

Amedeo Morvillo

Tecnologia delle costruzioni navali

Gli esponenti di peso e di carico

Materiali integrativi



Fridericiana Editrice Universitaria

ESPOSENTE DI PESO DELLA NAVE DA TRASPORTO E SBARCO "SAN GIORGIO"								
RIEPILOGO PESO ALLESTIMENTO								
N.	DENOMINAZIONE DEI PESI	P (G)	Z _q ' (M)	PX _q ' (EM)	X _q ' (M)	PY _q ' (EM)	Y _q ' (M)	PZ _q ' (EM)
1	IMBARCAZIONI - MEZZI DI SALVATAGGIO - ASTE DI POSTA - SCIVOLI A MURATA	59,591	16,66	359,44	62,16	3'579,9	-0,70	-40,314
2	GRU PER IMBARCAZIONI - GRU VARIE - FERROVIE - PARANCHI E VERRICELLI BACINO	65,830	16,81	1'106,60	62,23	4'086,6	-0,67	-44,106
3	ELEVATORE GARAGE E PONTE VOLO	30,000	15,00	430,00	48,80	1'464,0	-4,50	-135,000
4	ELEVATORE CAMBUSA E CUCINA	2,803	12,79	35,85	62,40	1'744,9	-8,50	-23,816
5	IMPIANTO STABILIZZAZIONE NAVE	2,201	5,90	12,99	43,13	94,9	0	0
6	ELICA TRASVERSALE	12,872	4,66	59,98	109,00	1'403,0	0	0
7	MACCHINE TIMONI - INDICATORI ANGOLO DI BARRA	12,330	6,00	73,98	0	0	0	0
8	ORGANI SALPANCORE E DI TONNEGGIO	30,650	13,34	408,87	59,98	1'938,4	3,11	55,322
9	ANCORE E CATENE - CAVI - RULLI	73,784	11,59	855,16	78,56	5'353,7	0,16	11,805
10	CUBIE - BITTE E PASSACAVI	25,631	13,75	352,42	64,25	1'844,8	0,99	23,375
11	PARATIA MOBILE DI COLLISIONE	4,300	11,50	49,45	112,60	484,2	0	0
12	CELETA DI PRORA (CARPENTERIA E IMPIANTO MANOVRA)	30,000	12,00	360,00	119,50	3'580,0	0	0
13	RAMPA PROBIERA DI ACCESSO	26,000	12,00	312,00	116,00	3'016,0	0	0
14	PORTellone DI MURATA SU IMBARCO PERSONE	1,000	9,30	9,30	85,60	85,6	-10,00	-10,000
15	PORTellone - RAMPA DI MURATA DS.	15,000	10,70	160,50	84,80	1'272,0	10,00	150,000
16	PORTellone - RAMPA DI POPRA	41,500	9,00	373,50	-5,00	-202,5	0	0
17	COPERTURA MOBILE DEL BACINO IN POSIZIONE DI SGOMBERO A SM.	101,000	6,90	898,90	11,18	1'122,2	-1,98	-199,980
18	CENTRALI OLEODINAMICHE PORTELLONI - RAMPE - SALPANCORE	13,000	3,74	126,62	53,80	699,4	0	0
19	SISTEMAZIONE E RIZZAGGIO PER ELICOTTERI	2,000	16,00	32,00	50,00	100,0	0	0
20	ALBERI ED ASTE PER BANDIERE	4,305	22,21	95,61	52,65	226,6	3,74	13,518
21	CARROPONTE MOMENTAZIONE MTM CARRELLO SGOMBERATO A SM.	35,000	13,70	479,50	6,00	210,0	-5,25	-183,750
22	SISTEMAZIONE E RIZZAGGIO - PARABORRI PER MTM	4,133	7,46	30,98	10,58	43,9	0	0
23	SISTEMAZIONE E RIZZAGGIO - VECOLI GARAGE E PONTE VOLO	18,162	13,45	244,28	62,78	1'140,2	0	0
24	RIPRESTIMENTO IN LEGNO FONDO E FIANCHI BACINO	28,691	5,33	152,92	10,70	308,9	0	0
25	POMPE FISSE - IDROFORI - EIEFFORI	13,623	2,67	36,37	53,75	732,2	0	0
26	TUBAZIONI SERVIZIO SCAFO	137,500	8,09	1'112,37	54,95	7'355,6	0	0
27	SERVIZIO ANTINCENDIO	58,914	11,13	600,03	74,18	3'999,1	0	0
28	IMPIANTO ANTIVEGETATIVO	2,200	2,00	4,40	46,80	102,9	0	0
29	IMPIANTO TRATTAMENTO RIFIUTI	15,000	3,00	45,00	57,20	858,0	-3,00	-45,000
30	IMPIANTO TRATTAMENTO RIFIUTI SOLIDI	1,301	12,38	16,12	56,80	79,9	0	0
31	VENTILAZIONE NATURALE E MECCANICA	47,850	13,20	631,62	50,32	2'436,5	0	0
32	IMPIANTO DI CONDIZIONAMENTO	75,000	12,43	932,11	59,66	4'593,8	-0,79	-60,820
33	IMPIANTO FRIGORIFERO PER CELLE CAMBUSA	4,000	4,81	19,24	67,20	268,2	0	0
34	FONTELLI PER ACQUA REFRIGERATA	0,500	9,41	4,70	60,80	30,4	0	0
35	CELLE FRIGORIFERE DI CAMBUSA ARREDATE	6,230	5,74	35,76	65,60	408,4	2,50	15,575
36	PARETI E SOFFITTI	45,730	15,23	696,47	70,05	3'103,4	1,38	63,107
37	ARREDAMENTI ALLOGGI E MENSA	64,327	11,15	717,58	79,80	5'135,7	1,09	70,149
38	ARREDAMENTO LOCALI DIVERSI	51,832	11,59	600,73	58,56	3'035,3	0,51	26,424
39	ARREDAMENTO LOCALI IGIENICI	5,070	10,41	52,78	79,49	403,0	1,02	5,171
40	PITTURAZIONE E CEMENTAZIONE	33,000	9,96	328,67	52,23	1'723,5	0	0
41	PAVIMENTAZIONE ALLOGGI E PONTE DI VOLO	47,781	13,56	647,91	59,42	2'899,1	0,63	30,102
42	COIBENTAZIONE TERMICA, ACUSTICA E TAGLIAFUOCO	87,134	12,22	820,38	65,92	4'425,4	0,71	47,665
43	PORTE METALLICHE	13,600	11,37	154,63	67,60	912,3	0	0
44	BAGLIOLI IN LEGNO E CARABOTTINI	3,570	8,84	31,03	72,97	256,1	0,70	2,457
45	GRIGLIATI E FALSI PONTI	14,952	14,04	209,93	29,82	445,8	3,13	46,800
46	N°2 TIMONI CARENATI	3,000	1,60	14,40	0	0	0	0
47	SCALE IN FERRO INTERNE ED ESTERNE - SCALE DI BANDA	19,800	10,01	198,20	67,23	1'331,1	0	0
48	PORTELLI - PASSI D'UOMO - LAMIERE SMONTABILI	5,960	7,83	46,65	44,12	262,9	0	0
49	RINGHIERE - TELAI ABBATTIBILI - SISTEMAZIONE TENDE PONTE DI VOLO	6,983	17,11	119,47	42,16	294,4	0,51	3,561
50	FINESTRINI - PORTELLINI - LUCI FISSE - TARGHE - BUSSOLE - STRUM. NAUTICI	1,720	18,67	32,11	50,62	87,0	5,82	10,010
51	SEGNALI - CANALI - PORTAFANALI	2,200	22,74	48,71	60,00	122,0	0	0
52	SERVIZIO DEL CARBURANTE PER ELICOTTERI PONTE VOLO AD.	6,264	7,18	44,97	36,00	225,5	0	0
53	IMPIANTO RIFORMIMENTO AUTOMEZZI	1,500	9,00	13,50	53,00	79,5	0	0
54	IMPIANTO ELETTRICO CON ESCLUSIONE DEI GENERATORI NEI LOCALI A.M.	129,100	12,08	1'552,53	52,01	6'744,5	-0,17	-21,947
55	DOTAZIONI E RISPARMI (CUCINA, MENSA, NOSTROMO, CARPENTERIA)	13,600	12,84	303,02	80,90	1'009,2	-1,50	-35,400
	PESO E MOMENTI STATICI TOTALI	1'544,012		17'761,37		86'367,8		-183,102

