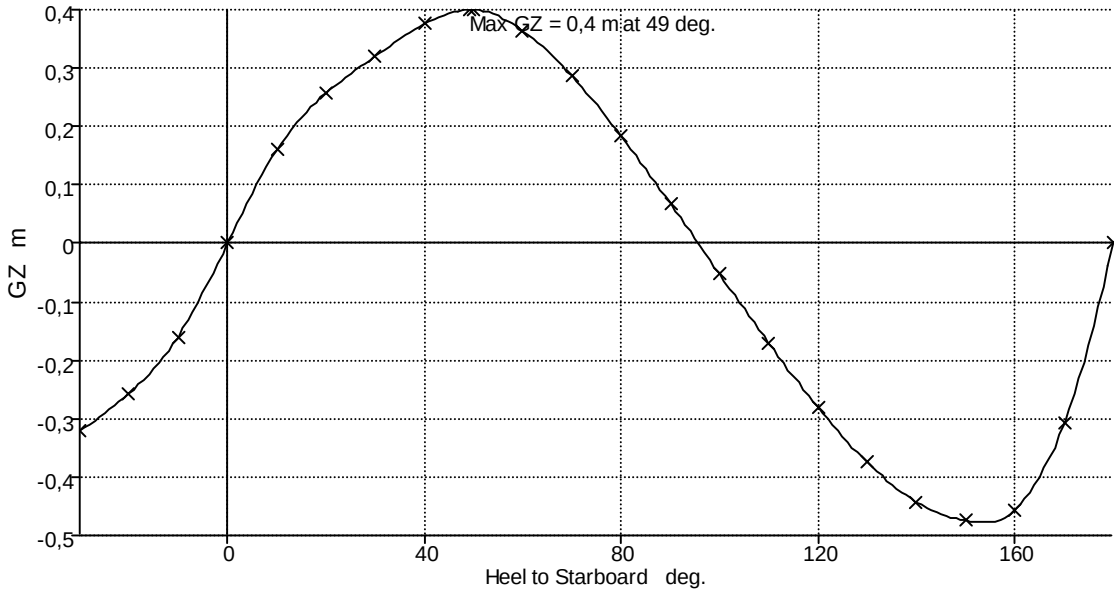
Stability Calculation - ka690.1

Loadcase - Loadcase1
Damage Case - Intact

Free to Trim
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)
Fluid analysis method: Use corrected VCG

Item Name	Quantity	Weight kg	Long.Arm m	Vert.Arm m	Trans.Arm m	FS Mom. kg.m	FSM Type
Lightship	1	3270	2,350	0,815	0,000	0,000	
	Total Weight=	**3270**	**LCG=2,350**	**VCG=0,815**	**TCG=0,000**	**0**	
				FS corr.=0			
				VCG fluid=0,815			



Heel to Starboard degrees	-30,0	-20,0	-10,0	0,0	10,0	20,0	30,0	40,0
Displacement kg	3270	3270	3270	3270	3270	3270	3270	3270
Draft at FP m	0,496	0,564	0,605	0,620	0,605	0,564	0,496	0,385
Draft at AP m	0,349	0,433	0,473	0,476	0,473	0,433	0,349	0,209
WL Length m	6,161	6,220	6,230	6,199	6,230	6,220	6,161	6,130
Immersed Depth m	0,584	0,487	0,474	0,485	0,474	0,487	0,584	0,635
WL Beam m	1,903	1,997	2,234	2,294	2,234	1,997	1,902	1,915
Wetted Area m^2	12,407	12,501	13,097	13,750	13,097	12,500	12,408	12,626
Waterpl. Area m^2	10,326	10,480	11,342	12,006	11,342	10,480	10,326	10,567
Prismatic Coeff.	0,750	0,725	0,712	0,716	0,712	0,725	0,750	0,776
Block Coeff.	0,466	0,527	0,484	0,463	0,484	0,527	0,466	0,428
LCB from zero pt. m	2,361	2,360	2,360	2,361	2,360	2,360	2,361	2,363
VCB from DWL m	-0,190	-0,182	-0,170	-0,159	-0,170	-0,182	-0,190	-0,193
GZ m	-0,320	-0,257	-0,160	0,000	0,160	0,257	0,320	0,376
LCF from zero pt. m	2,632	2,597	2,557	2,574	2,557	2,596	2,633	2,637
TCF to zero pt. m	-0,694	-0,478	-0,220	0,000	0,220	0,478	0,694	0,885
Max deck inclination deg	30,0	20,0	10,1	1,3	10,1	20,0	30,0	40,0
Trim angle (+ve by stern) deg	-1,4	-1,2	-1,2	-1,3	-1,2	-1,2	-1,4	-1,6

