**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

## Condition Summary

**Load Condition Parameters**

| Condition | Weight / Sinkage | LCG / Trim | TCG / Heel | VCG (cm) |
|---|---|---|---|---|
| Condition 1 | 0.500 cm | 0.000 deg | 0.000 deg | 0 |
| Condition 2 | 1.000 cm | 0.000 deg | 0.000 deg | 0 |
| Condition 3 | 2.000 cm | 0.000 deg | 0.000 deg | 0 |
| Condition 4 | 2.500 cm | 0.000 deg | 0.000 deg | 0 |
| Condition 5 | 3.000 cm | 0.000 deg | 0.000 deg | 0 |
| Condition 6 | 3.500 cm | 0.000 deg | 0.000 deg | 0 |
| Condition 7 | 4.000 cm | 0.000 deg | 0.000 deg | 0 |
| Condition 8 | 4.500 cm | 0.000 deg | 0.000 deg | 0 |

**Resulting Model Attitude and Hydrostatic Properties**

| Condition | Sinkage (cm) | Trim(deg) | Heel(deg) | Ax(m^2) |
|---|---|---|---|---|
| Condition 1 | 0.500 | 0.000 | 0.000 | 0.00 |
| Condition 2 | 1.000 | 0.000 | 0.000 | 0.00 |
| Condition 3 | 2.000 | 0.000 | 0.000 | 0.00 |
| Condition 4 | 2.500 | 0.000 | 0.000 | 0.00 |
| Condition 5 | 3.000 | 0.000 | 0.000 | 0.00 |
| Condition 6 | 3.500 | 0.000 | 0.000 | 0.00 |
| Condition 7 | 4.000 | 0.000 | 0.000 | 0.00 |
| Condition 8 | 4.500 | 0.000 | 0.000 | 0.00 |

| Condition | Displacement Weight (kgf) | LCB(cm) | TCB(cm) | VCB(cm) | Wet Area (m^2) |
|---|---|---|---|---|---|
| Condition 1 | 0.036 | 7.393 | 0.000 | 0.264 | 0.009 |
| Condition 2 | 0.084 | 7.326 | 0.000 | 0.545 | 0.012 |
| Condition 3 | 0.205 | 7.269 | 0.000 | 1.122 | 0.018 |
| Condition 4 | 0.276 | 7.266 | 0.000 | 1.410 | 0.020 |
| Condition 5 | 0.351 | 7.270 | 0.000 | 1.698 | 0.023 |
| Condition 6 | 0.431 | 7.282 | 0.000 | 1.988 | 0.026 |
| Condition 7 | 0.518 | 7.303 | 0.000 | 2.282 | 0.029 |
| Condition 8 | 0.611 | 7.342 | 0.000 | 2.584 | 0.032 |

| Condition | Awp(m^2) | LCF(cm) | TCF(cm) | VCF(cm) |
|---|---|---|---|---|
| Condition 1 | 0.008 | 7.326 | 0.000 | 0.500 |
| Condition 2 | 0.010 | 7.242 | 0.000 | 1.000 |
| Condition 3 | 0.013 | 7.242 | 0.000 | 2.000 |
| Condition 4 | 0.014 | 7.270 | 0.000 | 2.500 |
| Condition 5 | 0.015 | 7.307 | 0.000 | 3.000 |
| Condition 6 | 0.016 | 7.362 | 0.000 | 3.500 |
| Condition 7 | 0.017 | 7.468 | 0.000 | 4.000 |
| Condition 8 | 0.019 | 7.664 | 0.000 | 4.500 |

| Condition | BMt(cm) | BMl(cm) | GMt(cm) | GMl(cm) |
|---|---|---|---|---|
| Condition 1 | 5.541 | 45.665 | 5.805 | 45.929 |
| Condition 2 | 4.212 | 27.145 | 4.757 | 27.690 |
| Condition 3 | 3.131 | 16.227 | 4.253 | 17.349 |
| Condition 4 | 2.778 | 13.787 | 4.188 | 15.197 |
| Condition 5 | 2.529 | 12.225 | 4.227 | 13.923 |
| Condition 6 | 2.366 | 11.268 | 4.354 | 13.256 |
| Condition 7 | 2.278 | 10.863 | 4.560 | 13.146 |
| Condition 8 | 2.249 | 11.037 | 4.833 | 13.621 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

| Condition | Cb | Cp | Cwp | Cx | Cws | Cvp |
|---|---|---|---|---|---|---|
| Condition 1 | 0.583 | 0.650 | 0.680 | 0.897 | 3.485 | 0.857 |
| Condition 2 | 0.548 | 0.649 | 0.689 | 0.845 | 2.991 | 0.795 |
| Condition 3 | 0.519 | 0.639 | 0.681 | 0.811 | 2.703 | 0.762 |
| Condition 4 | 0.512 | 0.633 | 0.676 | 0.809 | 2.656 | 0.757 |
| Condition 5 | 0.505 | 0.626 | 0.673 | 0.808 | 2.638 | 0.752 |
| Condition 6 | 0.500 | 0.618 | 0.674 | 0.808 | 2.638 | 0.741 |
| Condition 7 | 0.495 | 0.611 | 0.687 | 0.811 | 2.649 | 0.722 |
| Condition 8 | 0.495 | 0.604 | 0.713 | 0.818 | 2.672 | 0.694 |

**Notes**

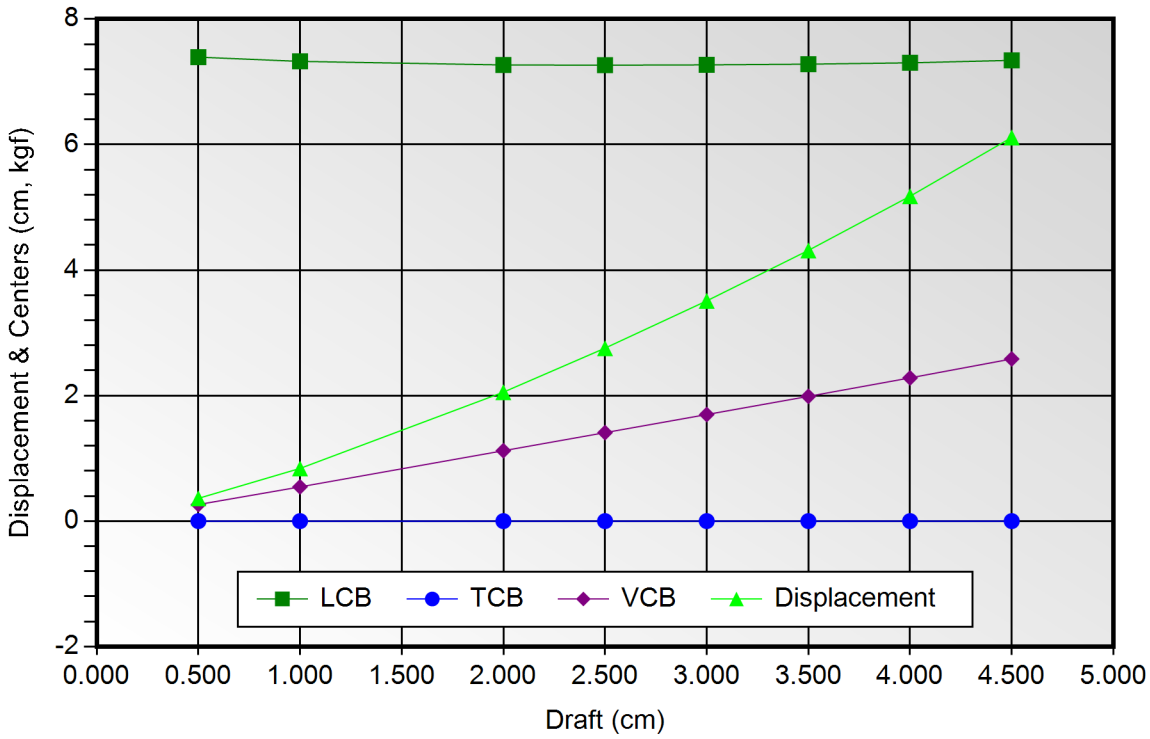
1. Locations such as the center of buoyancy and center of flotation are measured from the origin in the Rhinoceros world coordinate system.

2. The orientation of the model for an Orca3D hydrostatics solution is defined in terms of “sinkage,” “trim,” and “heel.” The sinkage value represents the depth of the body origin (i.e. the Rhino world origin) below the resultant flotation plane, and is sometimes referred to as "origin depth." Heel and trim represent angular rotations about the Rhino longitudinal and transverse axes, respectively, and are taken in that order. For a more detailed description of these terms see the Orca3D documentation.

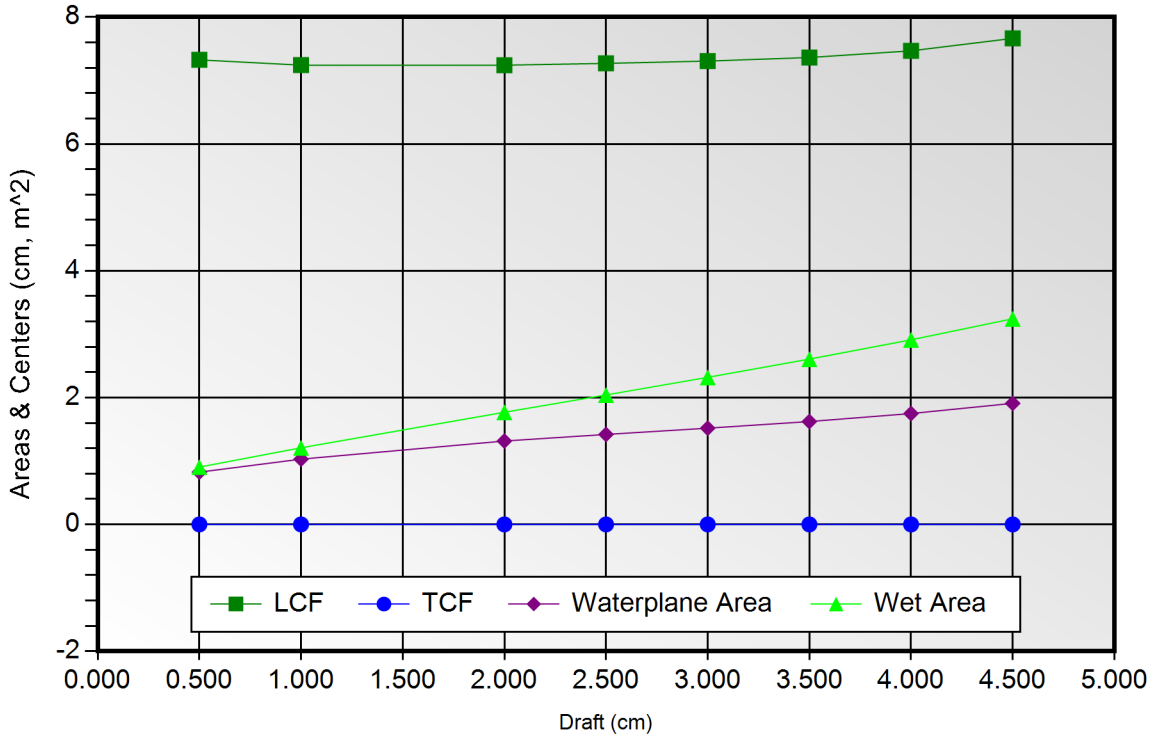
3. Hull form coefficients are non-dimensionalized by the waterline length.