$$Z_q = 17'761,37 \text{ EM} / 1'544,012 \text{ T} = 11,50 \text{ M}$$

$$X_q = 86'367,8 \text{ EM} / 1'544,012 \text{ T} = 55,94 \text{ M}$$

$$Y_q = -183,102 \text{ EM} / 1'544,012 \text{ T} = -0,12 \text{ M}$$

COORDINATE DEL CENTRO DI GRAVITA'

ESPONENTE DI PESO DELLA NAVE DA TRASPORTO E SBARCO "SAN GIORGIO"								
RIEPILOGO PESO APPARATO MOTORE ASCIUTTO								
N.	DENOMINAZIONE DEI PESI	P	Z _g '	PZ _g '	X _g '	PX _g '	Y _g '	PY _g '
		(t)	(m)	(t/m)	(m)	(t/m)	(m)	(t/m)
1	M.2 MOTORI PRINCIPALI GMT 480.12	180,000	3,40	612,00	43,80	7884,0	0	0
2	M.2 GIUNTI ELASTICI	5,200	2,95	15,34	40,50	210,6	0	0
3	M.2 RIDUTTORI DI GIRI	19,400	2,85	55,29	38,95	755,6	0	0
4	M.2 ALBERI INTERMEDI	10,100	2,85	28,76	34,60	349,4	0	0
5	M.2 ALBERI - ASTUCCI PORTAELICA	40,800	2,20	89,76	19,00	693,6	0	0
6	M.2 FRENI PER LINEE D'ASSI	1,400	2,60	3,64	39,80	52,9	0	0
7	M.4 BOCCOLE SUPPORTO ASSI	0,405	2,01	1,41	9,81	5,5	0	0
8	M.2 GIUNTI TIPO SKF ENTRO RECESSI	1,411	2,55	3,59	31,40	44,3	0	0
9	M.2 GIUNTI TIPO SKF FUORI SCAFO	1,920	2,30	4,41	19,60	39,6	0	0
10	M.2 ELICHE PALE ORIENTABILI	16,611	1,84	31,06	3,60	59,4	0	0
11	M.2 TENUTE PROBIERE	0,202	2,51	0,52	29,00	6,0	0	0
12	M.2 BOCCOLE ASTUCCI PROBIERI	0,305	2,45	0,74	28,40	8,6	0	0
13	M.2 BOCCOLE ASTUCCI POPPIERI	0,103	2,30	0,23	21,00	2,1	0	0
14	M.1 CONSOLLE COMANDO E CONTROLLO	2,601	5,10	13,26	60,00	156,0	0	0
15	M.1 ARMADIO INPIANTO AUTOMAZIONE	0,900	5,30	4,77	60,30	34,3	3,00	2,400
16	M.2 SILENZIATORI MOTORI PRINCIPALI	1,800	10,80	19,44	49,30	89,1	8,50	15,300
17	TUBI SCARICO GAS MOTORI PRINCIPALI	3,000	9,00	27,00	49,31	424,9	8,00	24,000
18	M.2 CUSCINETTI PER LINEE D'ASSI	2,492	2,65	6,62	32,99	81,8	0	0
19	M.4 DIESEL ALTERNATORI	64,000	2,45	156,81	51,30	3296,0	0	0
20	M.4 SILENZIATORI GRUPPI DIESEL ALTERNATORI	0,682	9,10	6,20	50,10	34,1	8,80	6,002
21	M.1 SILENZIATORE GRUPPO DIESEL ALTERNATORE EMERGENZA	0,084	11,00	0,26	75,50	0,2	-3,00	-0,216
22	M.1 GRUPPO DIESEL ALTERNATORE EMERGENZA	4,000	11,00	44,00	75,50	30,0	-3,00	-36,000
23	M.1 QUADRO ELETTRICO DI EMERGENZA	0,612	11,00	6,73	18,00	11,6	-8,50	-5,102
24	TUBI SCARICO GAS DIESEL ALTERNATORE	7,800	10,00	78,00	50,30	392,3	8,02	62,556
25	M.3 E/COMPRESSORI A.P.	2,500	5,30	13,25	44,01	110,0	0	0
26	M.1 E/COMPRESSORE B.P.	1,242	5,39	6,59	48,60	54,3	0	0
27	M.2 SERBATOI AVVIAMENTO MOTORI PRINCIPALI	5,000	5,80	29,00	40,80	204,0	0	0
28	M.2 SERBATOI AVVIAMENTO DIESEL ALTERNATORI	2,000	3,20	6,40	36,80	112,4	-8,00	-16,000
29	M.1 SERBATOIO AUTOMATISMI	0,900	5,40	4,86	39,50	34,1	-1,00	-0,900
30	M.1 DISTRIBUTORE ARIA AUTOMATISMI	0,300	5,20	1,56	38,00	11,4	-2,00	-0,600
31	M.1 COMPRESSORE ARIA A MANO	0,058	5,32	0,23	39,40	2,0	-3,00	-0,156
32	M.1 BOMBOLA ARIA 1° AVVIAMENTO	0,405	5,40	2,19	41,50	16,8	-3,00	-1,215
33	M.1 E/POMPA TRAVASO	0,250	2,42	0,60	41,80	10,4	-1,00	-0,250
34	M.2 E/DEPURATORI AUTOPULITORI	1,300	2,40	3,60	38,90	58,3	0	0
35	M.2 RISCALDATORI ELETTRICI	0,700	2,50	2,45	36,90	25,8	0	0
