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Technical Committee

NUMERICAL TEST OF FORMULA PROPOSED BY THE NETHERLANDS (TM/CONF/3, page 38)

Submitted by the Netherlands

The table overleaf shows the comparison of the national, Panama and Suez tonnages with the tonnages obtained by the formulae contained in TM/CONF/3, page 38. An additional formula for passenger ships (Formula 2) is also given.

		National		Suez	Panama	Average Suez+Pan.	pD+q(V-D)	CV			
No.	Type (1)	Gross R.T. (2)	Net R.T. (3)	Net R.T. (4)	Net R.T. (5)	Net R.T. (6)	R.T. (7)	R.T. (8)	(7)/(2)	(8)/(6)	q
1	bulk carrier	12391	7941	9851	9918	9885	12395	9019	1.00	0.91	0.866
2	do	19985	11766	16692	14768	15730	19979	15619	1.00	0.99	0.980
3	LPG-NH_3 tanker	19654	11206	16912	14796	15854	19658	15229	1.00	0.96	0.560
4	tanker	12461	7106	9438	9120	9279	12464	8918	1.00	0.96	1.-
5	do	23562	12117	18631	16648	17640	23561	19201	1.00	1.09	1.-
6	do	31204	18611	24871	23191	24031	31223	25582	1.00	1.06	1.-
7	do	31030	18468	25400	21566	23483	31029	25347	1.00	1.08	1.-
8	do	38132	24518	33666	-	33666	38127	32479	1.00	0.96	1.-
9	do	57906	41268	53432	-	53432	57893	52832	1.00	0.99	1.-
10	tanker	500	274	461	338	400	499	454	1.00	1.14	0.914
11	do	499	303	525	397	461	499	509	1.00	1.10	1.-
12	do	1275	773	1099	1031	1065	1275	1032	1.00	0.97	1.-
13	open sh.deck ship	500	220	705	-	705	500	670	1.00	0.95	0.260
14	open ro.ro ship	496	209	-	-	-	496	989	1.00	-	0
15	open container ship	500	282	-	-	-	500	1026	1.00	-	0
16	open do	1305	619	-	-	-	1305	1990	1.00	-	0
17	single deck ship	260	180	-	-	-	259	202	1.00	-	0.806
18	do	499	294	521	487	504	499	454	1.00	0.90	0.974
19	do	479	304	452	378	415	479	382	1.00	0.92	0.638
20	do	499	305	-	-	-	499	397	1.00	-	1.-
21	do	500	317	-	-	-	500	423	1.00	-	0.848
22	do	399	249	-	-		399	318	1.00	-	0.704

No.	Type (1)	National Gross R.T. (2)	National Net R.T. (3)	Suez Net R.T. (4)	Panama Net R.T. (5)	Average Suez+Pan. Net R.T. (6)	pD+q(V-D) R.T. (7)	CV R.T. (8)	(7)/(2)	(8)/(6)	q
23A	closed sh.deck ship)	1467	976	1294	1221	1258	1501	1109	1.02	0.88	1.-
B	open ")	497	353	1294	1221	1258	475	1109	0.96	0.88	0
24A	closed ")	1240	910	1119	1091	1105	1322	949	1.07	0.86	1.-
B	open ")	499	341	1119	1091	1105	445	949	0.89	0.86	0
25A	closed ")	1201	657	978	907	943	1346	938	1.12	1.00	1.-
B	open ")	533	266	978	907	943	439	938	0.82	1.00	0
26A	closed ")	1439	958	1269	1190	1230	1031	1072	0.72	0.87	0.086
B	open ")	500	349	1269	1190	1230	886	1072	1.77	0.87	0
27A	closed ")	1463	981	1197	-	1197	1456	1072	1.00	0.90	1
B	open ")	500	308	1197	-	1197	504	1072	1.01	0.90	0
28A	closed cargo ship	5612	3153	3929	3736	3833	5624	3836	1.00	1.00	0.818
B	open "	3856	2049	3929	3736	3833	3849	3836	1.00	1.00	0.326
29A	closed "	7560	4132	6452	5721	6087	7920	5580	1.05	0.92	0.734
B	open "	5163	2639	6452	5721	6087	4867	5580	0.94	0.92	0.188
30A	closed "	8766	5222	6648	-	6648	8539	6161	0.97	0.93	0.884
B	open "	6572	3803	6648	-	6648	6779	6161	1.03	0.93	0.530
31A	closed "	9049	5408	6856	-	6856	9203	6254	1.02	0.91	1.-
B	open "	6963	4031	6856	-	6856	6831	6254	0.98	0.91	0.512
32	open ferry ship	6682	3475	-	-	-	649	6639	0.10	-	0
33	passenger ship	38621	21868	33638	21254	27446	3867	33845	0.10	1.23	0

paragraph ships

$(7) = pD + q(V-D)$ [R.T.]

$p = 0.387 + 0.0904 \log D$

$q = 6\frac{D}{V} - 2.5 \quad (0 \leq q \leq 1)$

V = total volume of the ship in m^3

D = moulded volume of displacement

$(8) = c.V$ [R.T.]

$c = -0.24 + 0.1 \log V \ (0.20 \leq c \leq 0.30)$

V = total volume of the ship in m^3

Additional proposal for passenger ships

Formula 2 $\quad$ Gross $= pD + q(V-D) + r(V-D)$

$$r = 0.7 \frac{0.1P_1 + P_2}{1000}$$

P_1 = number of unberthed passengers

P_2 = number of berthed passengers

	National gross(1)	Formula 2 (2)	(2)/(1)
32 open ferry ships	6682 R.T.	5220 R.T.	0.79
33 passenger ships	38621 R.T.	38500 R.T.	1.00