

High Tensile Steel

# MOMENT OF INERTIA CALCULATION.

3/10/04

Full Sect. area

Name of Vessel

Builder's Name and Yard No.

Swand Hunter 735

RULE DIMENSIONS 76.0 x 87.5 x 60.5 CLASS

Distance of Assumed Neutral Axis above Base

30.0  
31.3  
61.3

Depth of Girder

60.5 mbs  
.8  
61.3

ITEMS.	DIMENSIONS.	AREA.	C. G. FROM NEUTRAL AXIS.	MOMENT.	MOMENT OF INERTIA.	CORRECTION $\frac{1}{12} A H^2$ .
Below		1888		43,337	1,116,430	
Above.		1712		33,332	818,550	
		3,600		110,005	1,935,180	
				2.78	27,880	
				34.08	1,907,400	$= \frac{1}{2} I$
					55,970	$= \frac{1}{2} I_y$
					111,940	$= I_y$
					140,180	$= \frac{1}{2} I_y$
$\frac{96,0000}{111,940} \times \left(\frac{6}{5}\right) = 10.29 \text{ tons t.}$						
			34.08	Summable		
				Keel.		
$\frac{96,0000}{140,180} = 6.85 \text{ tons c.}$						
			27.22			

With reductions for H.T. Steel.

Below		1888		43337	1,116,430	
Above.		1600		30467	741,730	
		3488		112,870	1,858,360	
				3.69	47,480	
				34.99	1,810,880	$= \frac{1}{2} I$
					51,750	$= \frac{1}{2} I_y$
					103,500	$= I_y$
$\frac{96,0000}{103,500} \times \left(\frac{6}{5}\right) = 11.13 \text{ tons t.}$						
			34.99	Summable		
				Keel.		
$\frac{96,0000}{137,640} = 6.97 \text{ tons c.}$						
			26.31		137,640	$= \frac{1}{2} I_y$



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