36	M.4 E/POMPE LUBRIFICAZIONE MOTORI PRINCIPALI	5,200	2,50	13,00	45,01	234,0	0	0
37	M.4 REFRIGERANTI OLIO MOTORI PRINCIPALI	1,205	4,00	4,82	44,00	53,0	0	0
38	M.4 E/POMPE LUBRIFICAZIONE RIDUTTORI	0,500	2,50	1,25	41,30	20,6	0	0
39	M.1 BANCO PULIZIA DEPURATORI	0,200	2,80	0,56	39,10	7,4	2,00	0,400
40	M.1 E/POMPA MORCHIE DEPURATORI	0,200	2,40	0,48	41,30	8,3	1,00	0,200
41	M.4 REFRIGERANTI OLIO RIDUTTORI	3,000	3,80	11,40	38,80	116,4	0	0
42	M.2 CASSE GRAVITAZIONE OLIO RIDUTTORI	0,700	7,20	5,04	39,50	26,2	0	0
43	M.4 E/POMPE RAFFREDDAMENTO CAMICIE MOTORI PRINCIPALI	2,500	2,50	6,25	42,41	106,0	0	0
44	M.4 E/POMPE RAFFREDDAMENTO POLVERIZZATORI MOTORI PRINCIPALI	0,600	2,50	1,50	48,10	28,8	4,00	2,400
45	M.4 REFRIGERANTI ACQUA DOLCE MOTORI PRINCIPALI	4,400	4,00	17,60	38,00	167,2	0	0
46	M.4 REFRIGERANTI ACQUA DOLCE POLVERIZZATA	0,080	2,50	0,20	43,00	3,4	4,00	0,320
47	M.2 E/POMPE CIRCOLAZIONE CALDERINE	0,250	2,30	0,57	46,20	11,5	0	0
48	M.4 PRERISCALDATORI ACQUA DOLCE DIESEL ALTERNATORI	2,120	2,41	5,11	51,42	109,0	0	0
49	M.4 E/POMPE ACQUA SALATA MOTORI PRINCIPALI E RIDUTTORI	3,203	2,50	8,00	46,30	148,3	0	0
50	M.1 E/POMPA AUSILIARI	0,200	2,30	0,46	41,80	8,3	1,00	0,200
51	M.2 E/POMPE TRAVASO	0,800	2,30	1,84	38,90	31,1	-4,00	-3,200
52	M.2 E/POMPE ALIMENTO MOTORI PRINCIPALI	2,400	2,30	0,88	44,80	17,9	-4,00	-1,600
53	M.2 E/DEPURATORI AUTOPULITORI	2,400	2,80	6,72	39,00	93,6	-1,50	-3,600
54	M.2 E/POMPE TRASFERIMENTO KEROSENE	0,495	2,12	1,05	36,50	18,0	4,80	2,079
55	M.2 GENERATORI ACQUA CALDA	3,400	3,20	10,88	46,50	158,1	0	0
56	M.3 DISSALDATORI AD OSMOSI INVERSA	6,000	5,40	32,40	60,30	361,2	-8,30	49,800
57	TUBI DI SCARICO GENERATORI ACQUA CALDA	0,800	9,00	7,20	46,80	37,4	0	0
58	M.1 SEPARATORE DI SENTINA	0,200	2,80	1,24	60,80	48,6	2,00	1,600
59	M.1 E/POMPA SEPARATORE DI SENTINA	0,300	2,50	0,75	61,00	18,3	0	0
60	CONDOTTE DI VENTILAZIONE	4,500	7,80	35,10	48,80	219,6	-6,00	-24,000
61	M.2 E/VENTILATORI LOCALE MOTORI PRINCIPALI	0,206	15,02	3,09	49,50	9,2	-10,00	-2,060
62	M.2 E/ESTRATTORI LOCALE MOTORI PRINCIPALI	0,220	8,03	1,76	49,80	10,5	9,80	2,156
63	M.2 E/VENTILATORI LOCALE DIESEL ALTERNATORI	0,185	15,00	2,77	49,50	8,4	-9,00	-1,665
64	M.2 E/ESTRATTORI LOCALE DIESEL ALTERNATORI	0,202	8,02	1,62	50,31	10,1	8,00	1,616
65	M.1 E/ESTRATTORE LOCALE DEPURATORI	0,083	4,00	0,33	39,30	3,1	0	0
66	OFFICINA DI MACCHINA	6,000	2,80	16,80	59,80	346,8	-8,50	-51,000
67	ZAPPOLI - GRIGLIATI - BULLONI	4,000	2,80	11,20	43,00	170,0	0	0
68	COIBENTAZIONE	3,900	8,50	33,15	42,00	155,4	0	0
69	MAGLIOLI - SCALE	20,000	2,80	56,00	49,00	980,0	0	0
70	AVVIATORI	0,350	3,43	1,20	42,31	40,2	0	0
71	DOTAZIONI E RISPETTI	19,000	2,80	53,20	58,00	1102,0	-1,50	28,500
72	TUBOLATURE SERVIZI DI BORDO	34,000	2,80	95,20	48,14	2601,2	0	0
73	AUTOMAZIONE: CAVI, SOLETTE, STAFFE	12,800	8,25	105,60	49,48	604,4	-0,38	4,864
74	VARIE NON GIÀ COMPUTATE	4,053	3,49	14,14	48,02	338,5	0	0
	PESO E MOMENTI STATICI TOTALI	559,584		1954,34		23761,9		102,029