Heel to Starboard	50,0	60,0	70,0	80,0	90,0	100,0	110,0	120,0

degrees								
Displacement kg	3270	3270	3270	3270	3270	3270	3270	3270
Draft at FP m	0,210	-0,086	-0,681	-2,441	N/A	-4,480	-2,711	-2,103
Draft at AP m	0,013	-0,273	-0,817	-2,392	N/A	-3,743	-2,172	-1,633
WL Length m	6,128	6,159	6,333	6,453	6,549	6,634	6,714	6,797
Immersed Depth m	0,661	0,675	0,666	0,634	0,735	0,830	0,898	0,935
WL Beam m	1,685	1,433	1,275	1,182	1,135	1,125	1,151	1,217
Wetted Area m^2	12,936	12,722	12,588	12,553	12,564	12,609	12,691	12,818
Waterpl. Area m^2	9,400	7,964	7,025	6,480	6,191	6,106	6,212	6,526
Prismatic Coeff.	0,788	0,782	0,754	0,733	0,714	0,697	0,681	0,665
Block Coeff.	0,467	0,536	0,594	0,659	0,584	0,514	0,460	0,412
LCB from zero pt. m	2,364	2,361	2,356	2,349	2,341	2,332	2,325	2,319
VCB from DWL m	-0,206	-0,232	-0,256	-0,276	-0,291	-0,299	-0,301	-0,296
GZ m	0,400	0,364	0,286	0,183	0,068	-0,053	-0,171	-0,281
LCF from zero pt. m	2,675	2,681	2,672	2,668	2,659	2,646	2,631	2,614
TCF to zero pt. m	0,895	0,938	0,939	0,902	0,834	0,738	0,620	0,485
Max deck inclination deg	50,0	60,0	70,0	80,0	90,0	100,0	110,0	120,0
Trim angle (+ve by stern) deg	-1,8	-1,8	-1,3	0,5	-1,$	6,9	5,0	4,4

Heel to Starboard degrees	130,0	140,0	150,0	160,0	170,0	180,0
Displacement kg	3270	3270	3270	3270	3270	3270
Draft at FP m	-1,783	-1,583	-1,448	-1,356	-1,302	-1,304
Draft at AP m	-1,353	-1,175	-1,056	-0,990	-0,982	-0,986
WL Length m	6,889	6,994	7,117	7,260	7,171	7,117
Immersed Depth m	0,939	0,911	0,844	0,722	0,527	0,304
WL Beam m	1,335	1,535	1,768	2,104	2,511	2,471
Wetted Area m^2	13,015	13,337	13,972	15,333	18,325	18,839
Waterpl. Area m^2	7,092	7,958	8,912	10,708	14,459	15,269
Prismatic Coeff.	0,647	0,627	0,608	0,584	0,587	0,591
Block Coeff.	0,369	0,326	0,300	0,289	0,336	0,597
LCB from zero pt. m	2,316	2,316	2,318	2,321	2,327	2,328
VCB from DWL m	-0,285	-0,268	-0,244	-0,204	-0,146	-0,111
GZ m	-0,375	-0,443	-0,475	-0,456	-0,307	0,000
LCF from zero pt. m	2,593	2,558	2,562	2,602	2,719	2,836
TCF to zero pt. m	0,340	0,200	0,119	0,095	0,183	0,000
Max deck inclination deg	130,0	139,9	149,8	159,8	169,6	177,0
Trim angle (+ve by stern) deg	4,0	3,8	3,7	3,4	3,0	3,0

Hydrostatics - ka690.1
Damage Case - Intact

Fixed Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)

Draft Amidsh. m	0,550
Displacement kg	3402
Heel to Starboard degrees	0,0
Draft at FP m	0,550
Draft at AP m	0,550
Draft at LCF m	0,550
Trim (+ve by stern) m	0,000
WL Length m	6,115
WL Beam m	2,317
Wetted Area m^2	13,509
Waterpl. Area m^2	11,808
Prismatic Coeff.	0,617
Block Coeff.	0,422
Midship Area Coeff.	0,685
Waterpl. Area Coeff.	0,833
LCB from zero pt. m	2,156
LCF from zero pt. m	2,494
KB m	0,380
KG m	0,550
BMt m	1,349
BML m	8,877
GMt m	1,180
GML m	8,707
KMt m	1,730
KML m	9,257
Immersion (TPc) tonne/cm	0,121
MTc tonne.m	0,048
RM at 1deg = GMt.Disp.sin(1) kg.m	70,021
Max deck inclination deg	0,0
Trim angle (+ve by stern) deg	0,0

Hydrostatics - ka690.1
Damage Case - Intact

Fixed Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)

Draft Amidsh. m	0,550
Displacement kg	3402
Heel to Starboard degrees	0,0
Draft at FP m	0,550
Draft at AP m	0,550
Draft at LCF m	0,550
Trim (+ve by stern) m	0,000
WL Length m	6,115
WL Beam m	2,317
Wetted Area m^2	13,509
Waterpl. Area m^2	11,808
Prismatic Coeff.	0,617
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GML m	8,707
KMt m	1,730
KML m	9,257
Immersion (TPc) tonne/cm	0,121
MTc tonne.m	0,048
RM at 1deg = GMt.Disp.sin(1) kg.m	70,021
Max deck inclination deg	0,0
Trim angle (+ve by stern) deg	0,0

Hydrostatics - ka690.1
Damage Case - Intact

Fixed Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)

Draft Amidsh. m	0,550
Displacement kg	3402
Heel to Starboard degrees	0,0
Draft at FP m	0,550
Draft at AP m	0,550
Draft at LCF m	0,550
Trim (+ve by stern) m	0,000
WL Length m	6,115
WL Beam m	2,317
Wetted Area m^2	13,509
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Immersion (TPc) tonne/cm	0,121
MTc tonne.m	0,048
RM at 1deg = GMt.Disp.sin(1) kg.m	70,021
Max deck inclination deg	0,0
Trim angle (+ve by stern) deg	0,0