4. Calculation of Cp and Cx use Orca sections to determine Ax. If no Orca sections are defined, these values will be reported as zero.

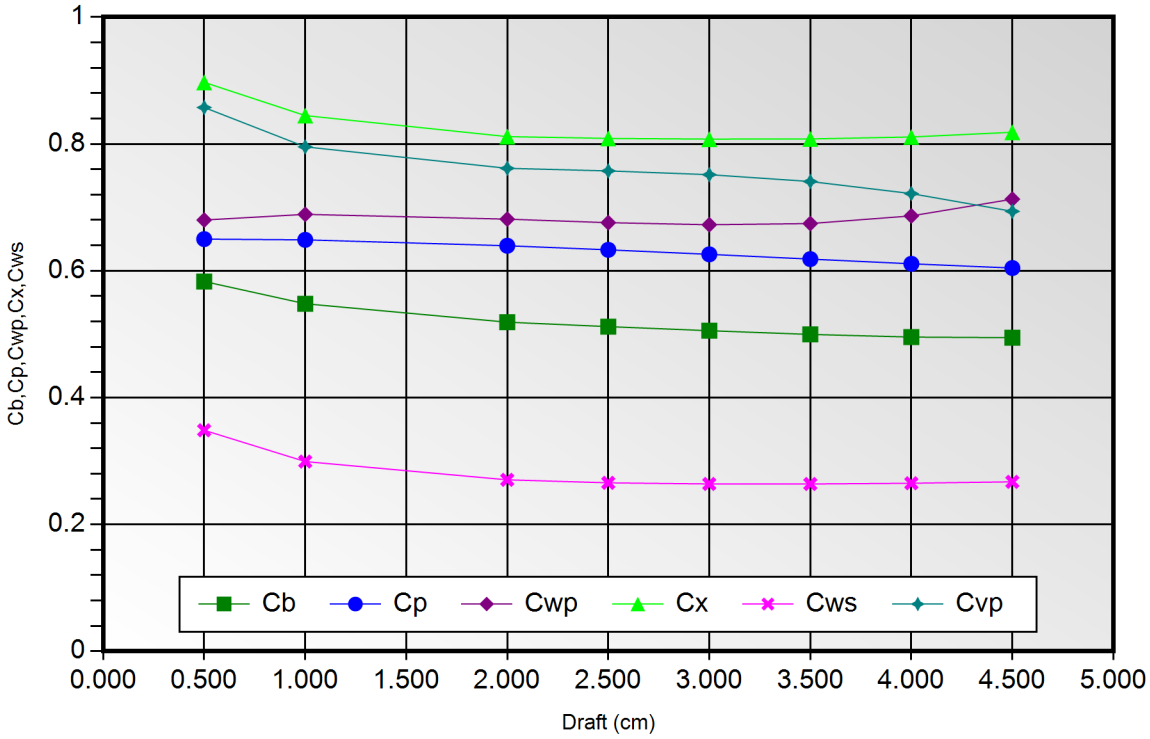
## Volumetric Properties



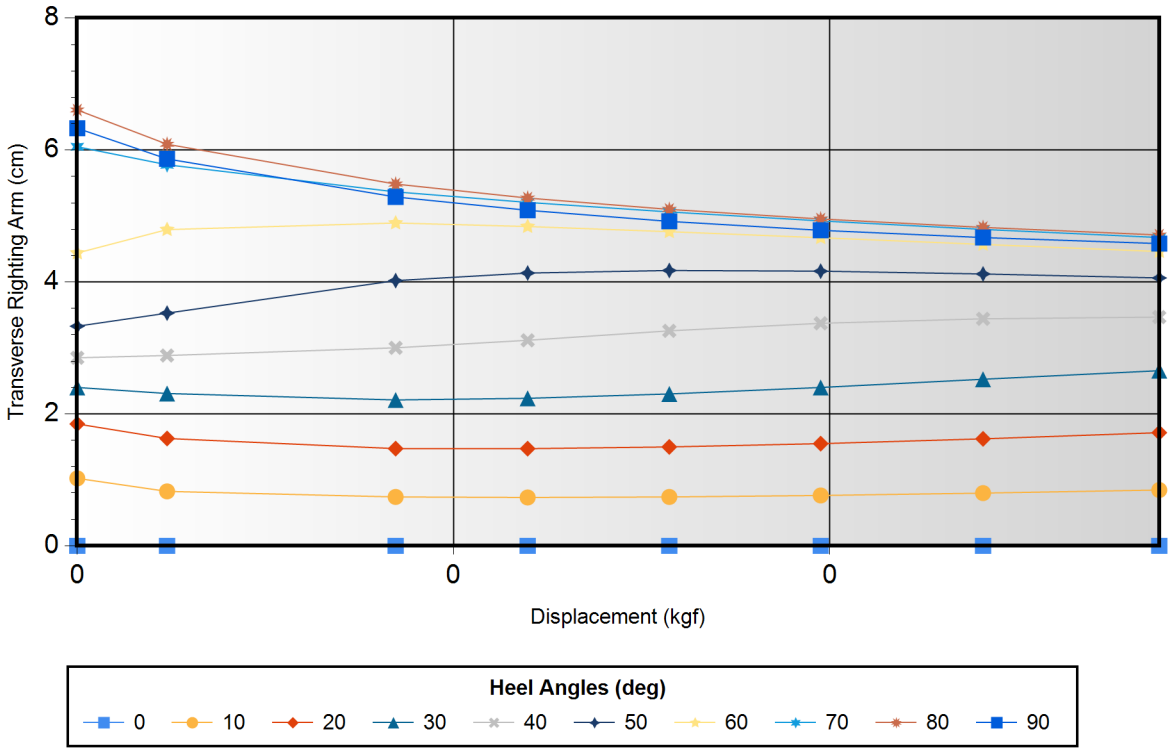
## Area Properties



## Hull Form Coefficients



## Cross Curves of Stability




### Cross Curve Data

| Displacement (kgf) | Sinkage (cm) | 0 deg | 10 deg | 20 deg | 30 deg | 40 deg |
|---|---|---|---|---|---|---|
| 0.036 | 0.500 | 0.000 | 1.022 | 1.848 | 2.401 | 2.851 |
| 0.084 | 1.000 | 0.000 | 0.825 | 1.627 | 2.309 | 2.885 |
| 0.205 | 2.000 | 0.000 | 0.741 | 1.474 | 2.211 | 3.002 |
| 0.276 | 2.500 | 0.000 | 0.733 | 1.473 | 2.236 | 3.116 |
| 0.351 | 3.000 | 0.000 | 0.741 | 1.499 | 2.302 | 3.260 |
| 0.431 | 3.500 | 0.000 | 0.763 | 1.549 | 2.401 | 3.374 |
| 0.518 | 4.000 | 0.000 | 0.799 | 1.622 | 2.526 | 3.441 |
| 0.611 | 4.500 | 0.000 | 0.846 | 1.716 | 2.655 | 3.468 |

| Displacement (kgf) | 50 deg | 60 deg | 70 deg | 80 deg | 90 deg |
|---|---|---|---|---|---|
| 0.036 | 3.330 | 4.440 | 6.051 | 6.609 | 6.331 |
| 0.084 | 3.528 | 4.795 | 5.778 | 6.089 | 5.867 |
| 0.205 | 4.021 | 4.895 | 5.367 | 5.485 | 5.290 |
| 0.276 | 4.136 | 4.841 | 5.207 | 5.273 | 5.087 |
| 0.351 | 4.175 | 4.763 | 5.062 | 5.101 | 4.919 |
| 0.431 | 4.165 | 4.671 | 4.927 | 4.956 | 4.784 |
| 0.518 | 4.122 | 4.570 | 4.798 | 4.828 | 4.674 |
| 0.611 | 4.062 | 4.462 | 4.675 | 4.712 | 4.583 |

| Object Type | Name | ID |
|---|---|---|
| 多重曲面 | Unnamed Rhino Object | {538db74b-51ea-441c-b2b5-ec8113b03553} |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 1,Model Sinkage=0.50,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | | |
|---|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z | |
| | | Fwd Direction = Negative_X | |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | | |
|---|---|---|
| Model Sinkage | 0.500 | cm |
| Model Trim | 0.000 | deg |
| Model Heel | 0.000 | deg |
| VCG | 0 | cm |
| Fluid Type | Seawater | |
| Fluid Density | 1025.900 | kg/m^3 |
| Mirror Geometry | False | |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 0.500 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

## Waterline Dimensions

| | | | |
|---|---|---|---|
| Waterline Length, Lwl | 19.050 cm | Lwl / Bwl | 2.994 |
| Waterline Beam, Bwl | 6.362 cm | Bwl / T | 12.724 |
| Navigational Draft, T | 0.500 cm | D / T | 14.980 |

## Volumetric Values

| | | | | | |
|---|---|---|---|---|---|
| Displacement Weight | 0.036 kgf | Displ-Length Ratio | | | 146.125 |
| Volume | 0.000 m^3 | | | | |
| LCB | 7.393 cm | FB/Lwl | 0.409 | AB/Lwl | 0.591 |
| TCB | 0.000 cm | TCB / Bwl | | | 0.000 |
| VCB | 0.264 cm | | | | |
| Wetted Surface Area | 0.009 m^2 | | | | |
| Moment To Trim | 0.001 kgf-m/cm | | | | |