$$Z_g = 1954,34 \text{ t/m} / 559,584 \text{ t} = 3,49 \text{ m}$$

$$X_g = 23761,9 \text{ t/m} / 559,584 \text{ t} = 42,46 \text{ m}$$

$$Y_g = 102,029 \text{ t/m} / 559,584 \text{ t} = 0,18 \text{ m}$$

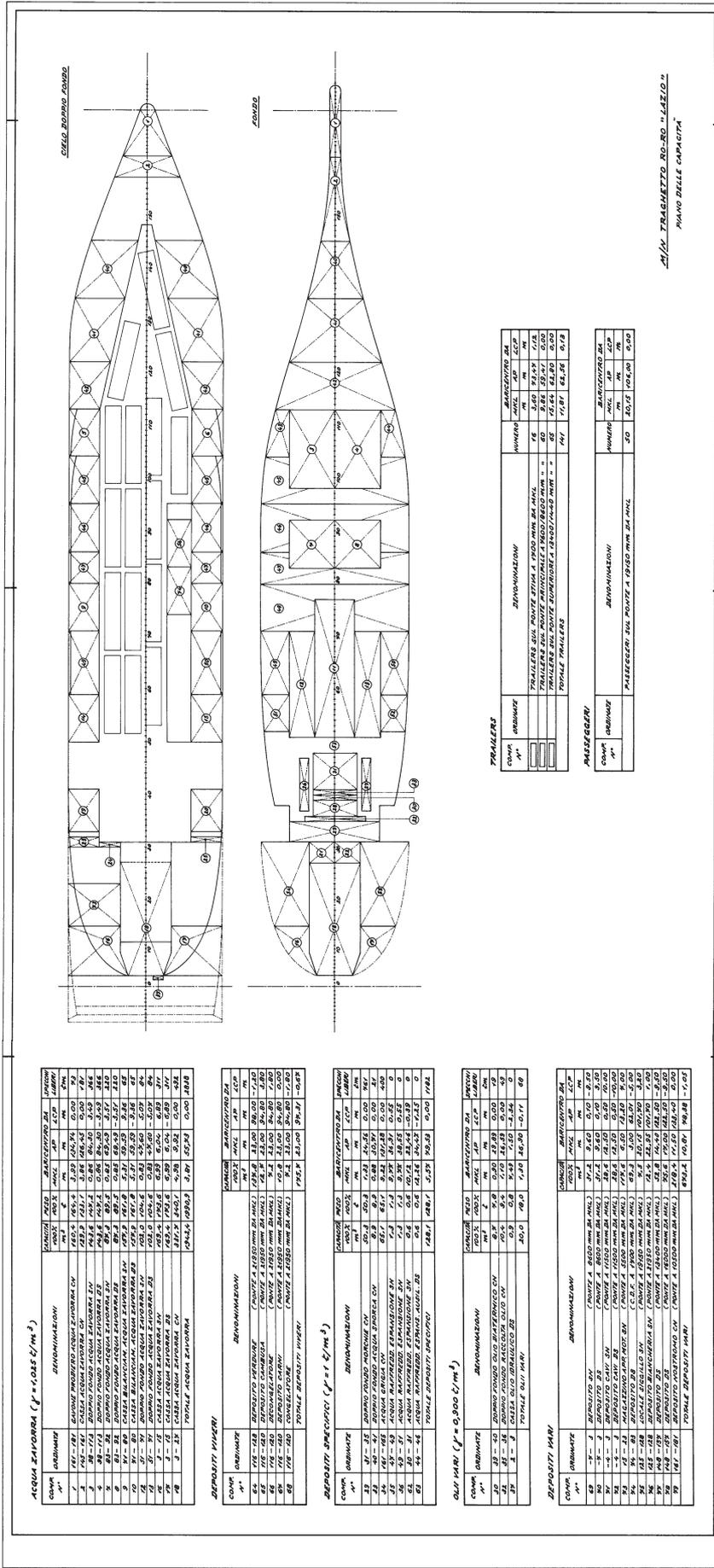
COORDINATE DEL CENTRO DI GRAVITÀ

ESPOSENTE DI PESO DEI C.T. LANCIAMISSILI CLASSE "ANIMOSO"					
RIEPILOGO PESO ARMAMENTO GUERRESCO					
N.	DEDENOMINAZIONE DEI PESI	P	Z ₀	PX ₀	PY ₀
		(t)	(m)	(cm)	(cm)
1	IMPIANTO DA 142/154	38,940	12,05	306,062	110,00
2	CONSOLE E SERGIOLINO PER DETTO	0,320	0,95	3,104	110,20
3	ARMADIO DISTRIBUZIONE E QUADRO VALVOLE PER DETTO	0,085	10,05	0,894	116,20
4	LANCIATORE "ALBATROS" SCARICO	8,250	15,60	128,700	108,50
5	APPARECCHIATURE NEL LOCALE DIREZIONE DI TIRO A PROVA	1,315	15,78	20,374	95,20
6	APPARECCHIATURE NEL LOCALE DIREZIONE DI TIRO A PROVA	1,315	15,80	20,320	80,90
7	APPARECCHIATURE NEL LOCALE "ALBATROS"	1,400	12,60	17,360	108,80
8	DERIVATO-CARICATORE "ALBATROS" SCARICO	12,470	12,95	160,240	105,00
9	UNITA' DI CONTROLLO CARICATORE	0,170	12,40	2,108	108,80
10	N°3 IMPIANTI DA 76/62 AVANTI	15,000	11,70	175,300	59,20
11	APPARECCHIATURE NELLE CAMERE DI ALIMENTAZIONE PER DETTI	0,750	0,23	6,323	101,50
12	N°1 IMPIANTO DA 76/62 ADDIETRO	5,500	16,68	125,100	16,60
13	APPARECCHIATURE NELLA CAMERA DI ALIMENTAZIONE PER DETTO	0,375	16,70	3,373	25,40
14	N°2 APPARATI DIREZIONE DI TIRO "BARDO" AVANTI E ANTENNE TV E IR	1,810	10,93	16,425	96,65
15	APPARECCHIATURE NEL LOCALE DIREZIONE DI TIRO A PROVA	3,555	14,50	51,545	92,30
16	N°3 APPARATI DIREZIONE DI TIRO "BARDO" ADDIETRO E ANTENNE TV E IR	0,830	10,60	16,268	46,55
17	APPARECCHIATURE NEL LOCALE DIREZIONE DI TIRO A PROVA	3,555	16,65	59,191	60,90
18	N°4 CONTENITORI - LANCIATORI DOPPI "TESEO" SENZA MISSILI	5,680	12,30	34,464	50,00
19	APPARATI NEL LOCALE DIREZIONE DI TIRO A PROVA	1,201	14,55	17,489	55,20
20	ANTENNA TELEGUIDA SULL'ALBERO PRODIERO	0,012	12,15	0,338	86,10
21	APPARATI NELLA CENTRALE OPERATIVA COMANDO	0,376	16,30	3,357	80,55
22	APPARATI NELLA CENTRALE "TESEO"	0,120	11,50	1,380	43,00
23	N°3 IMPIANTI LANCIABULLE TRINATI	2,000	11,40	23,000	40,47
24	APPARATI RELATIVI NEL LOCALE ANTISOMMERGIBILE	0,052	16,08	0,878	88,00
25	APPARATI PER VARIE UTILIZZAZIONI	0,050	11,50	0,375	10,40
26	N°2 LANCIA "CHAFFS" AVANTI	0,100	16,75	1,675	89,95
27	N°2 LANCIA "CHAFFS" ADDIETRO	0,100	19,00	1,900	59,50
28	APPARATI PER DETTI	0,292	16,88	4,083	94,75
29	APPARATI PER DETTI NELLA CENTRALE OPERATIVA COMANDO	0,015	16,30	0,254	88,55
30	N°1 SISTEMA PER LANCIO MISSILI "MEDIUM RANGE" MK 12	63,500	15,70	856,250	38,70
31	APPARATI NEL LOCALE CONTROLLO LANCIO	0,084	16,65	14,219	46,30
32	ANTENNA RADAR GUIDAMISSILI SPG 51 AVANTI	3,600	10,75	34,700	45,85
33	ANTENNA RADAR GUIDAMISSILI SPG 51 ADDIETRO	3,600	13,15	68,340	51,80
34	APPARATI IN LOCALE GUIDAMISSILI 1° TUGA	3,853	14,15	54,320	44,45
35	APPARATI IN LOCALE GUIDAMISSILI 1° COPERTIVO	5,359	6,70	48,573	39,30
36	APPARATI NELLA CENTRALE OPERATIVA COMANDO	0,384	16,30	6,420	88,55
37	APPARATI NELLE ALI DI PLANCIA	0,120	11,50	1,380	43,00
38	APPARATI VARI	0,459	14,52	7,345	60,55
39	CONDOTTE SCARICO GAS, AZOTO E VARI RISPETTI	3,300	12,48	41,217	40,34
40	ANTENNA RADAR AN/SPS-S2C	1,560	16,00	41,608	59,85
41	APPARATI NEL LOCALE RADAR DI PROVA	5,900	14,15	83,485	60,30
42	APPARATI PER DETTO NELLA CENTRALE OPERATIVA COMANDO	0,018	16,88	0,304	88,55
43	ANTENNA RADAR MM/SPS - 994	0,360	12,80	31,488	62,10
44	APPARATI NEL LOCALE RADAR DI PROVA	0,120	11,50	1,380	43,00
45	APPARATI PER DETTO NELLA CENTRALE OPERATIVA COMANDO	0,025	16,30	0,423	88,55
46	ANTENNA RADAR MM/SPS - 968	0,350	11,45	16,088	30,30
47	APPARATI NEL LOCALE RADAR DI PROVA	3,044	14,35	43,681	86,00
48	APPARATI PER DETTO NELLA CENTRALE OPERATIVA COMANDO	0,026	16,30	0,429	88,55
49	ANTENNA RADAR MM/SPN - 902	0,355	12,95	10,206	86,00
50	APPARATI NEL LOCALE RADAR DI PROVA	0,360	14,35	13,776	86,00
51	APPARATI PER DETTO NELLA CENTRALE OPERATIVA COMANDO	0,020	16,30	0,338	88,55
52	RADAR CORA - ANTENNA	1,200	14,70	16,700	86,10
53	APPARATI NEL LOCALE RADAR DI PROVA	0,300	14,35	12,315	86,80
54	ANTENNA RADAR MM/SPN - 948	0,039	14,30	0,371	86,45
55	APPARATI RELATIVI IN PLANCIA	0,032	11,15	1,578	36,60
56	ANTENNA SISTEMA IFF	0,004	16,10	0,144	84,00
57	APPARATI IFF IN PLANCIA	0,058	11,15	0,335	36,60
58	APPARATI IFF NELLA CENTRALE OPERATIVA COMANDO	0,058	12,30	0,305	23,80
