

Equilibrium Calculation - Hydromax Sample Workboat

Hydromax 13.0b2, build: 1939

Model file: C:\Program Files\Maxsurf 13\Sample Designs\Hydromax Sample_Workboat (Medium precision, 54 sections). Analysis tolerance - ideal(worst case): Disp.%(0.01000(0.100)); Trim%(LCG-TCG): 0.01000(0.100); Heel%(LCG-TCG): 0.01000(0.100)

Loadcase - Hydromax Sample Departure Loadcase

Damage Case - Intact

Free to Trim

Relative Density (specific gravity) = 1.025; (Density = 1.0252 tonne/m³)

Fluid analysis method: Simulate fluid movement

Item Name	Quantity	Sounding m	Unit Mass tonne	Total Mass tonne	Long.Arm m	Trans.Arm m	Vert.Arm m
Hull	1		16.500	16.500	-1.250	0.000	2.150
Superstructure	1		4.500	4.500	5.000	0.000	6.500
ER equipment	1		2.580	2.580	1.600	0.000	2.300
Steering Room equipment	1		0.500	0.500	-9.300	0.000	2.500
BowThruster Unit	1		0.100	0.100	7.500	0.000	0.600
Outfitting	1		2.500	2.500	2.500	0.000	4.500
Total Fixed weights				26.680	0.313	0.000	3.119
Cargo	1		23.000	23.000	-4.500	0.000	1.215
Anchor Equipment	1		0.500	0.500	11.000	0.000	3.500
Crew	5		0.080	0.400	7.000	0.000	5.000
Deck Equipment	1		7.000	7.000	-4.000	0.000	5.000
Total Variable load				30.900	-3.987	0.000	2.158
Total Tanks				0.000	0.000	0.000	2.430
Total Loadcase				57.580	-1.995	0.000	2.604

Draft Amidsh. m	1.050
Displacement tonne	57.58
Heel to Starboard degrees	0.0
Draft at FP m	1.073
Draft at AP m	1.027
Draft at LCF m	1.046
Trim (+ve by stern) m	-0.046
WL Length m	21.063
WL Beam m	5.526
Wetted Area m ²	107.001
Waterpl. Area m ²	92.760
Prismatic Coeff.	0.791
Block Coeff.	0.452
Midship Area Coeff.	0.589
Waterpl. Area Coeff.	0.797
LCB from zero pt. (+ve fwd) m	-1.992
LCF from zero pt. (+ve fwd) m	-1.918
KB m	0.659
KG solid m	2.604
BMt m	3.474
BML m	46.697
GMt corrected m	1.529
GML corrected m	44.752
KMt m	4.133
KML m	47.356
Immersion (TPc) tonne/cm	0.951
MTc tonne.m	1.219
RM at 1deg = GMt.Disp.sin(1) tonne.m	1.537
Max deck inclination deg	0.1
Trim angle (+ve by stern) deg	-0.1

Key point	Type	Freeboard m
Margin Line (freeboard pos = 14.41 m)		3.599
Deck Edge (freeboard pos = 14.41 m)		3.675
hatch 1	Downflooding point	3.703
hatch 2	Downflooding point	3.686
hatch 3	Downflooding point	3.664

Stability Calculation - Hydromax Sample Workboat

Hydromax 13.0b2, build: 1939

Model file: C:\Program Files\Maxsurf 13\Sample Designs\Hydromax Sample_Workboat (Medium precision, 54 sections). Analysis tolerance - ideal(worst case): Disp.%. 0.01000(0.100); Trim%(LCG-TCG): 0.01000(0.100); Heel%(LCG-TCG): 0.01000(0.100)

