Calculations of Displacement &c. of the Composite Tea Clipper "Cutty Sark", built at Dumbarton by Messrs Scott & Linton in 1869, under the Special Survey of the Surveyors to Lloyd's Register of Shipping, and Classed ✠ 16 A1.

THESE CALCULATIONS HAVE BEEN MADE FROM THE LINES OF THE VESSEL CONSTRUCTED FROM MEASUREMENTS AND PARTICULARS OF THE VESSEL OBTAINED WHILE IN DRY DOCK AT THE "UNION DOCKS" OF MESSRS FLETCHER, SON & FEARNELL, LIMITED, LIMEHOUSE, LONDON, JANUARY 1922.

This paper of calculations is the property of the Committee of Lloyd's Register of Shipping, London.

No. of Sections	Multipliers	Keel. 1		Water Line 1. 4		Water Line 2. 2		Water Line 3. 4		Water Line 20ft. 1		Vertical Sections. Areas.	Functions	Mult.	Moments.
Stem	1	·0	·0	·0	·0	·0	·0	·0	·0	·4	·4				
		·0		·0		·0		·0		·4		·4	·4		
1	4	·7	2·8	1·0	4·0	1·5	6·0	2·3	9·2	3·4	13·6				
		·7		4·0		3·9		9·2		3·4		20·3	81·2	1	81·2
2	2	·7	1·4	2·2	4·4	3·6	7·2	5·2	10·4	6·7	13·4				
		·7		8·8		7·2		20·8		6·7		44·2	88·4	2	176·8
3	4	·7	2·8	3·5	14·0	6·2	24·8	8·2	32·8	9·7	38·8				
		·7		14·0		12·4		32·8		9·7		69·6	278·4	3	835·2
4	2	·7	1·4	5·2	10·4	8·9	17·8	11·1	22·2	12·4	24·8				
		·7		20·8		17·8		44·4		12·4		96·1	192·2	4	768·8
5	4	·7	2·8	7·0	28·0	11·4	45·6	13·5	54·0	14·4	57·6				
		·7		28·0		22·8		54·0		14·4		119·9	479·6	5	2398·0
6	2	·7	1·4	8·7	17·4	13·7	27·4	15·4	30·8	16·0	32·0				
		·7		34·8		27·4		61·6		16·0		140·5	281·0	6	1686·0
7	4	·7	2·8	10·3	41·2	15·3	61·2	16·6	66·4	16·8	67·2				
		·7		41·2		30·6		66·4		16·8		155·7	622·8	7	4359·6
8	2	·7	1·4	11·4	22·8	16·4	32·8	17·3	34·6	17·3	34·6				
		·7		45·6		32·8		69·2		17·3		165·6	331·2	8	2649·6
9	4	·7	2·8	12·3	49·2	17·1	68·4	17·7	70·8	17·5	70·0				
		·7		49·2		34·2		70·0		17·5		172·4	689·6	9	6206·4
10	2	·7	1·4	12·7	25·4	17·4	34·8	18·0	36·0	17·7	35·4				
		·7		50·8		34·8		72·0		17·7		176·0	352·0	10	3520·0
11	4	·7	2·8	12·6	50·4	17·3	69·2	18·0	72·0	17·7	70·8				
		·7		50·4		34·6		72·0		17·7		175·4	701·6	11	7717·6
12	2	·7	1·4	11·8	23·6	16·8	33·6	17·8	35·6	17·6	35·2				
		·7		47·2		33·6		71·2		17·6		170·3	340·6	12	4087·2
13	4	·7	2·8	10·4	41·6	15·8	63·2	17·4	69·6	17·4	69·6				
		·7		41·6		31·6		69·6		17·4		160·9	643·6	13	8366·8
14	2	·7	1·4	8·7	17·4	14·3	28·6	16·6	33·2	17·0	34·0				
		·7		34·8		28·6		66·4		17·0		147·5	295·0	14	4130·0
15	4	·7	2·8	7·0	28·0	12·2	48·8	15·2	60·8	16·4	65·6				
		·7		28·0		24·4		60·8		16·4		130·3	521·2	15	7818·0
16	2	·7	1·4	5·1	10·2	9·7	19·4	13·2	26·4	15·2	30·4				
		·7		20·4		19·4		52·8		15·2		108·5	217·0	16	3472·0
17	4	·7	2·8	3·4	13·6	6·8	27·2	10·4	41·6	13·4	53·6				
		·7		13·6		13·6		41·6		13·4		82·9	331·6	17	5637·2
18	2	·7	1·4	2·0	4·0	4·1	8·2	6·9	13·8	10·5	21·0				
		·7		8·0		8·2		27·6		10·5		55·0	110·0	18	1980·0
19	4	·7	2·8	1·0	4·0	1·9	7·6	3·3	13·2	6·3	25·2				
		·7		4·0		3·8		13·2		6·3		28·0	112·0	19	2128·0
Stat	1	·5	·5	·5	·5	·5	·5	·5	·5	·5	·5				
		·5		2·0		1·0		2·0		·5		6·0	6·0	20	120·0
			41·1		410·1		632·3		733·9		793·7				
			41·1		+ 1640·3		+ 1264·6		+ 2935·6		+ 793·7	= 6675·4			68138·4
			4		3		2		1		0	4·7			10·207
												467278			10·5
												267016			51035
												3 / 31374·38			10207
6675·4 / 10550·4 =			164·4	+	4921·2	+	2529·2	+	2935·6			10458·126			107·1735
												10·5			405·0000 = 10·5 × 10
												52290630			2·1735 = Distance of C. of Buoy. abaft No. 10 Sec. Mom.
												10458126			
												3 / 109810·3230			
												36603·441			
												2			
												73206·882			73498·03 = ·431 Coeff. of Disp.t
												291·148 = Keel.			212 × 34 × 20 W.L. B. D.
												7 / 73498·030			
												5 / 10499·718			552·896 / 34·20 = ·767 Coeff. of Mid. Sec.
												2099·9436 =			
												Disp.t at 20ft. W.L.			Area of Sec. 5565·9 / 212 × 34 = ·740 Coeff. of L.W.L.