59	APPARATI IFF NEI LOCALI RADAR PRODIERO E POPPIERO	0,200	16,30	3,380	88,55
60	SISTEMA COMANDO E CONTROLLO APPARATI IN CENTRALE OPERATIVA COMANDO	0,173	14,15	2,465	73,85
61	SISTEMA COMANDO E CONTROLLO APPARATI IN CENTRALE OPERATIVA COMANDO NON PRESIDATI	5,380	16,30	101,062	88,55
62	APPARATI COMANDO E CONTROLLO IN CENTRALE OPERATIVA COMANDO NON PRESIDATI	1,130	14,40	25,776	81,50
63	APPARATI COMANDO E CONTROLLO IN LOCALE RADAR DI PROVA	0,210	14,15	2,392	60,30
64	SISTEMA GUERRA ELETTRONICA EDM RADIO E ANTENNE	0,150	15,58	5,337	84,00
65	APPARATI RELATIVI IN CENTRALE OPERATIVA COMANDO	0,500	16,30	8,450	88,55
66	SISTEMA GUERRA ELETTRONICA ESA ANTENNE RADAR MULTIBEAM	0,140	11,93	16,048	42,50
67	SISTEMA GUERRA ELETTRONICA ESM ANTENNE RADAR OMNI	0,071	12,05	0,364	84,00
68	SISTEMA GUERRA ELETTRONICA ESM ANTENNA RADAR CONVOI L.B.	0,064	10,55	1,315	84,70
69	APPARATI RELATIVI IN CENTRALE OPERATIVA COMANDO	0,100	16,30	1,630	88,55
70	APPARATI RELATIVI IN CENTRALE OPERATIVA COMANDO NON PRESIDATI	0,135	14,40	10,584	81,50
71	SISTEMA G.E. IMPIANTO SENSORI INFRAROSSI	0,500	19,75	3,875	82,55
72	APPARATI RELATIVI IN CENTRALE OPERATIVA COMANDO	0,090	16,30	1,182	88,55
73	APPARATI RELATIVI IN VANO ALBERO	1,420	10,15	21,33	84,00
74	SISTEMA GUERRA ELETTRONICA IMPIANTO ECOGNOMOMETRO E ANTENNE	1,400	16,30	26,940	84,70
75	APPARATI RELATIVI NELLA CENTRALE OPERATIVA COMANDO NON PRESIDATI	1,244	10,50	17,378	81,50
76	ECOGNOMOMETRO D.E. TIPO LF/VDS TRASDUTTORE	5,520	1,00	3,520	133,50
77	ECOGNOMOMETRO D.E. TIPO LF/VDS CUFFIA SOTTO PROVA	5,500	0,75	3,875	133,50
78	APPARATI IN LOCALE PANNELLI ECOGNOMOMETRO	4,035	7,65	36,988	123,10
79	APPARATI NELLA STAZIONE ANTISOMMERGIBILI	0,274	16,88	4,525	82,00
80	SONAR A PROFONDITA' VARIABILE	21,790	8,45	184,126	460,234
81	APPARATI IN LOCALE PANNELLI ECOGNOMOMETRO	0,224	7,65	17,774	123,10
82	APPARATI IN STAZIONE ANTISOMMERGIBILI E PLANCIA	0,016	16,88	0,268	82,00
83	APPARATI IN LOCALE V.D.T.	1,130	8,70	18,331	30,80
84	APPARATI POPRA - CORRIDORO	0,120	8,70	1,044	30,80
85	TELEFONO SUBACQUEO - TRASDUTTORI	0,082	1,00	0,082	133,50
86	APPARATI IN LOCALE PANNELLI ECOGNOMOMETRO	0,105	7,65	0,803	123,10
87	APPARATI IN STAZIONE ANTISOMMERGIBILI	0,012	16,88	0,203	82,00
88	APPARATI IN PLANCIA	0,012	11,88	0,274	36,60
89	GENERATORE DI NUMERE "MIXIE"	1,630	8,45	12,534	30,55
90	APPARATI IN STAZIONE ANTISOMMERGIBILI	0,006	16,88	0,101	82,00
91	APPARATI IN LOCALE V.D.T.	0,504	8,70	4,385	30,80
92	APPARATI SERVIZIO ARMI	0,600	15,15	5,070	68,00
93	N°2 CONGESMI CS2A	0,120	11,70	2,052	93,10
94	APPARATI AUSILIARI - BATITERMOGRAFO TIPO OC	0,074	8,50	0,629	2,00
95	APPARATI AUSILIARI - BATITERMOGRAFO TIPO XBT	0,050	8,50	0,425	2,00
96	APPARATI AUSILIARI IN STAZIONE ANTISOMMERGIBILI	0,026	16,88	0,439	82,00
97	APPARATI AUSILIARI - BATTERIOMETRO TIPO UNIT 19	0,048	16,88	1,148	82,00
98	APPARATI AUSILIARI - DISPOSITIVO LITTON	0,042	11,88	0,274	36,60
99	APPARATI AUSILIARI - INDICATORE BATTI TIPO UNIT 24	0,008	11,88	0,143	36,60
100	IMPIANTI SPECIALI	0,080	10,80	1,664	81,41
101	RADIOGNOMOMETRO	0,060	12,80	1,368	81,41
102	ANTENNA "TACAN"	0,055	11,80	2,052	65,10
103	ARMADIO "TACAN"	0,165	11,15	2,335	60,30
104	IMPIANTO SPECIALE "GLOBAL POSITION SYSTEM - NAVSTAR"	0,028	11,88	0,378	36,60
105	IMPIANTO SPECIALE "BLANHUIS"	0,052	11,88	0,860	81,68
106	N°2 ELICOTTERI AGUSTA BELL 112 A.S.W. (VUOTI)	6,000	12,30	73,200	20,30
107	RISPETTI PER DETTI	0,600	11,40	6,840	30,00
108	ATTREZZATURE DI VOLO	2,000	11,40	22,801	30,00
109	ARMI PORTATILI	1,000	10,15	10,150	119,700
110	CAMIONCINI DI SALUTO	0,200	12,10	2,420	112,00
111	N°4 NEBBIOGENO	0,500	8,40	4,200	2,10
112	N°2 UNITA' DI CONVERSIONE PER MK 12	1,200	14,15	19,078	36,38
113	N°4 UNITA' DI CONVERSIONE E N°4 UNITA' DI CONTROLLO "ALBATROS"	3,180	14,15	45,251	34,38
114	N°2 CONVERTITORI STATICI	0,400	8,45	3,580	68,50
115	N°2 CONVERTITORI ROTANTI CON QUADRO DI CONTROLLO	2,650	4,00	10,600	41,00
116	IMPIANTO COMPLETO DI SMAGNETIZZAZIONE	29,550	8,50	236,795	66,50
117	CAV. CASSETTE ED ACCESSORI IMPIANTO MISSILISTICO	13,000	12,55	162,150	43,35
118	CAV. CASSETTE ED ACCESSORI IMPIANTO TIRO	8,550	14,80	125,961	31,00
119	CAV. CASSETTE ED ACCESSORI CENTRALE OPERATIVA COMANDO E GUERRA ELETTRONICA	0,400	16,00	132,800	79,40
120	QUADRI APPARATI VARI	5,304	12,80	132,335	64,50
121	PESO E MOMENTI STATICI TOTALI	379,500		4686,340	25735,787