Hydrostatics - ka690.1
Damage Case - Intact

Fixed Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)

Draft Amidsh. m	0,550
Displacement kg	3402
Heel to Starboard degrees	0,0
Draft at FP m	0,550
Draft at AP m	0,550
Draft at LCF m	0,550
Trim (+ve by stern) m	0,000
WL Length m	6,115
WL Beam m	2,317
Wetted Area m^2	13,509
Waterpl. Area m^2	11,808
Prismatic Coeff.	0,617
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KB m	0,380
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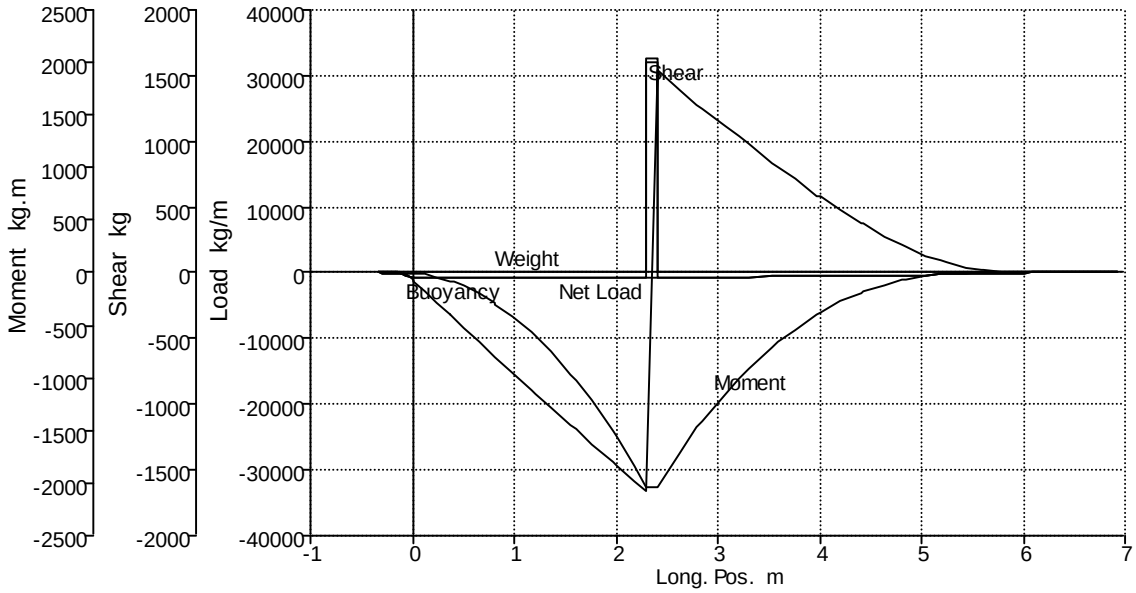
GML m	8,707
KMt m	1,730
KML m	9,257
Immersion (TPc) tonne/cm	0,121
MTc tonne.m	0,048
RM at 1deg = GMt.Disp.sin(1) kg.m	70,021
Max deck inclination deg	0,0
Trim angle (+ve by stern) deg	0,0

Longitudinal Strength Calculation - ka690.1

Loadcase - Loadcase1
Damage Case - Intact

Free to Trim
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)
Fluid analysis method: Use corrected VCG

Item Name	Quantity	Weight kg	Long.Arm m	Aft. Limit m	Fwd. Limit m	Vert.Arm m	Trans.Arm m
Lightship	1	3270	2,350	2,350	2,350	0,815	0,000
	Total Weight=	**3270**	**LCG=2,350**			**VCG=0,815**	**TCG=0,000**



