CPC YACHTS

Stability & Longitudinal Strength Software

CPC 2.0 is HMC's 2010 solution for class approved ship loading operations. This Cargo Planning and Loading Computer combines all obliged stability and strength parameters with an efficient and user friendly interface. Key aspect in the development of CPC 2.0 was to decrease the expert knowledge needed to operate the program. This was succeeded by renewing the interface and redesign the visual aspect of the program.

CPC for Windows

CPC works under MsWindows operating systems. The following cargoes can be entered and edited by simply using the mouse:

- Cargo items
- Liquid Cargo/ Bunkers

After entering Cargo & Tank data a new calculation will be made, presenting:

- Draughts, Trim, List & Air draught.
- Stability according to latest IMO requirements.
- Longitudinal Strength (Stress).
- Damage Stability.
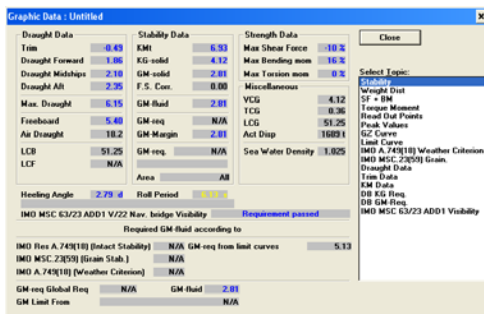
The following print outs can be made:

- Stability curves & data (Graphic).
- Grain stability Curve (Graphic).
- Stowage plans for Containers, Cargo Items and Bulk Cargo (Graphic).
- Tank Plans (Graphic).
- Tank Lists, Ships condition lists.
- Hydrostatic Summary.

CPC is approved by major Classification Societies.

Liquid cargo/bunkers

Upon selecting a hold one can input weight, volume or filling percentage. Stowage Factors may be changed and it is possible to change the filling of the hold in a slide bar. One can fill or empty the hold using dedicated buttons.

When volume correction according to the American Society for Testing and Materials (ASTM) is needed the current temperature of the cargo can be specified. The new volume is calculated from the appropriate ASTM-tables.

In this mode the user can switch to other windows with more information regarding the vessel, such as Hydrostatics, Stress, Cargo Lists etc.

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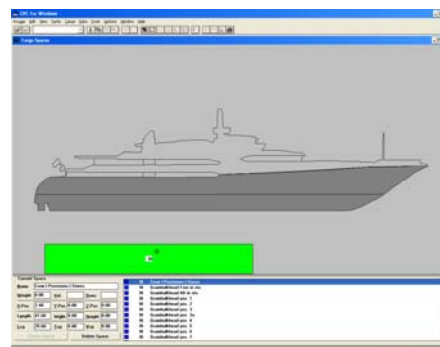
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Cargo items input

Name, weights and centre of gravities are entered in left side of the window. After entering the cargo data and leaving this window a new CPC calculation will be made.

New draughts and stability can be shown in a hydrostatic data window. Several graphs can be shown. (Stability, Bending Moment etc.).

Tank editing

Tank data can be edited in a list or in a slide bar. One may select a group of tanks with the mouse and edit, fill or empty them. Double clicking with the mouse on a tank or group of tanks will fill or empty these tanks. In the tank list the following can be edited: Volume, Density, Sounding and Weight.
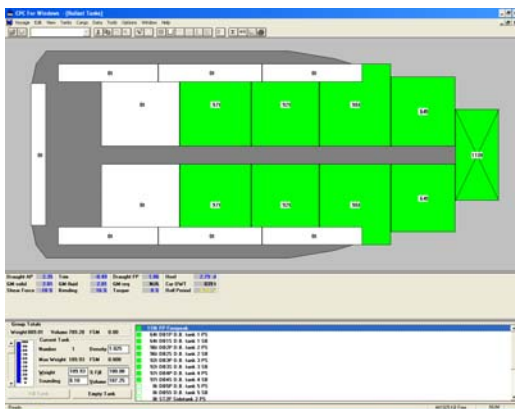