203·6 = Length of Keel.

793·7 × 10·5 = 39685; 79370; 3 / 8333·85 = 2777·95; 2; 12 / 5555·90; 7 / 462·901; 5 / 66·141; 13·2282 = Disp.t in tons per inch at L.W.L.

632·3 × 10·5 = 31615; 6323; 3 / 6639·15 = 2213·05; 2; 12 / 4426·10; 7 / 368·841; 5 / 52·691; 10·538 = Disp.t in tons per inch at 2nd. W.L.

733·9 × 10·5 = 36695; 7339; 3 / 7705·95 = 2568·65; 2; 12 / 5137·30; 7 / 428·108; 5 / 41·158; 12·2316 = Disp.t in tons per inch at 3rd. W.L.

410·1 × 10·5 = 20505; 4101; 3 / 4306·05 = 1435·35; 2; 12 / 2870·70; 7 / 239·225; 5 / 34·175; 6·835 = Disp.t in tons per inch at 1st. W.L.

41·1 × 1 = 41·1; 206·3 × 4 = 825·2; 410·1 × 1 = 410·1; 1276·4; 2·35; 63820; 38292; 25528; 3 / 2999·548 = 999·846; 10·5; 4999230; 999846; 3 / 10498·3230 = 3499·461; 2; 6998·922; 291·148 = Keel.; 7 / 7290·070; 5 / 1041·438 = 208·2876 = Disp.t at 1st. W.L.

41·1 × 1 = 41·1; 410·1 × 4 = 1640·4; 632·3 × 1 = 632·3; 2313·8; 4·7; 161966; 92552; 3 / 1087496 = 362·4953; 10·5; 18124765; 3624953; 3 / 38062·0065 = 12687·3355; 2; 25374·6710; 291·148 = Keel.; 7 / 25665·319; 5 / 3666·545 = 733·309 = Disp.t at 2nd. W.L.

41·1 × 1 = 41·1; 410·1 × 3 = 1230·3; 632·3 × 3 = 1896·9; 733·1 × 1 = 733·9; 3902·2; 4·7; 2731514; 156088; 3 / 18340·34 = 6113·446; 10·5; 30567230; 6113446; 8 / 64191·1830 = 8023·8978; 3; 24071·6934; 2; 4 / 48·3869; 291·148 = Keel.; 7 / 43434·5348; 5 / 6919·2192; 1383·8438 = Disp.t at 3rd. W.L.

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