$$Z_0 = 4686,340 \text{ cm} / 379,500 \text{ t} = 12,349 \text{ m}$$

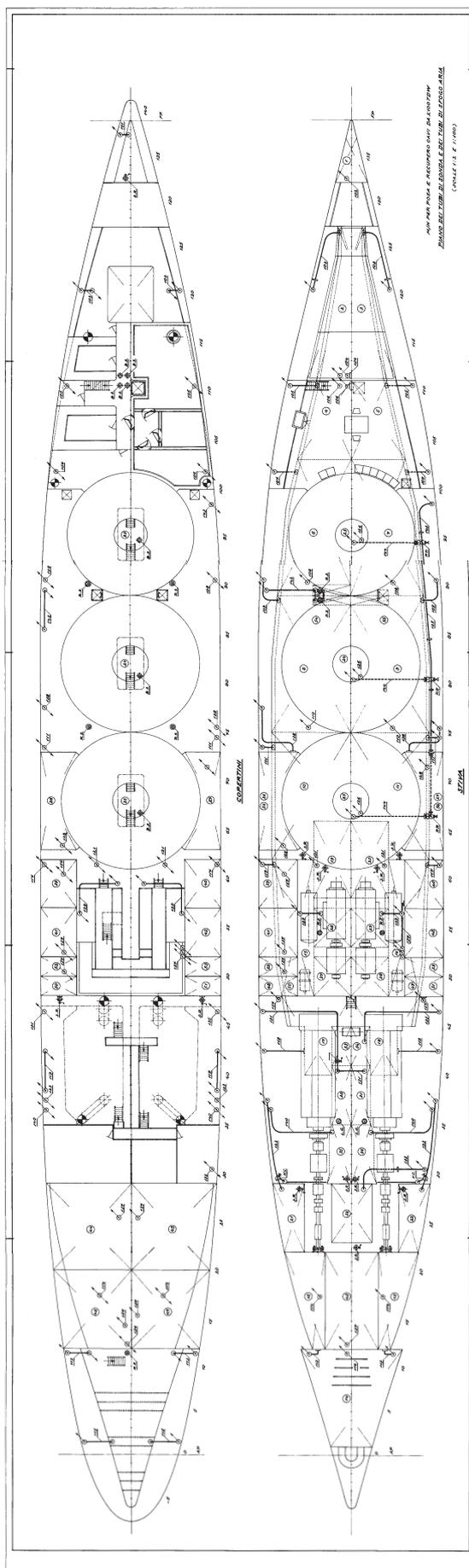
COORDINATE DEL CENTRO DI GRAVITA'

$$X_0 = 25735,787 \text{ cm} / 379,500 \text{ t} = 67,815 \text{ m}$$



AKWA ZAŁOŻONA (P = 1,025 t/m³)

CZĘŚĆ	MIEJSCA	WYMIARY		WAGI		WAGI		WAGI		WAGI	
		M	CM	M	CM	M	CM	M	CM	M	CM
1	101-102	101,0	102,0	101,0	102,0	101,0	102,0	101,0	102,0	101,0	102,0
2	103-104	103,0	104,0	103,0	104,0	103,0	104,0	103,0	104,0	103,0	104,0
3	105-106	105,0	106,0	105,0	106,0	105,0	106,0	105,0	106,0	105,0	106,0
4	107-108	107,0	108,0	107,0	108,0	107,0	108,0	107,0	108,0	107,0	108,0
5	109-110	109,0	110,0	109,0	110,0	109,0	110,0	109,0	110,0	109,0	110,0
6	111-112	111,0	112,0	111,0	112,0	111,0	112,0	111,0	112,0	111,0	112,0
7	113-114	113,0	114,0	113,0	114,0	113,0	114,0	113,0	114,0	113,0	114,0
8	115-116	115,0	116,0	115,0	116,0	115,0	116,0	115,0	116,0	115,0	116,0
9	117-118	117,0	118,0	117,0	118,0	117,0	118,0	117,0	118,0	117,0	118,0
10	119-120	119,0	120,0	119,0	120,0	119,0	120,0	119,0	120,0	119,0	120,0
11	121-122	121,0	122,0	121,0	122,0	121,0	122,0	121,0	122,0	121,0	122,0
12	123-124	123,0	124,0	123,0	124,0	123,0	124,0	123,0	124,0	123,0	124,0
13	125-126	125,0	126,0	125,0	126,0	125,0	126,0	125,0	126,0	125,0	126,0
14	127-128	127,0	128,0	127,0	128,0	127,0	128,0	127,0	128,0	127,0	128,0
15	129-130	129,0	130,0	129,0	130,0	129,0	130,0	129,0	130,0	129,0	130,0
16	131-132	131,0	132,0	131,0	132,0	131,0	132,0	131,0	132,0	131,0	132,0
17	133-134	133,0	134,0	133,0	134,0	133,0	134,0	133,0	134,0	133,0	134,0
18	135-136	135,0	136,0	135,0	136,0	135,0	136,0	135,0	136,0	135,0	136,0
19	137-138	137,0	138,0	137,0	138,0	137,0	138,0	137,0	138,0	137,0	138,0
20	139-140	139,0	140,0	139,0	140,0	139,0	140,0	139,0	140,0	139,0	140,0
21	141-142	141,0	142,0	141,0	142,0	141,0	142,0	141,0	142,0	141,0	142,0
22	143-144	143,0	144,0	143,0	144,0	143,0	144,0	143,0	144,0	143,0	144,0
23	145-146	145,0	146,0	145,0	146,0	145,0	146,0	145,0	146,0	145,0	146,0
24	147-148	147,0	148,0	147,0	148,0	147,0	148,0	147,0	148,0	147,0	148,0
25	149-150	149,0	150,0	149,0	150,0	149,0	150,0	149,0	150,0	149,0	150,0
26	151-152	151,0	152,0	151,0	152,0	151,0	152,0	151,0	152,0	151,0	152,0
27	153-154	153,0	154,0	153,0	154,0	153,0	154,0	153,0	154,0	153,0	154,0
28	155-156	155,0	156,0	155,0	156,0	155,0	156,0	155,0	156,0	155,0	156,0
29	157-158	157,0	158,0	157,0	158,0	157,0	158,0	157,0	158,0	157,0	158,0
30	159-160	159,0	160,0	159,0	160,0	159,0	160,0	159,0	160,0	159,0	160,0
31	161-162	161,0	162,0	161,0	162,0	161,0	162,0	161,0	162,0	161,0	162,0
32	163-164	163,0	164,0	163,0	164,0	163,0	164,0	163,0	164,0	163,0	164,0
33	165-166	165,0	166,0	165,0	166,0	165,0	166,0	165,0	166,0	165,0	166,0
34	167-168	167,0	168,0	167,0	168,0	167,0	168,0	167,0	168,0	167,0	168,0
35	169-170	169,0	170,0	169,0	170,0	169,0	170,0	169,0	170,0	169,0	170,0
36	171-172	171,0	172,0	171,0	172,0	171,0	172,0	171,0	172,0	171,0	172,0
37	173-174	173,0	174,0	173,0	174,0	173,0	174,0	173,0	174,0	173,0	174,0
38	175-176	175,0	176,0	175,0	176,0	175,0	176,0	175,0	176,0	175,0	176,0
39	177-178	177,0	178,0	177,0	178,0	177,0	178,0	177,0	178,0	177,0	178,0
40	179-180	179,0	180,0	179,0	180,0	179,0	180,0	179,0	180,0	179,0	180,0
41	181-182	181,0	182,0	181,0	182,0	181,0	182,0	181,0	182,0	181,0	182,0