## Waterplane Values

| | | | | | |
|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.008 m^2 | | | | |
| LCF | 7.326 cm | FF/Lwl | 0.406 | AF/Lwl | 0.594 |
| TCF | 0.000 cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.085 kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.000 m^2 | | |
| Ax Location | 5.260 cm | Ax Location / Lwl | 0.297 |

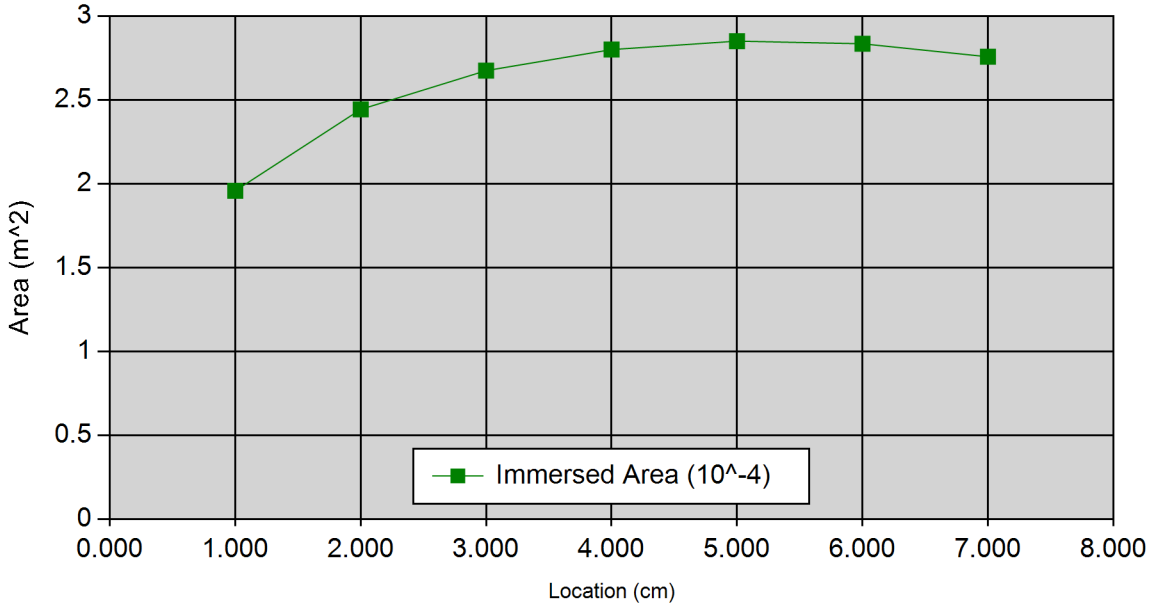
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.583 | Cx | 0.897 |
| Cp | 0.650 | Cwp | 0.680 |
| Cvp | 0.857 | Cws | 3.485 |

## Static Stability Parameters

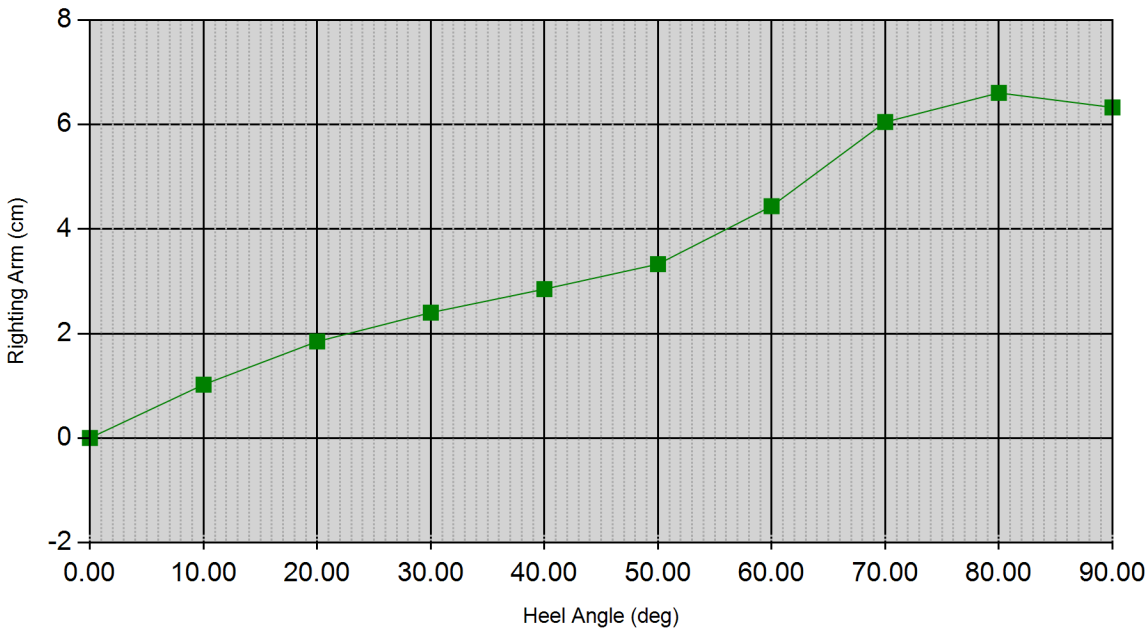
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 5.541 cm | BMl | 45.665 cm |
| GMt | 5.805 cm | GMl | 45.929 cm |
| Mt | 5.305 cm | Ml | 45.429 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.000 | 5.141 |
| 2.000 | 0.000 | 5.993 |
| 3.000 | 0.000 | 6.402 |
| 4.000 | 0.000 | 6.613 |
| 5.000 | 0.000 | 6.693 |
| 6.000 | 0.000 | 6.665 |
| 7.000 | 0.000 | 6.522 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | 0.196 | 1.022 | 0.00 |
| 20.000 | 0.922 | 1.848 | 0.00 |
| 30.000 | 2.098 | 2.401 | 0.00 |
| 40.000 | 3.561 | 2.851 | 0.00 |
| 50.000 | 5.192 | 3.330 | 0.00 |
| 60.000 | 5.636 | 4.440 | 0.00 |
| 70.000 | 4.098 | 6.051 | 0.00 |
| 80.000 | 3.065 | 6.609 | 0.00 |
| 90.000 | 2.467 | 6.331 | 0.00 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 2,Model Sinkage=1.00,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | | |
|---|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z | |
| | | Fwd Direction = Negative_X | |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | | |
|---|---|---|
| Model Sinkage | 1.000 | cm |
| Model Trim | 0.000 | deg |
| Model Heel | 0.000 | deg |
| VCG | 0 | cm |
| Fluid Type | Seawater | |
| Fluid Density | 1025.900 | kg/m^3 |
| Mirror Geometry | False | |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 1.000 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

## Waterline Dimensions

| | | | |
|---|---|---|---|
| Waterline Length, Lwl | 19.936 cm | Lwl / Bwl | 2.661 |
| Waterline Beam, Bwl | 7.492 cm | Bwl / T | 7.492 |
| Navigational Draft, T | 1.000 cm | D / T | 7.490 |

## Volumetric Values

| | | | | | |
|---|---|---|---|---|---|
| Displacement Weight | 0.084 kgf | Displ-Length Ratio | | | 295.338 |
| Volume | 0.000 m^3 | | | | |
| LCB | 7.326 cm | FB/Lwl | 0.409 | AB/Lwl | 0.591 |
| TCB | 0.000 cm | TCB / Bwl | | | 0.000 |
| VCB | 0.545 cm | | | | |
| Wetted Surface Area | 0.012 m^2 | | | | |
| Moment To Trim | 0.001 kgf-m/cm | | | | |

## Waterplane Values

| | | | | | |
|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.010 m^2 | | | | |
| LCF | 7.242 cm | FF/Lwl | 0.405 | AF/Lwl | 0.595 |
| TCF | 0.000 cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.106 kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.001 m^2 | | |
| Ax Location | 5.168 cm | Ax Location / Lwl | 0.301 |

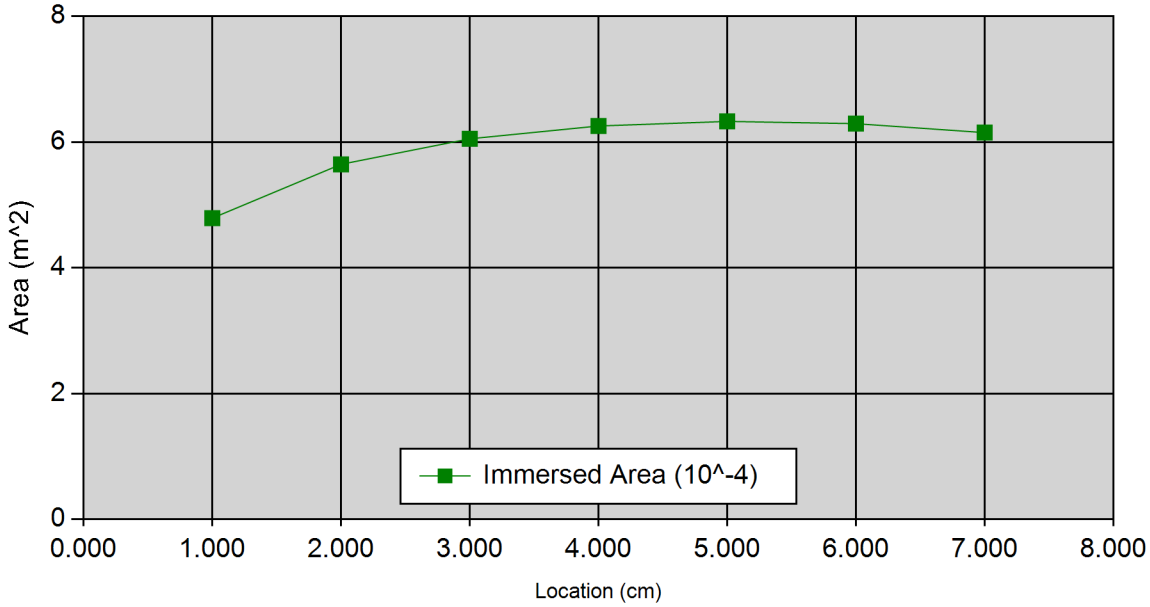
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.548 | Cx | 0.845 |
| Cp | 0.649 | Cwp | 0.689 |
| Cvp | 0.795 | Cws | 2.991 |