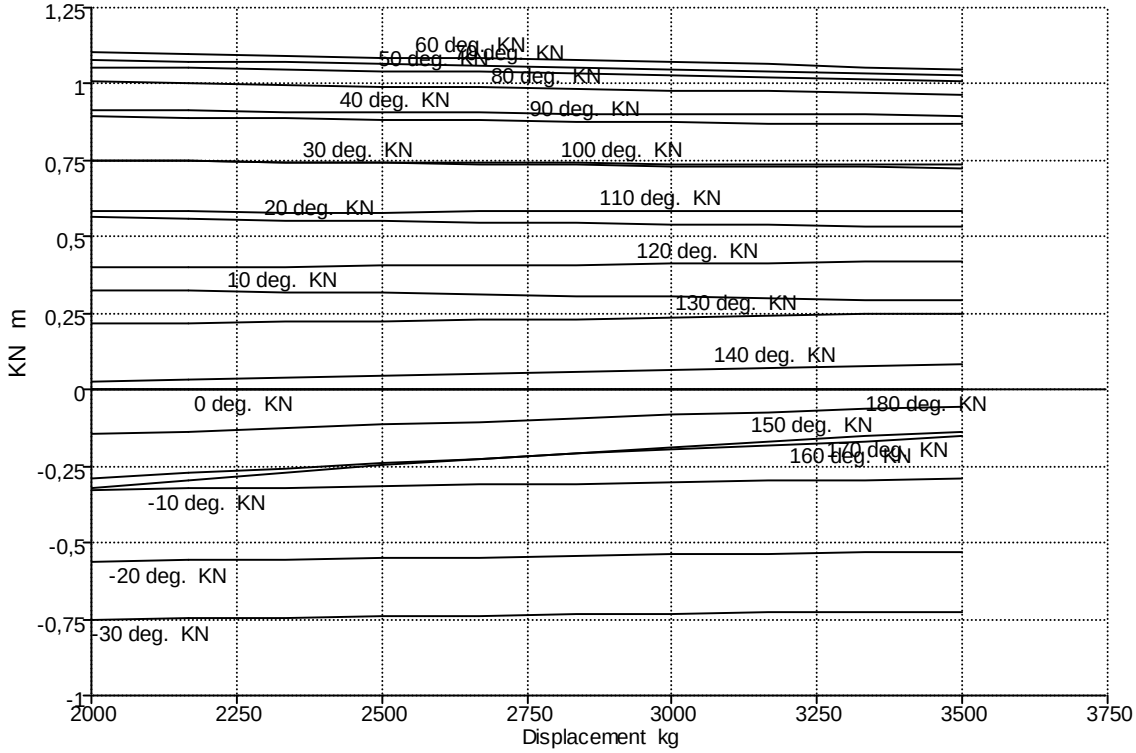
Name	Long. Pos. m	Buoyancy kg/m	Weight kg/m	Net Load kg/m	Shear kg
st 1	0,000	684,689	0,000	-684,689	-54,633
st 2	0,400	725,591	0,000	-725,591	-346,848
st 3	0,800	713,394	0,000	-713,394	-634,715
st 4	1,200	700,359	0,000	-700,359	-917,543
st 5	1,600	686,215	0,000	-686,215	-1194,948
st 6	2,000	670,565	0,000	-670,565	-1466,411
st 7	2,400	652,816	0,000	-652,816	1538,796
st 8	2,800	631,775	0,000	-631,775	1281,723
st 9	3,200	605,781	0,000	-605,781	1033,945
st 10	3,600	571,903	0,000	-571,903	797,972
st 11	4,000	525,190	0,000	-525,190	577,972
st 12	4,400	458,742	0,000	-458,742	380,539
st 13	4,800	366,991	0,000	-366,991	214,474
st 14	5,200	246,968	0,000	-246,968	90,676
st 15	5,600	106,299	0,000	-106,299	19,739
st 16	6,000	5,344	0,000	-5,344	0,359
st 17	6,400	0,000	0,000	0,000	0,062

Name	Moment kg.m
st 1	-4,782
st 2	-87,390
st 3	-286,073
st 4	-598,878
st 5	-1023,721
st 6	-1558,331
st 7	-2036,713

st 8	-1474,952
st 9	-1014,204
st 10	-650,274
st 11	-377,637
st 12	-188,658
st 13	-72,644
st 14	-14,936
st 15	3,601
st 16	4,459
st 17	2,540

KN Calculation - ka690.1
Damage Case - Intact

Initial Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)
VCG = 0,82 m



Displacement kg	KN 30,0 deg. Port.	KN 20,0 deg. Port.	KN 10,0 deg. Port.	KN 0,0 deg.	KN 10,0 deg. Starb.	KN 20,0 deg. Starb.	KN 30,0 deg. Starb.	KN 40,0 deg. Starb.
2000	-0,752	-0,563	-0,327	0,000	0,327	0,563	0,752	0,917
2167	-0,747	-0,559	-0,323	0,000	0,323	0,559	0,747	0,913
2333	-0,744	-0,555	-0,320	0,000	0,320	0,555	0,744	0,910
2500	-0,740	-0,551	-0,316	0,000	0,316	0,551	0,740	0,907
2667	-0,737	-0,547	-0,312	0,000	0,312	0,547	0,737	0,905
2833	-0,734	-0,544	-0,308	0,000	0,308	0,544	0,734	0,903
3000	-0,732	-0,540	-0,303	0,000	0,303	0,540	0,732	0,902
3167	-0,730	-0,537	-0,299	0,000	0,299	0,537	0,730	0,900
3333	-0,728	-0,534	-0,295	0,000	0,295	0,534	0,728	0,899
3500	-0,726	-0,531	-0,291	0,000	0,291	0,531	0,726	0,897