42	183-184	183,0	184,0	183,0	184,0	183,0	184,0	183,0	184,0	183,0	184,0
43	185-186	185,0	186,0	185,0	186,0	185,0	186,0	185,0	186,0	185,0	186,0
44	187-188	187,0	188,0	187,0	188,0	187,0	188,0	187,0	188,0	187,0	188,0
45	189-190	189,0	190,0	189,0	190,0	189,0	190,0	189,0	190,0	189,0	190,0
46	191-192	191,0	192,0	191,0	192,0	191,0	192,0	191,0	192,0	191,0	192,0
47	193-194	193,0	194,0	193,0	194,0	193,0	194,0	193,0	194,0	193,0	194,0
48	195-196	195,0	196,0	195,0	196,0	195,0	196,0	195,0	196,0	195,0	196,0
49	197-198	197,0	198,0	197,0	198,0	197,0	198,0	197,0	198,0	197,0	198,0
50	199-200	199,0	200,0	199,0	200,0	199,0	200,0	199,0	200,0	199,0	200,0
51	201-202	201,0	202,0	201,0	202,0	201,0	202,0	201,0	202,0	201,0	202,0
52	203-204	203,0	204,0	203,0	204,0	203,0	204,0	203,0	204,0	203,0	204,0
53	205-206	205,0	206,0	205,0	206,0	205,0	206,0	205,0	206,0	205,0	206,0
54	207-208	207,0	208,0	207,0	208,0	207,0	208,0	207,0	208,0	207,0	208,0
55	209-210	209,0	210,0	209,0	210,0	209,0	210,0	209,0	210,0	209,0	210,0
56	211-212	211,0	212,0	211,0	212,0	211,0	212,0	211,0	212,0	211,0	212,0
57	213-214	213,0	214,0	213,0	214,0	213,0	214,0	213,0	214,0	213,0	214,0
58	215-216	215,0	216,0	215,0	216,0	215,0	216,0	215,0	216,0	215,0	216,0
59	217-218	217,0	218,0	217,0	218,0	217,0	218,0	217,0	218,0	217,0	218,0
60	219-220	219,0	220,0	219,0	220,0	219,0	220,0	219,0	220,0	219,0	220,0
61	221-222	221,0	222,0	221,0	222,0	221,0	222,0	221,0	222,0	221,0	222,0
62	223-224	223,0	224,0	223,0	224,0	223,0	224,0	223,0	224,0	223,0	224,0
63	225-226	225,0	226,0	225,0	226,0	225,0	226,0	225,0	226,0	225,0	226,0
64	227-228	227,0	228,0	227,0	228,0	227,0	228,0	227,0	228,0	227,0	228,0
65	229-230	229,0	230,0	229,0	230,0	229,0	230,0	229,0	230,0	229,0	230,0
66	231-232	231,0	232,0	231,0	232,0	231,0	232,0	231,0	232,0	231,0	232,0
67	233-234	233,0	234,0	233,0	234,0	233,0	234,0	233,0	234,0	233,0	234,0
68	235-236	235,0	236,0	235,0	236,0	235,0	236,0	235,0	236,0	235,0	236,0
69	237-238	237,0	238,0	237,0	238,0	237,0	238,0	237,0	238,0	237,0	238,0
70	239-240	239,0	240,0	239,0	240,0	239,0	240,0	239,0	240,0	239,0	240,0
71	241-242	241,0	242,0	241,0	242,0	241,0	242,0	241,0	242,0	241,0	242,0
72	243-244	243,0	244,0	243,0	244,0	243,0	244,0	243,0	244,0	243,0	244,0
73	245-246	245,0	246,0	245,0	246,0	245,0	246,0	245,0	246,0	245,0	246,0
74	247-248	247,0	248,0	247,0	248,0	247,0	248,0	247,0	248,0	247,0	248,0
75	249-250	249,0	250,0	249,0	250,0	249,0	250,0	249,0	250,0	249,0	250,0
76	251-252	251,0	252,0	251,0	252,0	251,0	252,0	251,0	252,0	251,0	252,0
77	253-254	253,0	254,0	253,0	254,0	253,0	254,0	253,0	254,0	253,0	254,0
78	255-256	255,0	256,0	255,0	256,0	255,0	256,0	255,0	256,0	255,0	256,0
79	257-258	257,0	258,0	257,0	258,0	257,0	258,0	257,0	258,0	257,0	258,0
80	259-260	259,0	260,0	259,0	260,0	259,0	260,0	259,0	260,0	259,0	260,0
81	261-262	261,0	262,0	261,0	262,0	261,0	262,0	261,0	262,0	261,0	262,0
82	263-264	263,0	264,0	263,0	264,0	263,0	264,0	263,0	264,0	263,0	264,0
83	265-266	265,0	266,0	265,0	266,0	265,0	266,0	265,0	266,0	265,0	266,0
84	267-268	267,0	268,0	267,0	268,0	267,0	268,0	267,0	268,0	267,0	268,0
85	269-270	269,0	270,0	269,0	270,0	269,0	270,0	269,0	270,0	269,0	270,0
86	271-272	271,0	272,0	271,0	272,0	271,0	272,0	271,0	272,0	271,0	272,0
87	273-274	273,0	274,0	273,0	274,0	273,0					