## Static Stability Parameters

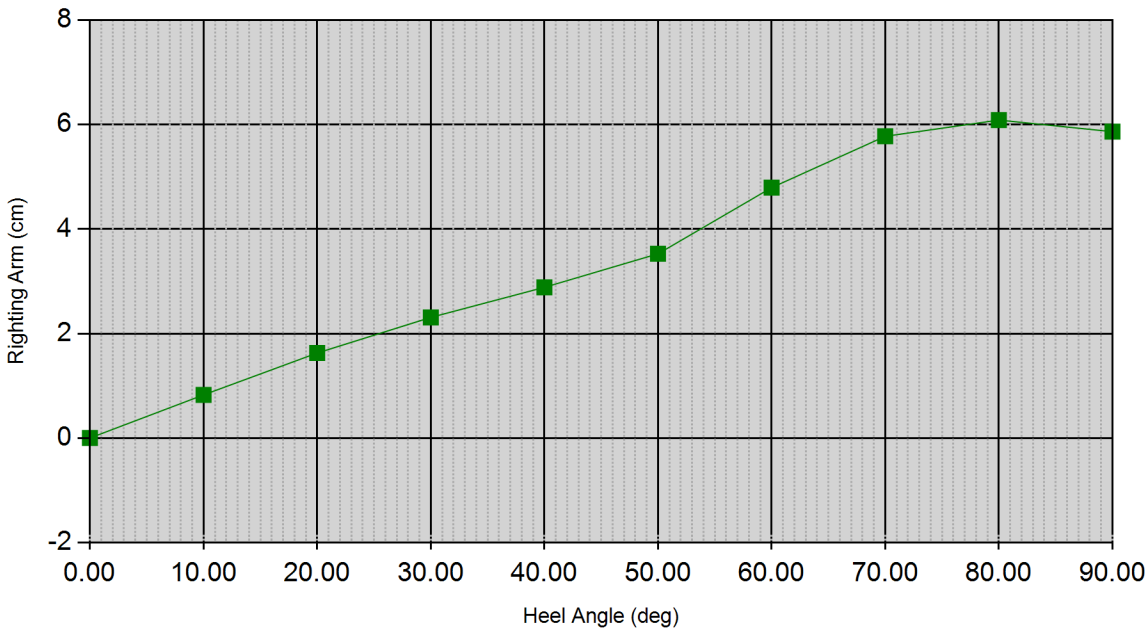
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 4.212 cm | BMl | 27.145 cm |
| GMt | 4.757 cm | GMl | 27.690 cm |
| Mt | 3.757 cm | Ml | 26.690 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.000 | 6.849 |
| 2.000 | 0.001 | 7.613 |
| 3.000 | 0.001 | 7.989 |
| 4.000 | 0.001 | 8.163 |
| 5.000 | 0.001 | 8.204 |
| 6.000 | 0.001 | 8.147 |
| 7.000 | 0.001 | 8.007 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | 0.155 | 0.825 | 0.00 |
| 20.000 | 0.602 | 1.627 | 0.00 |
| 30.000 | 1.446 | 2.309 | 0.00 |
| 40.000 | 2.646 | 2.885 | 0.00 |
| 50.000 | 3.954 | 3.528 | 0.00 |
| 60.000 | 4.180 | 4.795 | 0.00 |
| 70.000 | 3.639 | 5.778 | 0.00 |
| 80.000 | 2.949 | 6.089 | 0.01 |
| 90.000 | 2.283 | 5.867 | 0.00 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 3,Model Sinkage=2.00,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | |
|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z |
| | | Fwd Direction = Negative_X |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | |
|---|---|
| Model Sinkage | 2.000 cm |
| Model Trim | 0.000 deg |
| Model Heel | 0.000 deg |
| VCG | 0 cm |
| Fluid Type | Seawater |
| Fluid Density | 1025.900 kg/m^3 |
| Mirror Geometry | False |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 2.000 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

## Waterline Dimensions

| | | | |
|---|---|---|---|
| Waterline Length, Lwl | 21.368 cm | Lwl / Bwl | 2.366 |
| Waterline Beam, Bwl | 9.031 cm | Bwl / T | 4.516 |
| Navigational Draft, T | 2.000 cm | D / T | 3.745 |

## Volumetric Values

| | | | | | |
|---|---|---|---|---|---|
| Displacement Weight | 0.205 kgf | Displ-Length Ratio | | | 586.871 |
| Volume | 0.000 m^3 | | | | |
| LCB | 7.269 cm | FB/Lwl | 0.407 | AB/Lwl | 0.593 |
| TCB | 0.000 cm | TCB / Bwl | | | 0.000 |
| VCB | 1.122 cm | | | | |
| Wetted Surface Area | 0.018 m^2 | | | | |
| Moment To Trim | 0.002 kgf-m/cm | | | | |

## Waterplane Values

| | | | | | |
|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.013 m^2 | | | | |
| LCF | 7.242 cm | FF/Lwl | 0.405 | AF/Lwl | 0.595 |
| TCF | 0.000 cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.135 kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.001 m^2 | | |
| Ax Location | 4.907 cm | Ax Location / Lwl | 0.296 |

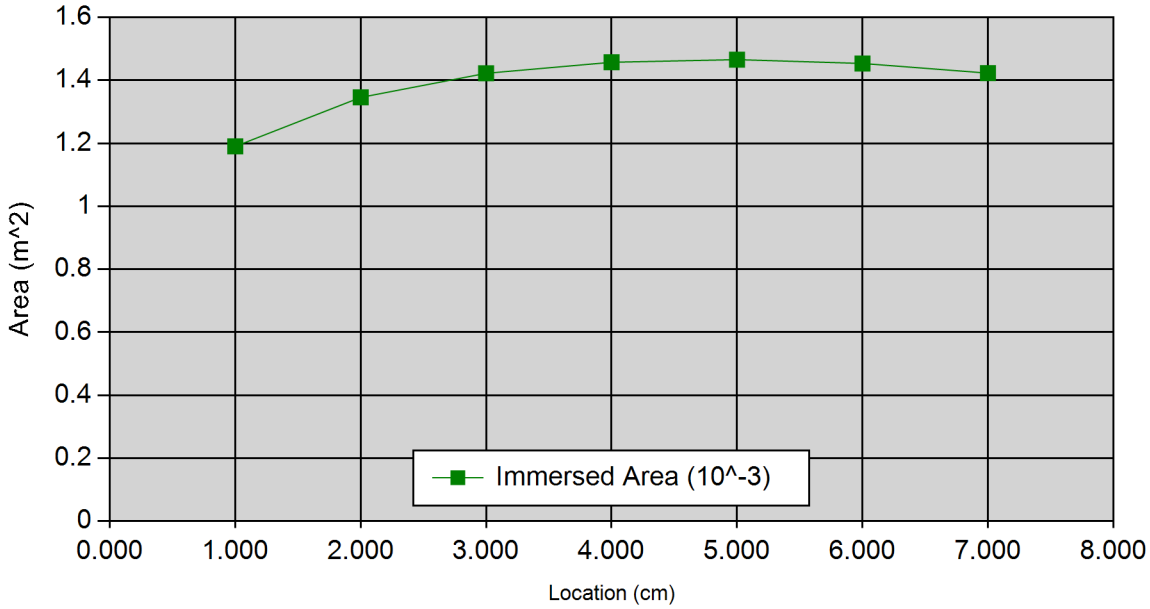
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.519 | Cx | 0.811 |
| Cp | 0.639 | Cwp | 0.681 |
| Cvp | 0.762 | Cws | 2.703 |

## Static Stability Parameters

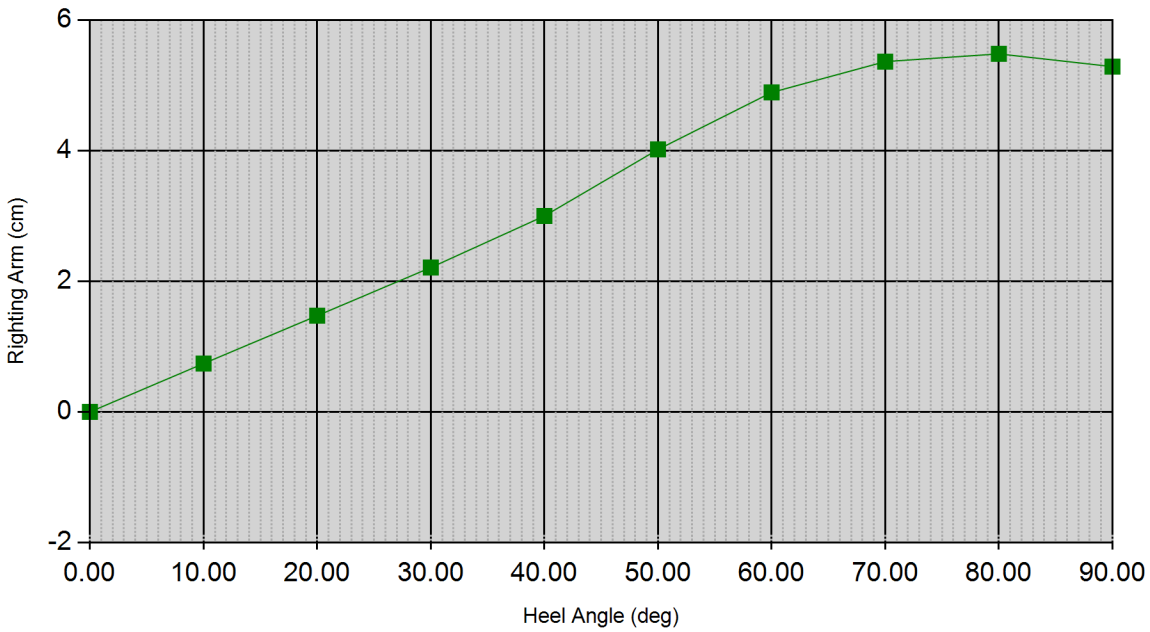
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 3.131 cm | BMl | 16.227 cm |
| GMt | 4.253 cm | GMl | 17.349 cm |
| Mt | 2.253 cm | Ml | 15.349 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.001 | 9.323 |
| 2.000 | 0.001 | 10.090 |
| 3.000 | 0.001 | 10.503 |
| 4.000 | 0.001 | 10.695 |
| 5.000 | 0.001 | 10.728 |
| 6.000 | 0.001 | 10.645 |
| 7.000 | 0.001 | 10.469 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | 0.080 | 0.741 | 0.00 |
| 20.000 | 0.344 | 1.474 | 0.00 |
| 30.000 | 0.819 | 2.211 | 0.00 |
| 40.000 | 1.444 | 3.002 | 0.01 |
| 50.000 | 2.102 | 4.021 | 0.01 |
| 60.000 | 2.580 | 4.895 | 0.01 |
| 70.000 | 2.626 | 5.367 | 0.01 |
| 80.000 | 2.289 | 5.485 | 0.01 |
| 90.000 | 1.696 | 5.290 | 0.01 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 4,Model Sinkage=2.50,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | |
|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z |
| | | Fwd Direction = Negative_X |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | |
|---|---|
| Model Sinkage | 2.500 cm |
| Model Trim | 0.000 deg |
| Model Heel | 0.000 deg |
| VCG | 0 cm |
| Fluid Type | Seawater |
| Fluid Density | 1025.900 kg/m^3 |
| Mirror Geometry | False |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 2.500 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

