

G. S. S. No 735.
Command Liner.

21-6-04.

Received officially 22/6/04

Statement re stress Calculations.

The module of resistance for the midship section previously put forward for the proposed dimensions 760' x 85'0" M^{ed} x 60'0" M^{ed} were:

for top member in tension	92300	sq. in. ft
for bottom member in Compression	130440	" "

The equivalent girder being taken in way of a boiler opening no account being taken in the calculations of the wood decks; casing w deck beam Coaming & plating and about 18.8% of material being deducted from the top member for material cut away by rivet holes.

When the ship is supposed to be balanced on top of a wave 760'0" long x 38'0" high. the Cargo & being in board but the bunkers empty, the bending moment is calculated to be 990 000 foot tons. the stresses then work out as follows.

Top member in tension	10.72 tons per sq. in.
Bottom member in Compression	7.59 " " " "

With the new dimensions. 760 x 87'6" M^{ed} x 60'6" and the scantlings as proposed, the corresponding figures are.

Modulus of Resistance for top member in tension	92490	sq. in. ft
" " " " Bottom " " Compression	132600	" " " "

As the length is the same and the displacement remains as before, the liner being finer at the ends and the distribution of weights reducing the loads at the ends the bending moments



Lloyd's Register
Foundation

Statement re stress Calculations (Continued)

remains practically the same and the stresses are.

Top member in tension 10.70 tons per sq. in.

Bottom member in Compression 7.46 " " "

When adopting high tensile steel as shown in midship section the stresses are:

Top member in tension ^{11.70}
~~10.70~~ tons per sq. in.

Bottom member in Compression 7.66 tons per sq. in.