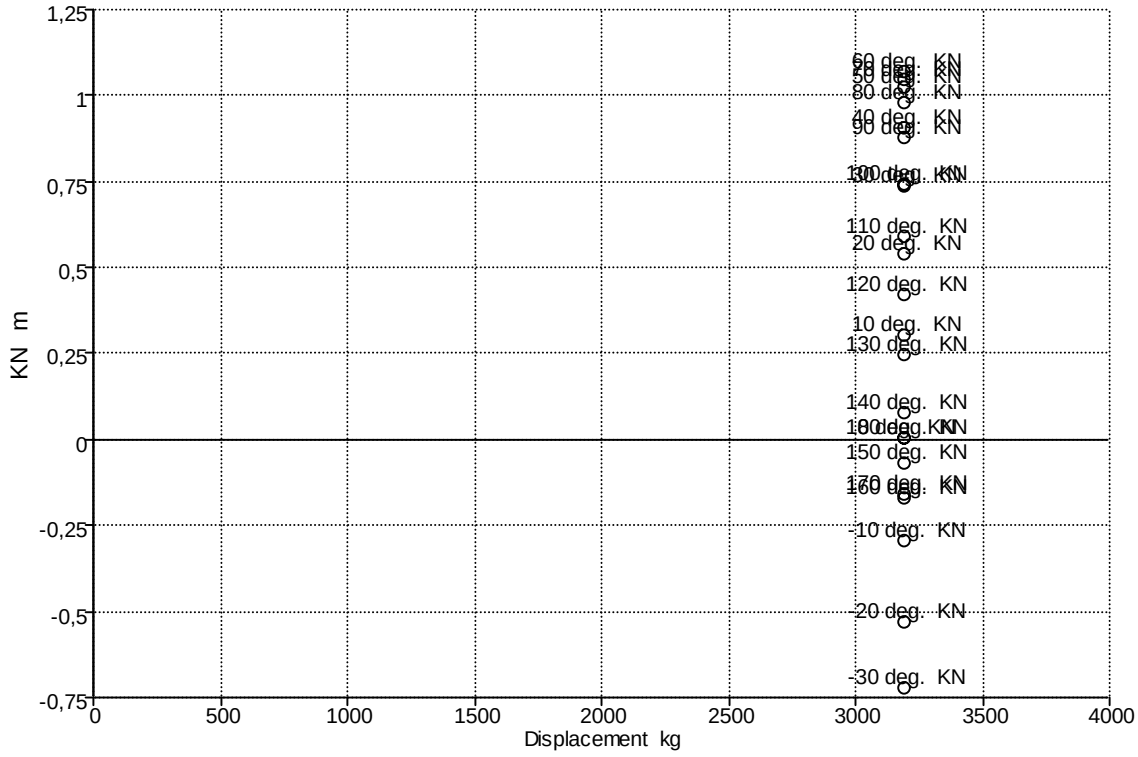
Displacement kg	KN 50,0 deg. Starb.	KN 60,0 deg. Starb.	KN 70,0 deg. Starb.	KN 80,0 deg. Starb.	KN 90,0 deg. Starb.	KN 100,0 deg. Starb.	KN 110,0 deg. Starb.	KN 120,0 deg. Starb.
2000	1,054	1,103	1,080	1,006	0,893	0,749	0,582	0,401
2167	1,052	1,099	1,075	1,002	0,889	0,747	0,581	0,402
2333	1,048	1,094	1,070	0,997	0,886	0,745	0,581	0,403
2500	1,044	1,088	1,065	0,993	0,883	0,743	0,581	0,405
2667	1,038	1,082	1,059	0,988	0,880	0,742	0,581	0,407
2833	1,033	1,076	1,054	0,984	0,877	0,741	0,582	0,409
3000	1,027	1,070	1,048	0,979	0,874	0,740	0,583	0,412
3167	1,021	1,063	1,043	0,975	0,872	0,739	0,584	0,415
3333	1,015	1,056	1,037	0,971	0,869	0,739	0,586	0,419
3500	1,008	1,050	1,031	0,967	0,867	0,738	0,587	0,422

Displacement kg	KN 130,0	KN 140,0	KN 150,0	KN 160,0	KN 170,0	KN 180,0

	deg. Starb.	deg. Starb.	deg. Starb.	deg. Starb.	deg. Starb.	deg. Starb.
2000	0,214	0,029	-0,147	-0,289	-0,319	0,000
2167	0,217	0,035	-0,136	-0,272	-0,293	0,000
2333	0,220	0,041	-0,125	-0,255	-0,269	0,000
2500	0,224	0,048	-0,114	-0,239	-0,246	0,000
2667	0,228	0,054	-0,104	-0,224	-0,225	0,000
2833	0,232	0,060	-0,093	-0,209	-0,205	0,000
3000	0,236	0,067	-0,084	-0,195	-0,186	0,000
3167	0,241	0,073	-0,074	-0,181	-0,169	0,000
3333	0,246	0,079	-0,065	-0,167	-0,153	0,000
3500	0,251	0,086	-0,056	-0,154	-0,137	0,000