## Waterline Dimensions

| | | | |
|---|---|---|---|
| Waterline Length, Lwl | 21.985 cm | Lwl / Bwl | 2.302 |
| Waterline Beam, Bwl | 9.549 cm | Bwl / T | 3.820 |
| Navigational Draft, T | 2.500 cm | D / T | 2.996 |

## Volumetric Values

| | | | | | |
|---|---|---|---|---|---|
| Displacement Weight | 0.276 kgf | Displ-Length Ratio | | | 722.889 |
| Volume | 0.000 m^3 | | | | |
| LCB | 7.266 cm | FB/Lwl | 0.405 | AB/Lwl | 0.595 |
| TCB | 0.000 cm | TCB / Bwl | | | 0.000 |
| VCB | 1.410 cm | | | | |
| Wetted Surface Area | 0.020 m^2 | | | | |
| Moment To Trim | 0.002 kgf-m/cm | | | | |

## Waterplane Values

| | | | | | |
|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.014 m^2 | | | | |
| LCF | 7.270 cm | FF/Lwl | 0.405 | AF/Lwl | 0.595 |
| TCF | 0.000 cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.146 kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.002 m^2 | | |
| Ax Location | 4.849 cm | Ax Location / Lwl | 0.295 |

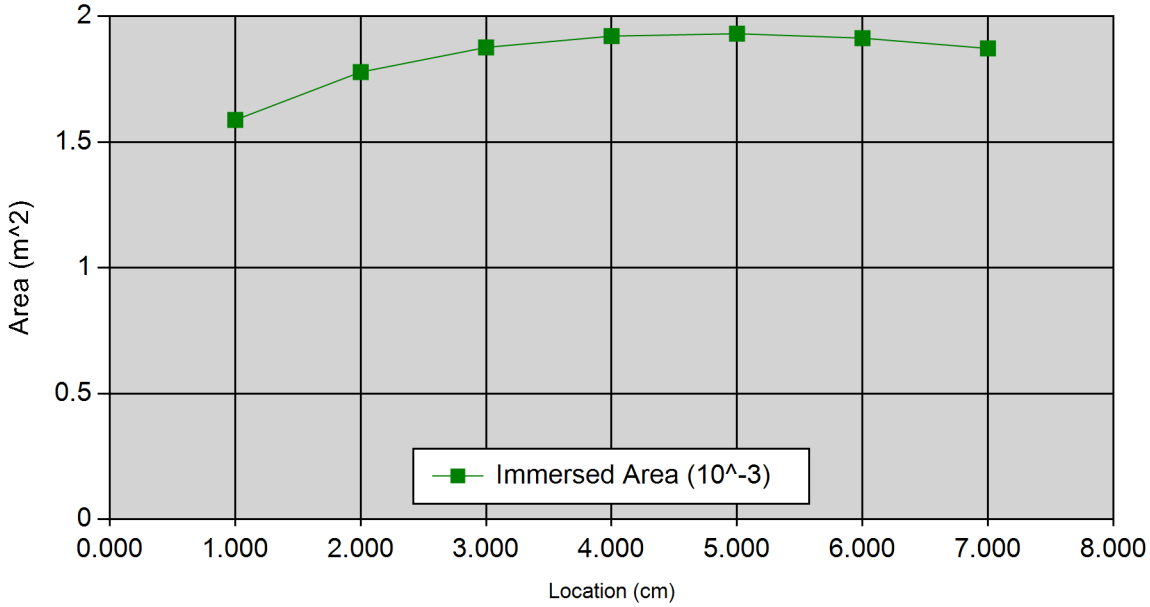
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.512 | Cx | 0.809 |
| Cp | 0.633 | Cwp | 0.676 |
| Cvp | 0.757 | Cws | 2.656 |

## Static Stability Parameters

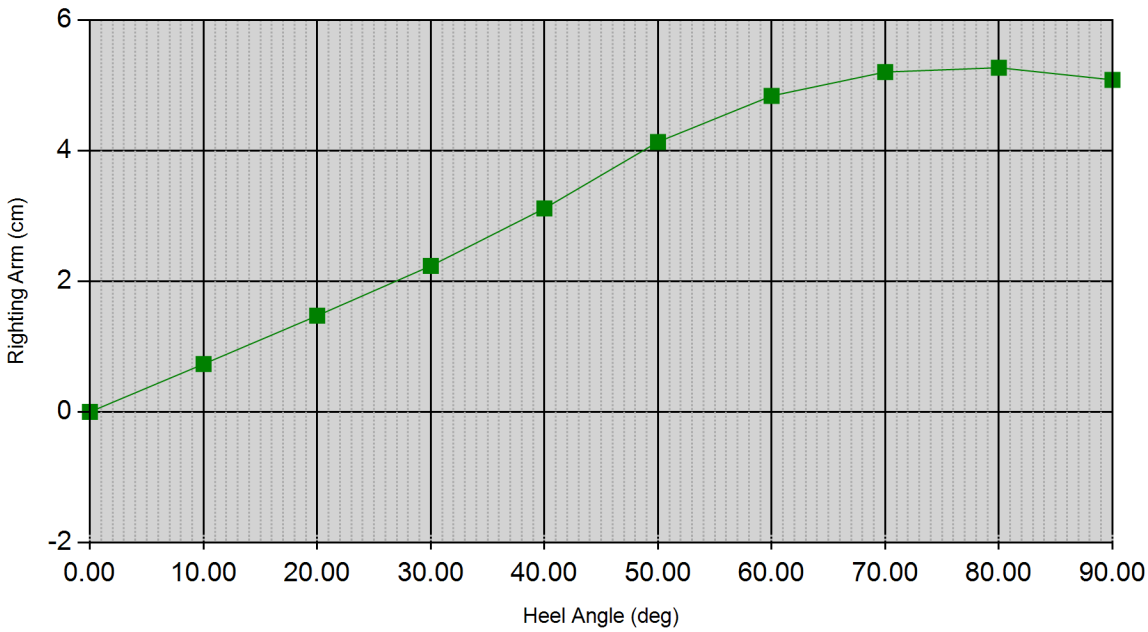
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 2.778 cm | BMl | 13.787 cm |
| GMt | 4.188 cm | GMl | 15.197 cm |
| Mt | 1.688 cm | Ml | 12.697 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.002 | 10.413 |
| 2.000 | 0.002 | 11.169 |
| 3.000 | 0.002 | 11.600 |
| 4.000 | 0.002 | 11.814 |
| 5.000 | 0.002 | 11.856 |
| 6.000 | 0.002 | 11.770 |
| 7.000 | 0.002 | 11.584 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | 0.064 | 0.733 | 0.00 |
| 20.000 | 0.269 | 1.473 | 0.00 |
| 30.000 | 0.602 | 2.236 | 0.01 |
| 40.000 | 0.984 | 3.116 | 0.01 |
| 50.000 | 1.475 | 4.136 | 0.01 |
| 60.000 | 1.864 | 4.841 | 0.01 |
| 70.000 | 1.985 | 5.207 | 0.01 |
| 80.000 | 1.752 | 5.273 | 0.01 |
| 90.000 | 1.218 | 5.087 | 0.01 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 5,Model Sinkage=3.00,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | |
|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z |
| | | Fwd Direction = Negative_X |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | | |
|---|---|---|
| Model Sinkage | 3.000 | cm |
| Model Trim | 0.000 | deg |
| Model Heel | 0.000 | deg |
| VCG | 0 | cm |
| Fluid Type | Seawater | |
| Fluid Density | 1025.900 | kg/m^3 |
| Mirror Geometry | False | |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 3.000 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

## Waterline Dimensions

| | | | |
|---|---|---|---|
| Waterline Length, Lwl | 22.594 cm | Lwl / Bwl | 2.263 |
| Waterline Beam, Bwl | 9.985 cm | Bwl / T | 3.328 |
| Navigational Draft, T | 3.000 cm | D / T | 2.497 |

## Volumetric Values

| | | | | | |
|---|---|---|---|---|---|
| Displacement Weight | 0.351 kgf | Displ-Length Ratio | | | 847.980 |
| Volume | 0.000 m^3 | | | | |
| LCB | 7.270 cm | FB/Lwl | 0.404 | AB/Lwl | 0.596 |
| TCB | 0.000 cm | TCB / Bwl | | | 0.000 |
| VCB | 1.698 cm | | | | |
| Wetted Surface Area | 0.023 m^2 | | | | |
| Moment To Trim | 0.002 kgf-m/cm | | | | |

## Waterplane Values

| | | | | | |
|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.015 m^2 | | | | |
| LCF | 7.307 cm | FF/Lwl | 0.405 | AF/Lwl | 0.595 |
| TCF | 0.000 cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.156 kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.002 m^2 | | |
| Ax Location | 4.843 cm | Ax Location / Lwl | 0.296 |

