

MOMENT OF INERTIA CALCULATION.

30/9/04

Reductions for high tensile steel.

Name of Vessel 760 x 87.5 x 10.5 Builder's Name and Yard No. R.H. 735

RULE DIMENSIONS

CLASS

Distance of Assumed Neutral Axis above Base $\frac{30.0}{31.3}$
61.3

Depth of Girder $\frac{10.5}{8}$ gunwale
61.3

ITEMS.	DIMENSIONS.	AREA.	C. G. FROM NEUTRAL AXIS.	MOMENT.	MOMENT OF INERTIA.	CORRECTION $\frac{1}{12} A H^3$.
10% reduction in top side plating and shelter and upper deck plating.						
M. Str		17.8		552	17,108	
Sh. Plt.		23.8		754	23,940	
U. sh. str. pl.		29.7		611	12,602	
U. sh. Plt. Deull. 1		5.8		169	4,988	
$\frac{31.3}{7.7}$ 15.5	" 2	5.9		148	3,726	
$\frac{23.6}{15.12}$ 30	" 3	5.3		111	2,344	
$\frac{15.6}{18.6}$ 4	" 4	4.8		81	1,377	
Top side pl. 186 x .1		18.6	23.6	439	10,360	15.5^2
		111.7		2,865	76,820	
$\frac{111.7 \times 3.3 \times 400 \times 2}{2240} = 130 \text{ tons}$						
		1712		33,332	818,550	
		112		2,865	76,820	
		1600		30,467	741,730	
Below		1888		43,337	1,116,430	
5% Above		1333		25,390	618,100	
		3221		117,947	1,734,730	
				5.57	100,000	
				36.87	1,634,730	$= \frac{1}{2} I$
					44,330	$= \frac{1}{2} I/y$
					88,660	$= I/y$
$\frac{96,000}{88,660} = 10.83 \text{ tons.}$						
				$\frac{95,840}{88,660}$		
				7200		$= 7\frac{1}{2} \% \text{ reduction}$



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