KN Calculation - ka690.1
Damage Case - Intact

Initial Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)
VCG = 0,82 m



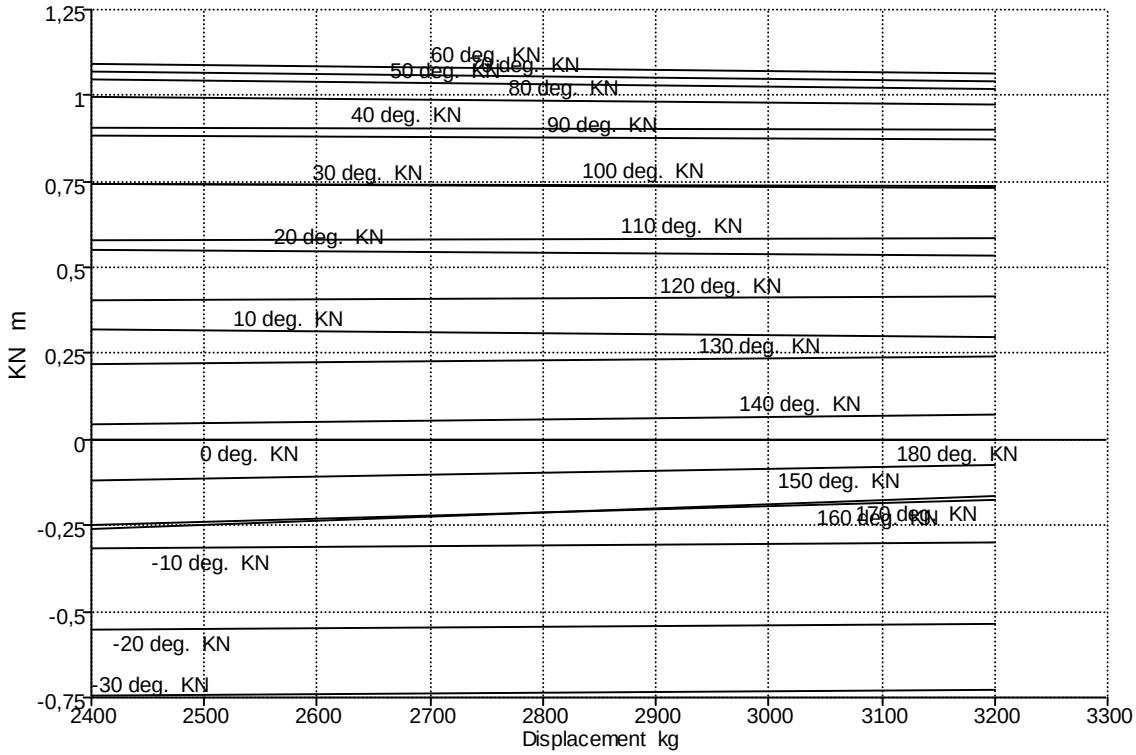
Displacement kg	KN 30,0 deg. Port.	KN 20,0 deg. Port.	KN 10,0 deg. Port.	KN 0,0 deg.	KN 10,0 deg. Starb.	KN 20,0 deg. Starb.	KN 30,0 deg. Starb.	KN 40,0 deg. Starb.
3200	-0,730	-0,537	-0,298	0,000	0,298	0,537	0,730	0,900

Displacement kg	KN 50,0 deg. Starb.	KN 60,0 deg. Starb.	KN 70,0 deg. Starb.	KN 80,0 deg. Starb.	KN 90,0 deg. Starb.	KN 100,0 deg. Starb.	KN 110,0 deg. Starb.	KN 120,0 deg. Starb.
3200	1,020	1,062	1,041	0,975	0,871	0,739	0,585	0,416

Displacement kg	KN 130,0 deg. Starb.	KN 140,0 deg. Starb.	KN 150,0 deg. Starb.	KN 160,0 deg. Starb.	KN 170,0 deg. Starb.	KN 180,0 deg. Starb.
3200	0,242	0,074	-0,072	-0,178	-0,166	0,000

KN Calculation - ka690.1
Damage Case - Intact

Initial Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)
VCG = 0,82 m



Displacement kg	KN 30,0 deg. Port.	KN 20,0 deg. Port.	KN 10,0 deg. Port.	KN 0,0 deg.	KN 10,0 deg. Starb.	KN 20,0 deg. Starb.	KN 30,0 deg. Starb.	KN 40,0 deg. Starb.
2400	-0,742	-0,553	-0,318	0,000	0,318	0,553	0,742	0,908
3200	-0,730	-0,537	-0,298	0,000	0,298	0,537	0,730	0,900

Displacement kg	KN 50,0 deg. Starb.	KN 60,0 deg. Starb.	KN 70,0 deg. Starb.	KN 80,0 deg. Starb.	KN 90,0 deg. Starb.	KN 100,0 deg. Starb.	KN 110,0 deg. Starb.	KN 120,0 deg. Starb.
2400	1,046	1,091	1,068	0,995	0,885	0,744	0,581	0,404
3200	1,020	1,062	1,041	0,975	0,871	0,739	0,585	0,416

Displacement kg	KN 130,0 deg. Starb.	KN 140,0 deg. Starb.	KN 150,0 deg. Starb.	KN 160,0 deg. Starb.	KN 170,0 deg. Starb.	KN 180,0 deg. Starb.
2400	0,222	0,044	-0,120	-0,249	-0,260	0,000
3200	0,242	0,074	-0,072	-0,178	-0,166	0,000