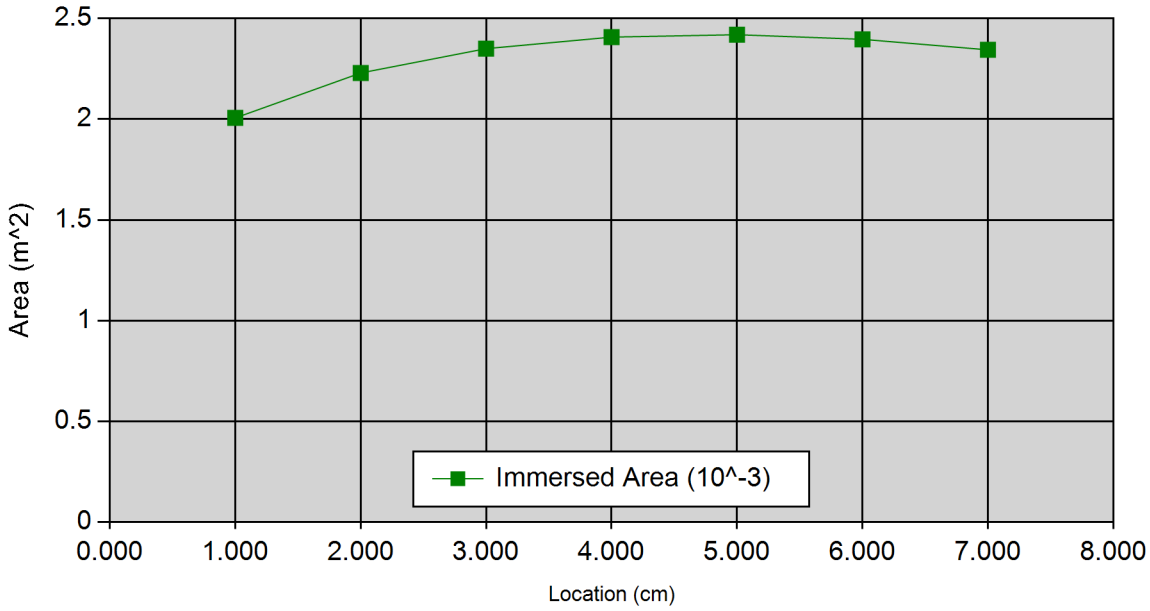
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.505 | Cx | 0.808 |
| Cp | 0.626 | Cwp | 0.673 |
| Cvp | 0.752 | Cws | 2.638 |

## Static Stability Parameters

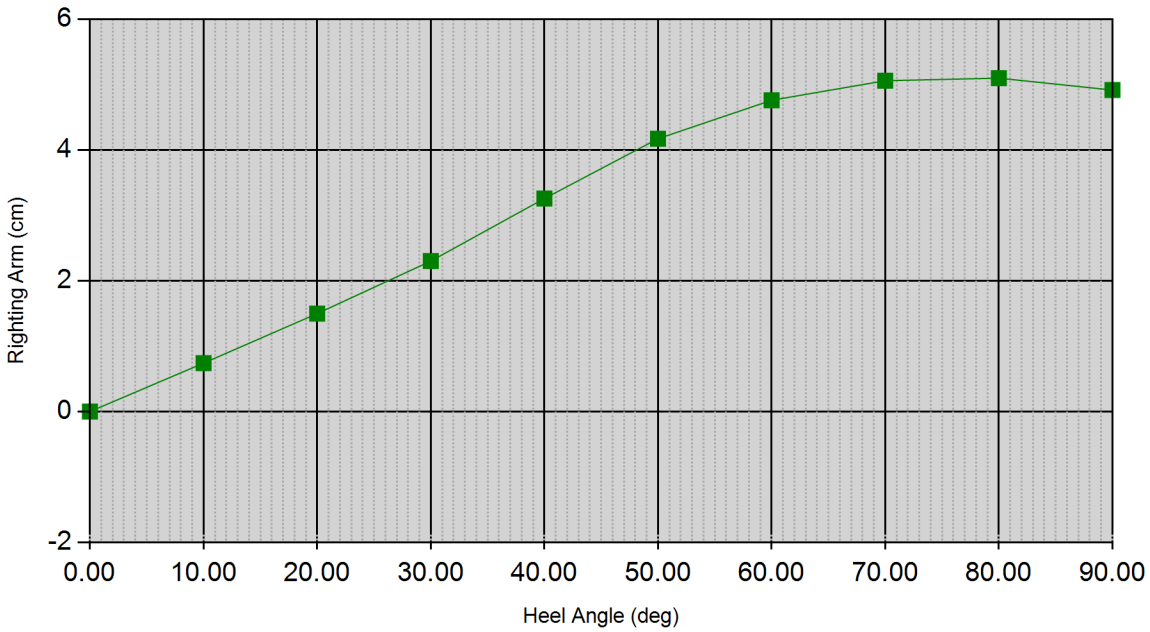
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 2.529 cm | BMl | 12.225 cm |
| GMt | 4.227 cm | GMl | 13.923 cm |
| Mt | 1.227 cm | Ml | 10.923 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.002 | 11.497 |
| 2.000 | 0.002 | 12.230 |
| 3.000 | 0.002 | 12.663 |
| 4.000 | 0.002 | 12.892 |
| 5.000 | 0.002 | 12.949 |
| 6.000 | 0.002 | 12.867 |
| 7.000 | 0.002 | 12.674 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | 0.051 | 0.741 | 0.00 |
| 20.000 | 0.192 | 1.499 | 0.01 |
| 30.000 | 0.371 | 2.302 | 0.01 |
| 40.000 | 0.625 | 3.260 | 0.01 |
| 50.000 | 0.899 | 4.175 | 0.01 |
| 60.000 | 1.125 | 4.763 | 0.02 |
| 70.000 | 1.239 | 5.062 | 0.02 |
| 80.000 | 1.068 | 5.101 | 0.02 |
| 90.000 | 0.605 | 4.919 | 0.02 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 6,Model Sinkage=3.50,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | |
|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z |
| | | Fwd Direction = Negative_X |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | | |
|---|---|---|
| Model Sinkage | 3.500 | cm |
| Model Trim | 0.000 | deg |
| Model Heel | 0.000 | deg |
| VCG | 0 | cm |
| Fluid Type | Seawater | |
| Fluid Density | 1025.900 | kg/m^3 |
| Mirror Geometry | False | |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 3.500 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

## Waterline Dimensions

| | | | |
|---|---|---|---|
| Waterline Length, Lwl | 23.225 cm | Lwl / Bwl | 2.243 |
| Waterline Beam, Bwl | 10.355 cm | Bwl / T | 2.959 |
| Navigational Draft, T | 3.500 cm | D / T | 2.140 |

## Volumetric Values

| | | | | | |
|---|---|---|---|---|---|
| Displacement Weight | 0.431 kgf | Displ-Length Ratio | | | 959.715 |
| Volume | 0.000 m^3 | | | | |
| LCB | 7.282 cm | FB/Lwl | 0.404 | AB/Lwl | 0.596 |
| TCB | 0.000 cm | TCB / Bwl | | | 0.000 |
| VCB | 1.988 cm | | | | |
| Wetted Surface Area | 0.026 m^2 | | | | |
| Moment To Trim | 0.002 kgf-m/cm | | | | |

## Waterplane Values

| | | | | | |
|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.016 m^2 | | | | |
| LCF | 7.362 cm | FF/Lwl | 0.407 | AF/Lwl | 0.593 |
| TCF | 0.000 cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.166 kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.003 m^2 | | |
| Ax Location | 4.876 cm | Ax Location / Lwl | 0.300 |

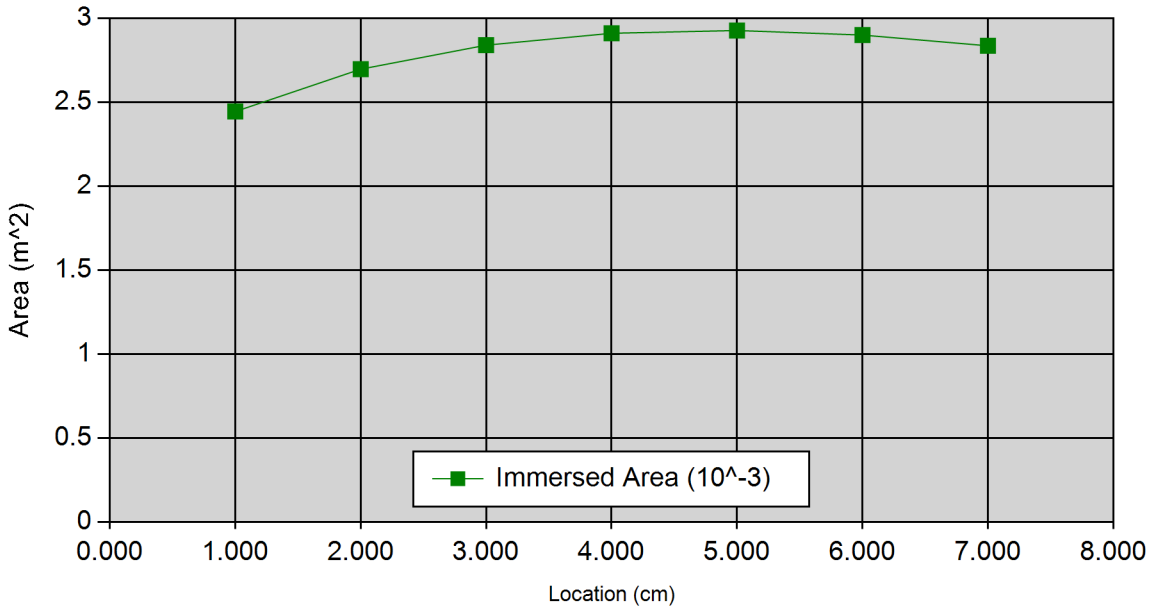
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.500 | Cx | 0.808 |
| Cp | 0.618 | Cwp | 0.674 |
| Cvp | 0.741 | Cws | 2.638 |

