell plate between two points located to 0.125 ℓ above and 0.125 ℓ below the intersection of side shell and bilge hopper sloping plate or inner bottom plate. The span of the side frame, ℓ , is defined as the distance between the supporting structures.

In case of side frames built with multiple spans, the above requirements apply to the lower part only. (See Fig.1)

b) The safety factor with respect to lateral buckling of longitudinal and transverse ordinary stiffeners is to be increased by a factor at least of 1.15 (allowable utilization factor to be reduced by at least $1/1.15 = 0.87$) for the following areas:

- hatchway coaming
- inner bottom
- sloped stiffened panel of topside tanks and hopper tanks (if any)
- inner side (if any)
- top stool and bottom stool of transverse bulkhead (if any)
- stiffened transverse bulkhead (if any)
- side shell (if directly bounding the cargo hold)

The lateral buckling requirements of ordinary stiffeners shall be in accordance with the Rules of the individual Classification Society.

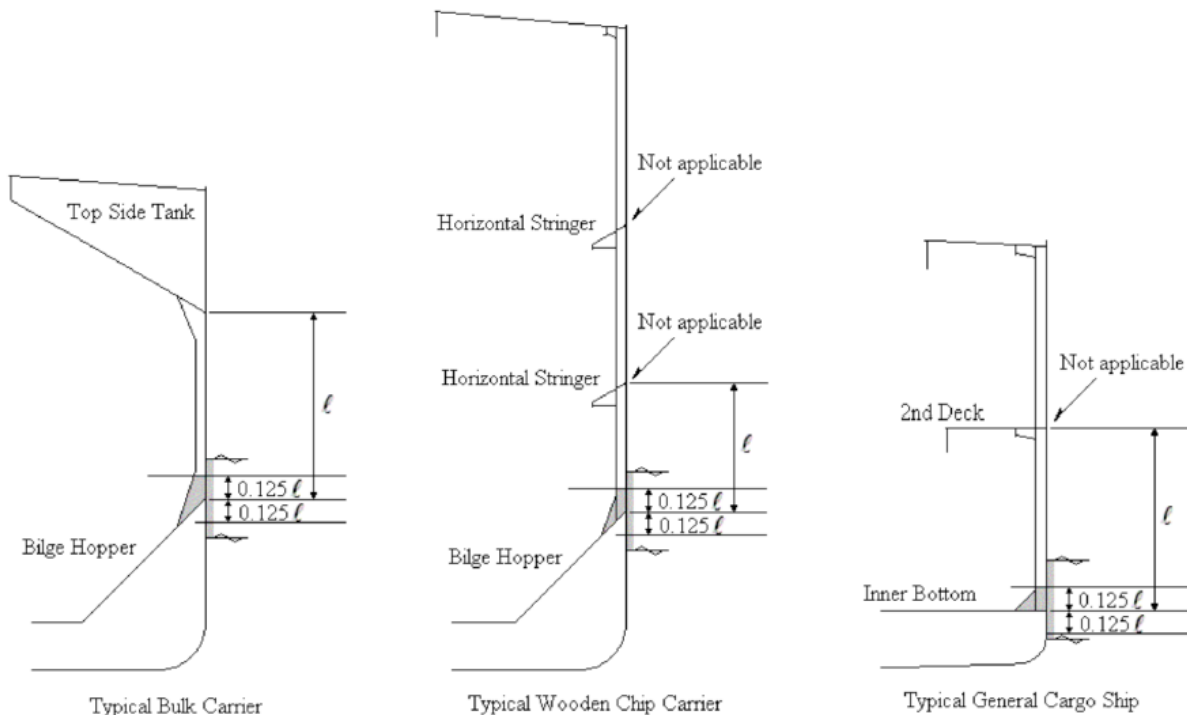


Fig.1