Loadcase - Hydromax Sample_Departure Loadcase

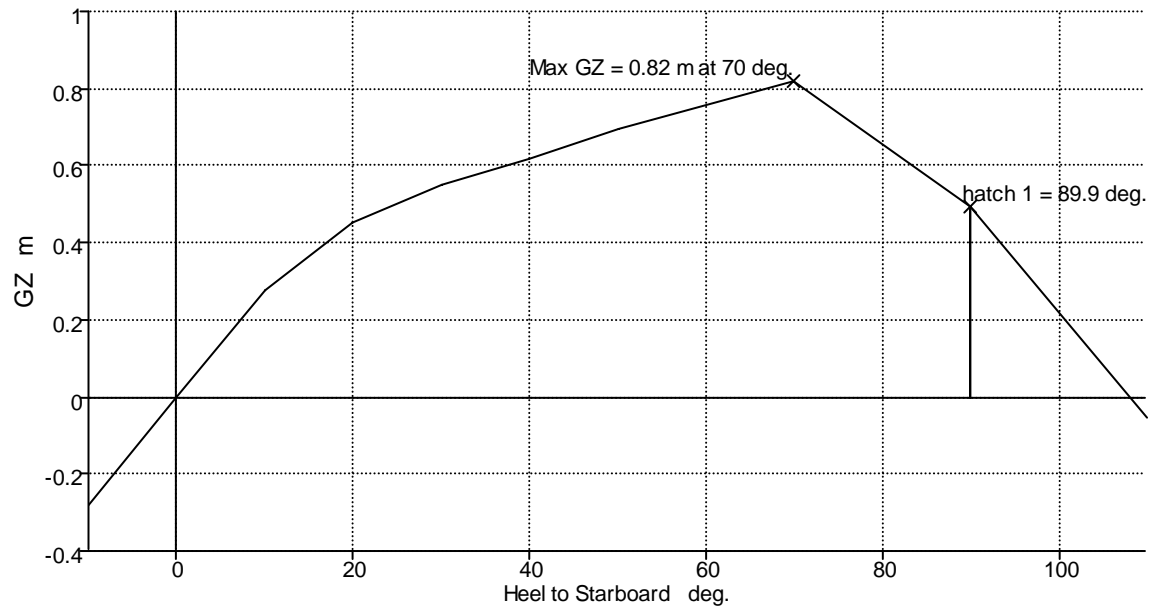
Damage Case - Intact

Free to Trim

Relative Density (specific gravity) = 1.025; (Density = 1.0252 tonne/m³)

Fluid analysis method: Simulate fluid movement

Item Name	Quantity	Soundin g m	Unit Mass tonne	Total Mass tonne	Long.Ar m m	Trans.Ar m m	Vert.Arm m
Hull	1		16.500	16.500	-1.250	0.000	2.150
Superstructure	1		4.500	4.500	5.000	0.000	6.500
ER equipment	1		2.580	2.580	1.600	0.000	2.300
Steering Room equipment	1		0.500	0.500	-9.300	0.000	2.500
BowThruster Unit	1		0.100	0.100	7.500	0.000	0.600
Outfitting	1		2.500	2.500	2.500	0.000	4.500
Total Fixed weights				26.680	0.313	0.000	3.119
Cargo	1		23.000	23.000	-4.500	0.000	1.215
Anchor Equipment	1		0.500	0.500	11.000	0.000	3.500
Crew	5		0.080	0.400	7.000	0.000	5.000
Deck Equipment	1		7.000	7.000	-4.000	0.000	5.000
Total Variable load				30.900	-3.987	0.000	2.158
Total Tanks				0.000	0.000	0.000	2.430
Total Loadcase				57.580	-1.995	0.000	2.604



Key point	Type	DF angle deg
Margin Line (immersion pos = 1.888 m)		60.6
Deck Edge (immersion pos = 1.888 m)		61.2
hatch 1	Downflooding point	89.9
hatch 2	Downflooding point	Not immersed
hatch 3	Downflooding point	Not immersed

Heel to Starboard degrees	-10.0	0.0	10.0	20.0	30.0	40.0	50.0	70.0	90.0	110.0
Displacement tonne	57.58	57.58	57.58	57.58	57.58	57.58	57.58	57.58	57.58	57.58
Draft at FP m	1.044	1.073	1.044	0.950	0.795	0.554	0.151	-2.749	N/A	-9.493
Draft at AP m	0.934	1.027	0.934	0.744	0.455	0.015	-0.698	-4.530	N/A	-9.765
WL Length m	21.032	21.063	21.032	20.931	20.758	20.476	19.494	19.261	21.545	22.825
Immersed Depth m	1.015	1.067	1.014	0.912	1.095	1.345	1.495	1.366	1.120	1.613
WL Beam m	5.286	5.525	5.286	4.919	4.773	4.784	4.950	4.562	3.865	3.813
Wetted Area m ²	107.723	107.001	107.719	105.206	104.096	104.088	103.968	104.157	103.219	103.938
Waterpl. Area m ²	91.404	92.760	91.400	87.080	85.629	86.344	87.579	82.341	70.926	69.077
Prismatic Coeff.	0.784	0.791	0.784	0.777	0.768	0.757	0.767	0.766	0.729	0.726
Block Coeff.	0.498	0.452	0.498	0.598	0.518	0.426	0.389	0.468	0.602	0.400
LCB from zero pt. (+ve fwd) m	-1.982	-1.991	-1.984	-1.976	-1.965	-1.951	-1.933	-1.920	-1.938	-1.981
VCB from DWL m	-0.370	-0.387	-0.370	-0.366	-0.382	-0.410	-0.439	-0.417	-0.437	-0.517
GZ m	-0.279	0.000	0.279	0.450	0.549	0.619	0.697	0.820	0.494	-0.054
LCF from zero pt. (+ve fwd) m	-1.756	-1.917	-1.757	-1.544	-1.378	-1.229	-1.102	-1.397	-1.221	-1.289
TCF to zero pt. m	-0.812	0.000	0.812	1.290	1.699	2.087	2.536	3.346	2.960	2.136
Max deck inclination deg	10.0	0.1	10.0	20.0	30.0	40.0	50.0	70.0	90.0	110.0
Trim angle (+ve by stern) deg	-0.3	-0.1	-0.3	-0.6	-0.9	-1.5	-2.3	-4.8	N/A	-0.7