M/N TRASPORTO PRODOTTI SIDERURGICI "SIDERALTAIR" - PROVA DI STABILITA'						
PESI DA SBARCARRE : CARICHI SOLIDI						
N.	DEDENOMINAZIONE DEI PESI	P	Zg'	PZg'	Xg'	PXg'
		(t)	(M)	(tM)	(M)	(tM)
1	RESIDUI FERROSI, TAVOLE, MANICHETTE PONTE COMANDO	0,100	16,96	1,696	17,90	1,790
2	ATTREZZATURE CE.FE.MA.	0,250	15,20	3,800	15,50	3,875
3	BIDONE CON ESTINTORI	0,100	15,00	1,500	13,90	1,390
4	N.2 CASSETTE CON RESIDUI VARI	0,200	14,30	2,860	15,50	3,100
5	ATTREZZATURE E RESIDUI VARI	0,150	15,00	2,250	18,90	2,805
6	RESIDUI FERROSI	0,150	15,90	2,385	19,90	2,685
7	PONTE UFFICIALI					
8	N.1 CASSETTA CON ATTREZZATURE VARIE, RESIDUI LEGNOSI, CAVI, MANICHETTE PONTE COPERTA - INTERNI	0,400	12,35	4,940	14,90	5,960
9	CAVI, MANICHETTE, ROTTAMI FERROSI, IMPIANTI VOLANTI, ATTREZZATURE VARIE SOTTOCASTELLO - DEPOSITO PITTURA	0,400	9,90	3,960	14,90	5,960
9	N.1 CASSETTA CON ATTREZZATURE VARIE, PONTEGGI, IMPIANTI VOLANTI	0,450	10,20	4,590	20,50	40,225
10	CAVI, MANICHETTE, RESIDUI FERROSI	0,150	9,20	1,380	22,90	3,435
11	PONTEGGI	1,530	9,90	14,847	29,90	45,387
12	IMPIANTI VOLANTI, MANICHETTE LOCALE ELICA MANOVRA	0,150	9,90	1,485	29,90	4,485
13	RANANCI, CAVI, MANICHETTE, RESIDUI FERROSI GAYONE POPPA	0,250	5,30	1,325	26,90	6,725
14	N.2 TAVOLE, CAVI PER PINZE LOCALE TIMONERIA	0,110	4,50	0,495	0,30	0,333
15	N.6 TAVOLE, RESIDUI FERROSI, CASSETTE CON ATTREZZATURE VARIE LOCALE APPARATO MOTORE	0,300	9,90	2,970	2,10	0,630
16	PONTEGGI, TAVOLE, MANICHETTE	2,970	9,38	27,948	16,30	48,441
17	PONTEGGI, TAVOLE	0,900	5,60	5,040	10,30	9,270
18	TUBI, GIUNTI	0,550	6,80	3,740	14,90	8,085
19	TUBI, GIUNTI	0,940	6,80	6,392	14,90	13,878
20	CASSETTE CON ATTREZZATURE VARIE, MANICHETTE, RESIDUI VARI	0,400	4,40	1,760	13,10	5,240
21	CASSETTE CON ATTREZZATURE VARIE, RESIDUI FERROSI, CAVI, MANICHETTE, BIDONCINI PONTE STAZZA - DS	0,500	2,50	1,250	13,10	6,550
22	RESIDUI LAMIERE	0,080	6,91	0,552	22,92	1,833
23	N.1 CAVALLETTI	0,025	9,50	0,237	69,40	1,735
24	MANICHETTE	0,025	6,91	0,172	44,30	1,107
25	N.2 CAVALLETTI	0,035	9,50	0,332	49,80	1,245
26	MANICHETTONI PER ESTRAZIONE	0,015	9,00	0,135	40,30	0,544
27	ROTOLO CAVI	0,030	6,91	0,207	36,30	1,089
28	N.1 CAVALLETTI, CUMULO SABBIA	0,500	9,10	4,550	33,90	16,950
29	N.3 CAVALLETTI, GRATE, MANICHETTE PONTE STAZZA - SN	0,120	9,00	0,840	53,10	6,372
30	RESIDUI LAMIERE	0,080	6,91	0,552	16,30	1,046
31	MANICHETTE	0,090	6,91	0,483	17,10	1,337
32	MANICHETTE, RESIDUI FERROSI	0,120	6,92	0,830	53,10	6,372
33	N.1 CAVALLETTI, CAVI, BIDONNI CISTERNE LATERALI SN	0,100	9,20	0,920	40,30	3,626
34	N.3 TAVOLE, TUBI (CIST. N.3)	0,150	1,00	0,150	43,50	6,525
35	N.4 TAVOLE (CIST. N.2) CISTERNE LATERALI DS	0,120	1,00	0,120	39,90	4,788
36	N.1 SCALA METALLICA (CIST. N.2)	0,030	2,00	0,060	69,10	2,073
37	N.5 TAVOLE, TUBI, GIUNTI (CIST. N.3) SPINA N.2	0,150	1,00	0,150	43,50	6,525
38	CAVI, MANICHETTE, RESIDUI FERROSI	0,130	1,45	0,188	21,90	2,847
39	CARRELLI MOBILI, TAVOLE	0,400	4,40	1,760	22,90	9,160
40	MANICHETTE, CAVI, GRATE SPINA N.1	0,125	1,42	0,177	38,90	4,933
41	CASSONE CON RESIDUI FERROSI	0,800	1,95	1,560	21,50	17,160
42	CARRELLI MOBILI	0,400	1,95	0,780	21,50	8,600
43	MANICHETTONI PER ESTRAZIONE CASSA NAPPA SN	0,200	1,95	0,390	21,50	4,300
44	PONTEGGIO VERSO PRORA	1,060	5,20	5,512	19,50	20,840
45	PONTEGGIO VERSO POPPA CASSA NAPPA DS	0,670	5,20	3,484	16,30	10,921
46	PONTEGGIO VERSO PRORA	1,060	5,20	5,512	19,50	20,840
47	PONTEGGIO VERSO POPPA PONTE COPERTA A POPPA	0,670	5,20	3,484	16,30	10,921
48	N.3 GOMME CON CAVO DI ACCIAIO IN BANDO	0,300	9,30	2,790	0	0
49	N.16 BIDONCINI PITTURA, N.1 TAVOLA	0,429	9,25	3,949	2,00	0,858
50	PASTECCE, CAVI	0,090	9,10	0,819	2,00	0,360
51	MANICHETTA, CAVI, RESIDUI FERROSI	0,250	9,10	2,275	4,00	1,000
52	FUSTO OLIO COMPLETAMENTE PIENO	0,100	9,60	0,960	0	0
53	MANICHETTONE	0,010	10,50	0,105	8,00	0,080
54	CAVI ELETTRICI	0,150	9,60	1,440	11,00	1,650
55	TUBI INNOCENTI PONTE COPERTA - DS	0,090	10,50	0,945	12,90	1,161
56	MANICHETTE, ATTREZZATURA PER PITTURAZIONE	0,080	9,20	0,736	22,90	1,816
57	CASSETTE CON ATTREZZATURE VARIE, POMPA, BIDONE PITTURA	0,150	9,40	1,410	24,90	3,735
58	N.39 TAVOLE	0,229	9,12	2,088	42,90	9,818
59	N.30 TAVOLE	0,210	9,12	1,915	42,90	9,048
60	CASSETTE CON ATTREZZATURE VARIE	0,050	9,20	0,460	40,30	1,615
61	CAVI ACCIAIO	0,300	9,50	2,850	40,30	12,090
62	ROTTAMI, DARANCO, CASSETTE CON ATTREZZATURE VARIE, BIDONCINO PITTURA	0,150	9,35	1,402	56,30	8,145
63	N.8 FUSTINI PITTURA, RESIDUI LAVORAZIONE PONTE COPERTA TRA STIVE	0,220	9,30	2,046	21,10	4,652
64	CATENE DA SBARCARRE : 144 M	1,252	9,30	11,643	51,50	64,149
65	RESIDUI LAVORAZIONE, SCALA METALLICA, N.1 TAVOLA PONTE COPERTA - SN	0,250	9,25	2,312	59,90	13,475
66	CAVALLETTI, CAVI PER PINZE, BIDONCINO PITTURA	0,160	9,60	1,536	39,50	6,320
67	N.23 TAVOLE	0,283	9,12	2,583	42,90	12,094
68	N.29 TAVOLE	0,229	9,12	2,088	42,90	9,818
69	CASSETTA CON ATTREZZATURE VARIE, RESIDUI LAVORAZIONE, CAVI	0,120	9,40	1,128	33,90	4,068
70	CASSONE ANTINCENDIO	0,200	9,50	1,900	36,30	7,260
71	N.1 TAVOLA, CUMULO SABBIA, BIDONCINO PITTURA, RESIDUI FERROSI	0,350	9,40	3,290	30,90	10,745
72	PROTEZIONE CATHODICA	0,150	2,90	0,435	34,90	5,205
73	ORMEGGIO LATO SN	0,180	9,00	1,620	32,30	5,814
74	ORMEGGIO SUL CASTELLO	0,250	11,80	2,950	31,90	8,075
75	CESTE METALLICHE, RESIDUI LAVORAZIONE	0,220	11,50	2,530	65,10	14,322
76	N.5 FUSTI OLIO	1,000	11,80	11,800	62,90	62,900
77	BRAGHE, MANIGLIONI PESI A BORDO PER PROVA DI STABILITA'	0,150	11,50	1,725	13,10	10,965
78	MASSO, BRAGHE, CUNEI DS	19,416	9,59	186,559	48,90	848,159
79	MASSO, BRAGHE, CUNEI DS	19,356	9,59	185,259	59,10	1026,330
80	MASSO, BRAGHE, CUNEI SN	19,396	9,59	185,259	48,90	848,159
81	MASSO, BRAGHE, CUNEI SN	19,246	9,59	183,130	59,10	1019,230
82	N.4 PERSONE A BORDO PESO E MOMENTI STATICI TOTALI	0,300	10,20	3,060	19,10	5,730
		98,309		890,483		4886,051