## Static Stability Parameters

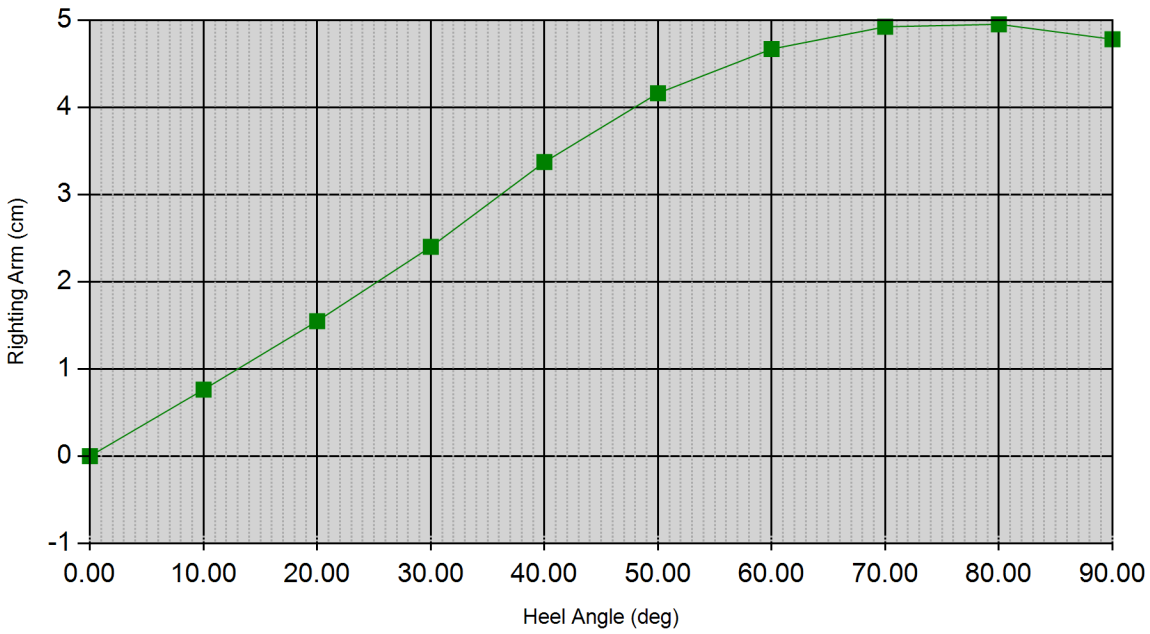
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 2.366 cm | BMl | 11.268 cm |
| GMt | 4.354 cm | GMl | 13.256 cm |
| Mt | 0.854 cm | Ml | 9.756 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.002 | 12.582 |
| 2.000 | 0.003 | 13.292 |
| 3.000 | 0.003 | 13.713 |
| 4.000 | 0.003 | 13.946 |
| 5.000 | 0.003 | 14.016 |
| 6.000 | 0.003 | 13.943 |
| 7.000 | 0.003 | 13.752 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | 0.031 | 0.763 | 0.00 |
| 20.000 | 0.086 | 1.549 | 0.01 |
| 30.000 | 0.142 | 2.401 | 0.01 |
| 40.000 | 0.292 | 3.374 | 0.01 |
| 50.000 | 0.335 | 4.165 | 0.02 |
| 60.000 | 0.358 | 4.671 | 0.02 |
| 70.000 | 0.387 | 4.927 | 0.02 |
| 80.000 | 0.243 | 4.956 | 0.02 |
| 90.000 | -0.165 | 4.784 | 0.02 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 7,Model Sinkage=4.00,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | |
|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z |
| | | Fwd Direction = Negative_X |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | |
|---|---|
| Model Sinkage | 4.000 cm |
| Model Trim | 0.000 deg |
| Model Heel | 0.000 deg |
| VCG | 0 cm |
| Fluid Type | Seawater |
| Fluid Density | 1025.900 kg/m^3 |
| Mirror Geometry | False |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 4.000 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

## Waterline Dimensions

| | | | | | |
|---|---|---|---|---|---|
| Waterline Length, Lwl | 23.921 | cm | Lwl / Bwl | | 2.247 |
| Waterline Beam, Bwl | 10.646 | cm | Bwl / T | | 2.661 |
| Navigational Draft, T | 4.000 | cm | D / T | | 1.873 |

## Volumetric Values

| | | | | | | |
|---|---|---|---|---|---|---|
| Displacement Weight | 0.518 | kgf | Displ-Length Ratio | | | 1054.118 |
| Volume | 0.001 | m^3 | | | | |
| LCB | 7.303 | cm | FB/Lwl | 0.405 | AB/Lwl | 0.595 |
| TCB | 0.000 | cm | TCB / Bwl | | | 0.000 |
| VCB | 2.282 | cm | | | | |
| Wetted Surface Area | 0.029 | m^2 | | | | |
| Moment To Trim | 0.003 | kgf-m/cm | | | | |

## Waterplane Values

| | | | | | | |
|---|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.017 | m^2 | | | | |
| LCF | 7.468 | cm | FF/Lwl | 0.412 | AF/Lwl | 0.588 |
| TCF | 0.000 | cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.179 | kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.003 | m^2 | |
| Ax Location | 4.928 | cm | Ax Location / Lwl | 0.306 |

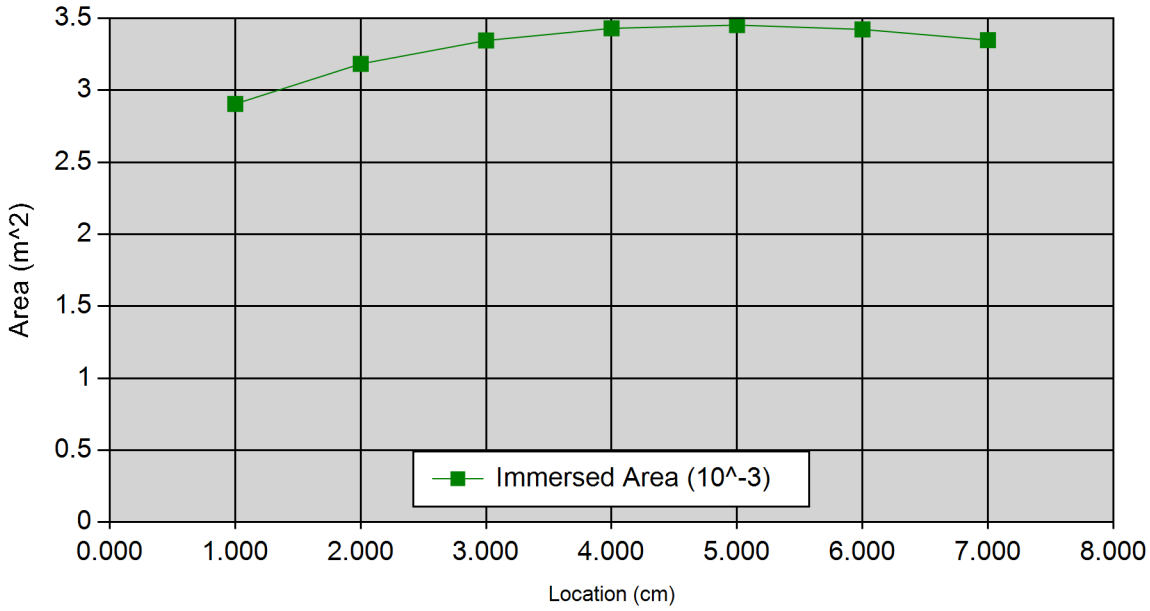
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.495 | Cx | 0.811 |
| Cp | 0.611 | Cwp | 0.687 |
| Cvp | 0.722 | Cws | 2.649 |

## Static Stability Parameters

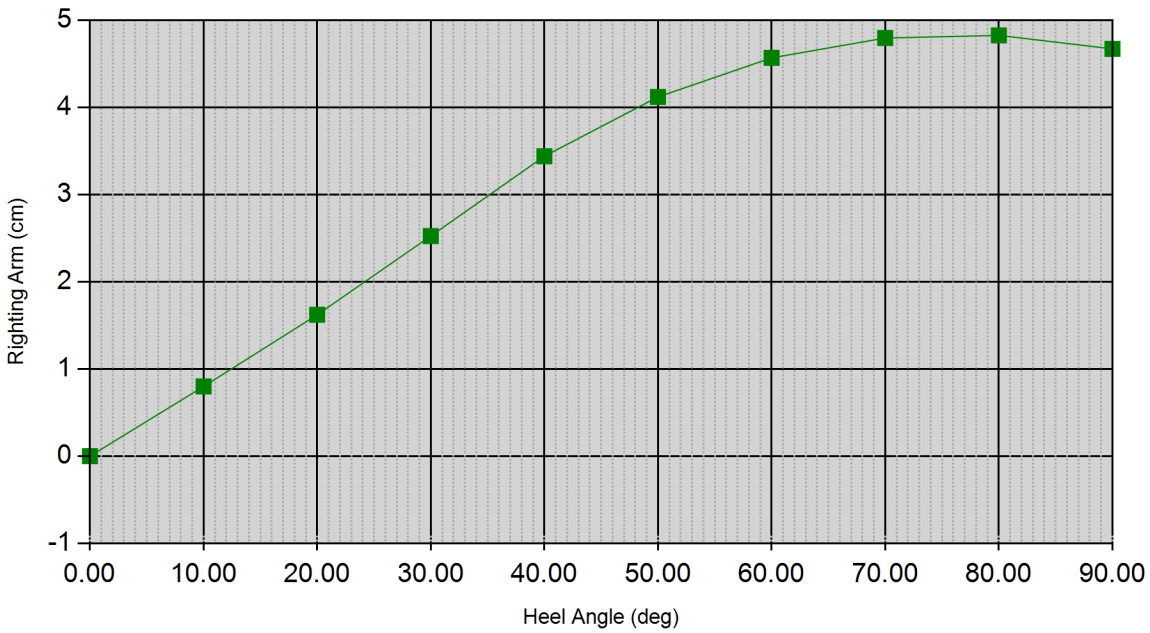
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 2.278 cm | BMl | 10.863 cm |
| GMt | 4.560 cm | GMl | 13.146 cm |
| Mt | 0.560 cm | Ml | 9.146 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.003 | 13.661 |
| 2.000 | 0.003 | 14.350 |
| 3.000 | 0.003 | 14.755 |
| 4.000 | 0.003 | 14.982 |
| 5.000 | 0.003 | 15.056 |
| 6.000 | 0.003 | 14.994 |
| 7.000 | 0.003 | 14.816 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | -0.007 | 0.799 | 0.00 |
| 20.000 | -0.043 | 1.622 | 0.01 |
| 30.000 | -0.046 | 2.526 | 0.01 |
| 40.000 | -0.047 | 3.441 | 0.02 |
| 50.000 | -0.220 | 4.122 | 0.02 |
| 60.000 | -0.417 | 4.570 | 0.02 |
| 70.000 | -0.551 | 4.798 | 0.02 |
| 80.000 | -0.714 | 4.828 | 0.02 |
| 90.000 | -1.089 | 4.674 | 0.02 |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