Hydrostatics - ka690.1
Damage Case - Intact

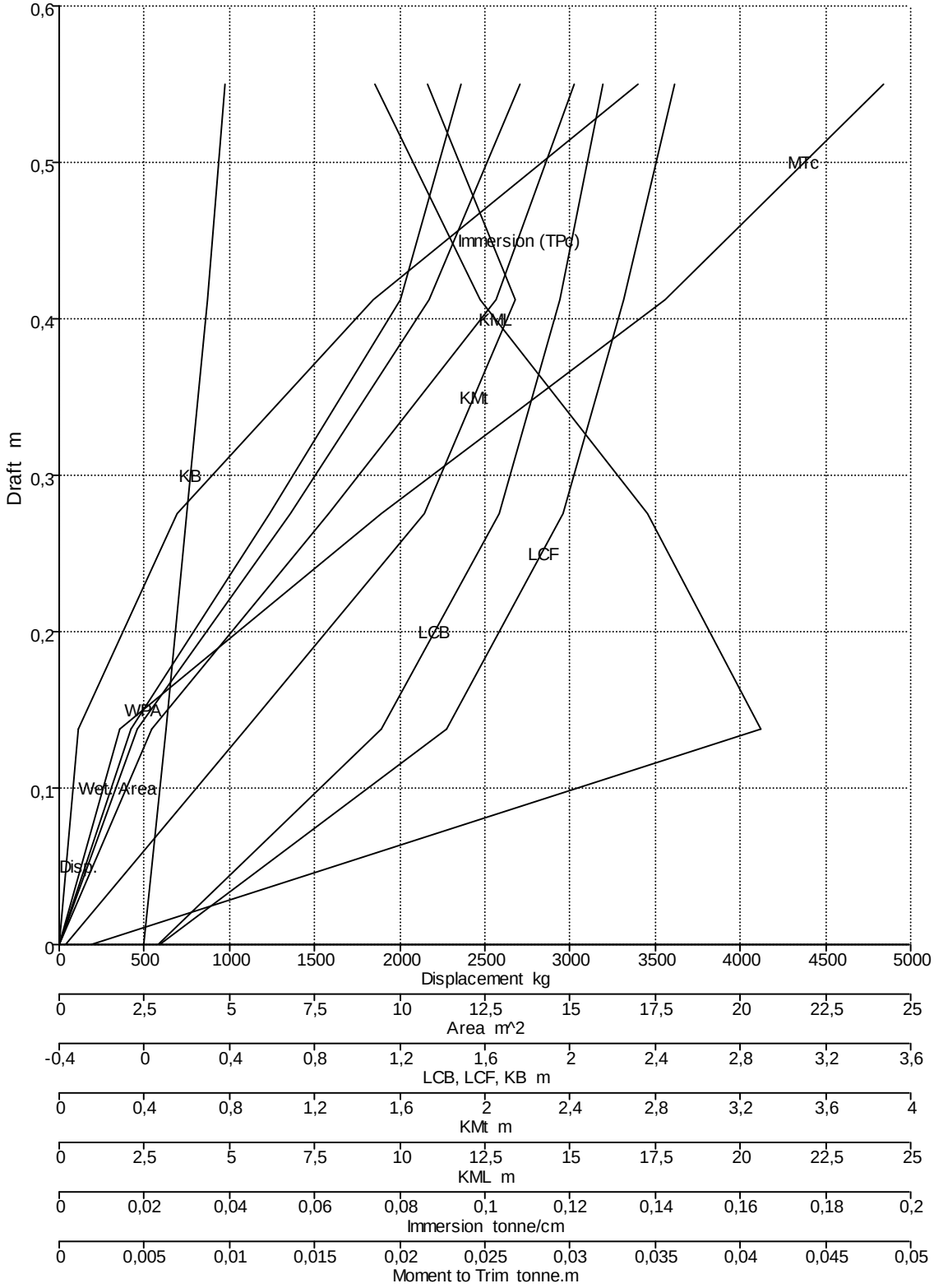
Fixed Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)

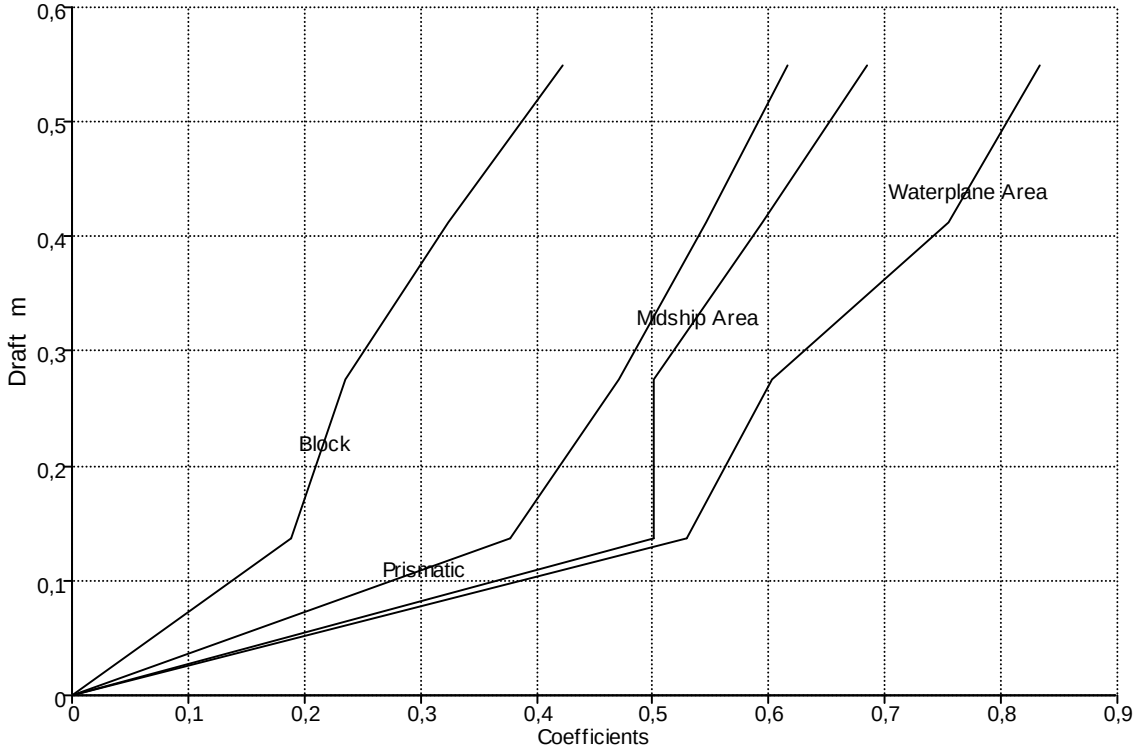
Draft Amidsh. m	0,550
Displacement kg	3402
Heel to Starboard degrees	0,0
Draft at FP m	0,550
Draft at AP m	0,550
Draft at LCF m	0,550
Trim (+ve by stern) m	0,000
WL Length m	6,115
WL Beam m	2,317
Wetted Area m^2	13,509
Waterpl. Area m^2	11,808
Prismatic Coeff.	0,617
Block Coeff.	0,422
Midship Area Coeff.	0,685
Waterpl. Area Coeff.	0,833
LCB from zero pt. m	2,156
LCF from zero pt. m	2,494
KB m	0,380
KG m	0,550
BMt m	1,349
BML m	8,877
GMt m	1,180
GML m	8,707
KMt m	1,730
KML m	9,257
Immersion (TPc) tonne/cm	0,121
MTc tonne.m	0,048
RM at 1deg = GMt.Disp.sin(1) kg.m	70,021
Max deck inclination deg	0,0
Trim angle (+ve by stern) deg	0,0