*Condition Name=Condition 8,Model Sinkage=4.50,Model Trim=0.00,Model Heel=0.00*

## General Info

| | | |
|---|---|---|
| Analysis Type | FreeFloatEquilibrium | Up Direction = Positive_Z |
| | | Fwd Direction = Negative_X |

## Surface Meshing Parameters

| | | | |
|---|---|---|---|
| Density | 1 | Minimum edge length | 0.0001 cm |
| Maximum angle | 0 | Maximum edge length | 0 cm |
| Maximum aspect ratio | 0 | Max distance, edge to surf. | 0 cm |
| Minimum initial grid quads | 0 | Jagged seams | False |
| Refine mesh | True | Simple planes | True |

## Load Condition Parameters

| | |
|---|---|
| Model Sinkage | 4.500 cm |
| Model Trim | 0.000 deg |
| Model Heel | 0.000 deg |
| VCG | 0 cm |
| Fluid Type | Seawater |
| Fluid Density | 1025.900 kg/m^3 |
| Mirror Geometry | False |

## Resultant Model Attitude

| | | | |
|---|---|---|---|
| Heel Angle | 0.000 deg | Sinkage | 4.500 cm |
| Trim Angle | 0.000 deg | | |

## Overall Dimensions

| | | | |
|---|---|---|---|
| Length Overall, LOA | 29.000 cm | Loa / Boa | 2.219 |
| Beam Overall, Boa | 13.072 cm | Boa / D | 1.745 |
| Depth Overall, D | 7.490 cm | | |

**Default Project**
Cross Curves Of Stability
Default Company
Report Time: 27 May 2022, 00:14:36
Model Name: C:\Users\User\Desktop\NTU\sophomore2\Naval\shitship.3dm

## Waterline Dimensions

| | | | |
|---|---|---|---|
| Waterline Length, Lwl | 24.719 cm | Lwl / Bwl | 2.282 |
| Waterline Beam, Bwl | 10.834 cm | Bwl / T | 2.408 |
| Navigational Draft, T | 4.500 cm | D / T | 1.664 |

## Volumetric Values

| | | | | | |
|---|---|---|---|---|---|
| Displacement Weight | 0.611 kgf | Displ-Length Ratio | | | 1128.139 |
| Volume | 0.001 m^3 | | | | |
| LCB | 7.342 cm | FB/Lwl | 0.410 | AB/Lwl | 0.590 |
| TCB | 0.000 cm | TCB / Bwl | | | 0.000 |
| VCB | 2.584 cm | | | | |
| Wetted Surface Area | 0.032 m^2 | | | | |
| Moment To Trim | 0.003 kgf-m/cm | | | | |

## Waterplane Values

| | | | | | |
|---|---|---|---|---|---|
| Waterplane Area, Awp | 0.019 m^2 | | | | |
| LCF | 7.664 cm | FF/Lwl | 0.423 | AF/Lwl | 0.577 |
| TCF | 0.000 cm | TCF / Lwl | | | 0.000 |
| Weight To Immerse | 0.196 kgf/cm | | | | |

## Sectional Parameters

| | | | |
|---|---|---|---|
| Ax | 0.004 m^2 | | |
| Ax Location | 4.978 cm | Ax Location / Lwl | 0.314 |

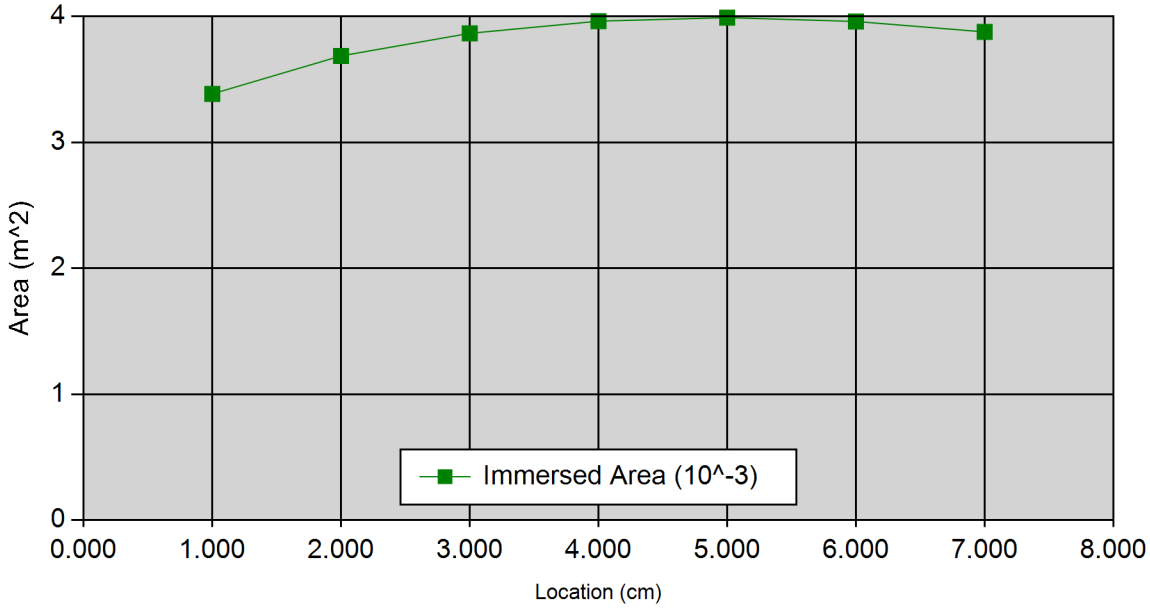
## Hull Form Coefficients

| | | | |
|---|---|---|---|
| Cb | 0.495 | Cx | 0.818 |
| Cp | 0.604 | Cwp | 0.713 |
| Cvp | 0.694 | Cws | 2.672 |

## Static Stability Parameters

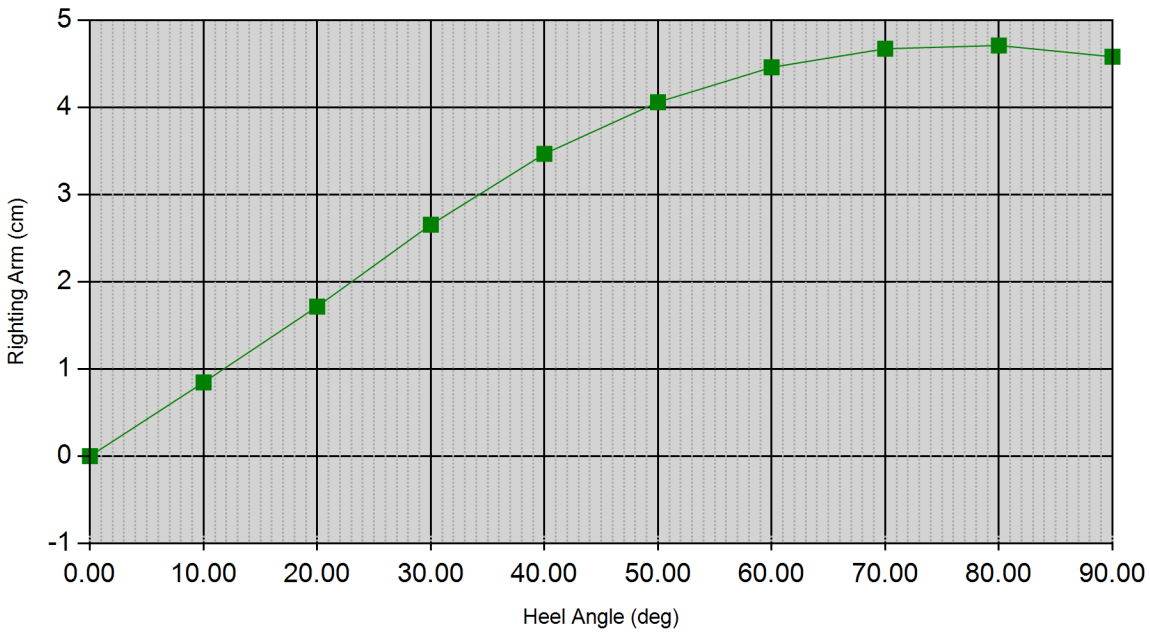
| | | | |
|---|---|---|---|
| I(transverse) | 0.000 m^4 | I(longitudinal) | 0.000 m^4 |
| BMt | 2.249 cm | BMl | 11.037 cm |
| GMt | 4.833 cm | GMl | 13.621 cm |
| Mt | 0.333 cm | Ml | 9.121 cm |

## Station Data




| Location (cm) | Immersed Area (m^2) | Immersed Girth (cm) |
|---|---|---|
| 1.000 | 0.003 | 14.723 |
| 2.000 | 0.004 | 15.393 |
| 3.000 | 0.004 | 15.784 |
| 4.000 | 0.004 | 16.001 |
| 5.000 | 0.004 | 16.072 |
| 6.000 | 0.004 | 16.017 |
| 7.000 | 0.004 | 15.854 |

## Stability Curve




| Heel(deg) | Trim(deg) | Righting Arm (cm) | Righting Moment (kgf-m) |
|---|---|---|---|
| 0.000 | 0.000 | 0.000 | 0.00 |
| 10.000 | -0.048 | 0.846 | 0.01 |
| 20.000 | -0.141 | 1.716 | 0.01 |
| 30.000 | -0.178 | 2.655 | 0.02 |
| 40.000 | -0.383 | 3.468 | 0.02 |
| 50.000 | -0.746 | 4.062 | 0.02 |
| 60.000 | -1.148 | 4.462 | 0.03 |
| 70.000 | -1.495 | 4.675 | 0.03 |
| 80.000 | -1.769 | 4.712 | 0.03 |
| 90.000 | -2.137 | 4.583 | 0.03 |