Hydrostatics - ka690.1
Damage Case - Intact

Fixed Trim = 0 m (+ve by stern)
Relative Density (specific gravity) = 1,025; (Density = 1025,2 kg/m^3)

Draft Amidsh. m	0,550	0,413	0,275	0,138	0,000
Displacement kg	3402	1845	692,3	109,9	0,0054
Heel to Starboard degrees	0,0	0,0	0,0	0,0	0,0
Draft at FP m	0,550	0,413	0,275	0,137	0,000
Draft at AP m	0,550	0,413	0,275	0,137	0,000
Draft at LCF m	0,550	0,413	0,275	0,137	0,000
Trim (+ve by stern) m	0,000	0,000	0,000	0,000	0,000
WL Length m	6,115	5,842	5,423	4,155	0,000
WL Beam m	2,317	2,274	1,886	0,960	0,032
Wetted Area m^2	13,509	10,881	6,775	2,289	0,003
Waterpl. Area m^2	11,808	10,028	6,169	2,115	0,003
Prismatic Coeff.	0,617	0,546	0,471	0,378	0,000
Block Coeff.	0,422	0,325	0,236	0,189	0,000
Midship Area Coeff.	0,685	0,595	0,500	0,500	0,000
Waterpl. Area Coeff.	0,833	0,755	0,603	0,530	0,000
LCB from zero pt. m	2,156	1,955	1,666	1,112	0,061
LCF from zero pt. m	2,494	2,249	1,965	1,423	0,072
KB m	0,380	0,294	0,198	0,101	-0,001
KG m	0,550	0,550	0,550	0,550	0,550
BMt m	1,349	1,847	1,519	0,774	0,032
BML m	8,877	12,054	17,076	20,483	0,931
GMt m	1,180	1,590	1,167	0,324	-0,519
GML m	8,707	11,798	16,724	20,033	0,379
KMt m	1,730	2,140	1,717	0,874	0,031
KML m	9,257	12,348	17,274	20,583	0,929
Immersion (TPc) tonne/cm	0,121	0,103	0,063	0,022	0,000
MTc tonne.m	0,048	0,036	0,019	0,004	0,000
RM at 1deg = GMt.Disp.sin(1) kg.m	70,021	51,209	14,104	0,622	0,000
Max deck inclination deg	0,0	0,0	0,0	0,0	0,0
Trim angle (+ve by stern) deg	0,0	0,0	0,0	0,0	0,0


Draft m
0,6
0,5
0,4
0,3
0,2
0,1
0
MTc
Immersion (TPc)
KML
KMt
KB
LCF
LCB
WPA
Wet. Area
Disp.
0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000
Displacement kg
0 2,5 5 7,5 10 12,5 15 17,5 20 22,5 25
Area m^2
-0,4 0 0,4 0,8 1,2 1,6 2 2,4 2,8 3,2 3,6
LCB, LCF, KB m
0 0,4 0,8 1,2 1,6 2 2,4 2,8 3,2 3,6 4
KMt m
0 2,5 5 7,5 10 12,5 15 17,5 20 22,5 25
KML m
0 0,02 0,04 0,06 0,08 0,1 0,12 0,14 0,16 0,18 0,2
Immersion tonne/cm
0 0,005 0,01 0,015 0,02 0,025 0,03 0,035 0,04 0,045 0,05
Moment to Trim tonne.m


0,6
0,5
0,4
0,3
0,2
0,1
0
Draft m
Block
Prismatic
Midship Area
Waterplane Area
0
0,1
0,2
0,3
0,4
0,5
0,6
0,7
0,8
0,9
Coefficients