Draught survey

When loading is completed one can check the draught marks and enter it in the Observed Draught Window. CPC will now calculate the difference in deadweight and centre of gravity, so that the necessary corrections can be made. Correction for draught mark positions from perpendiculars is built in. The standard vertical centre of gravity is the VCG of the deadweight. This VCG can be changed.
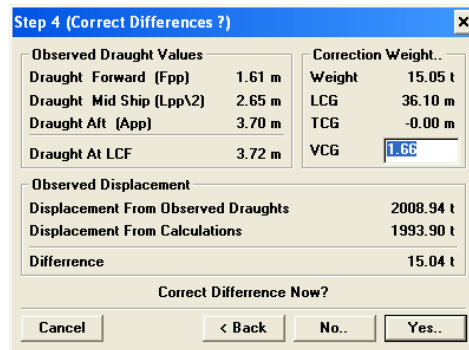
Deadweight Balance

In the Deadweight Balance you can see the break down that can be loaded before the loadline draught is reached. If relevant and/or available CPC will calculate the break down deadweights for the following load line draughts:

- Tropical, Tropical Fresh Water
- Fresh Water
- Summer and Winter
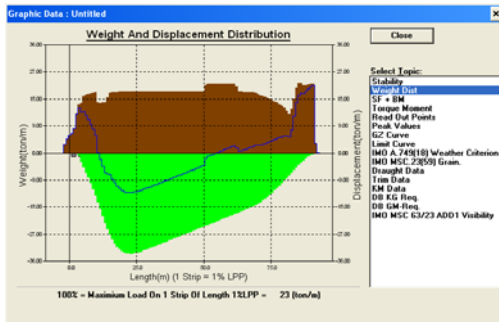- Winter North Atlantic
- Passenger Load Line
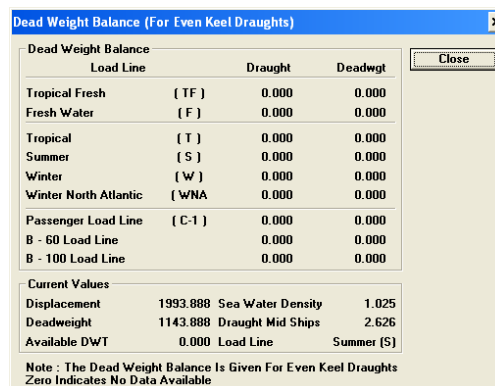
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Weight distribution graph

The Weight Distribution graph presents how the cargo and the tank weights are distributed, including the light ships weight distribution. In this overview it is easy to recognise the peak values.

Shear Force & Bending Moment

In the Shear Force / Bending Moment graph the result forces in the vessel are presented. Permissible maximum values for Harbour and Sea conditions are clearly shown in this window.
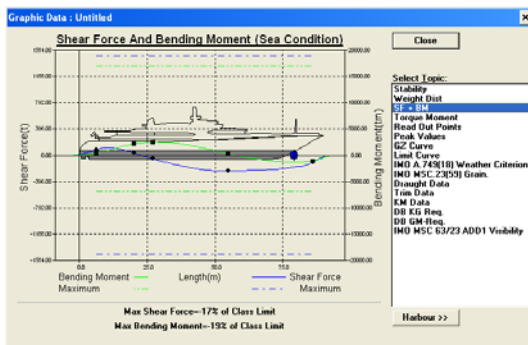
Torque Moment graph

In the Torque Moment graph the resulting Torsional Moment in the vessel with permissible limits for Harbour and Sea Condition are shown.
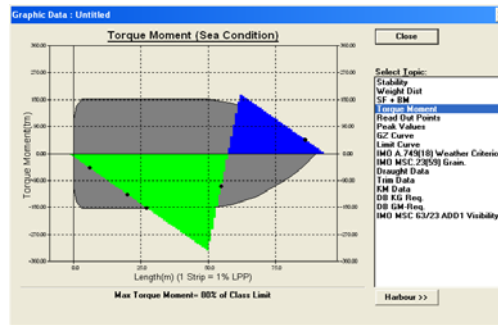
GZ curve (Stability Graph)

In the GZ Stability curve the actual stability of the ship can be read. Minimum required values according to IMO regulations are shown in the lower part of the window. Other stability curves for Grain Stability and GZ Limit curve can be selected.
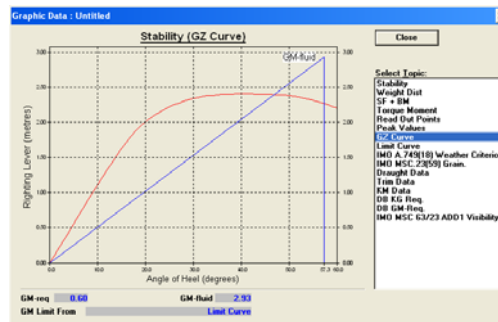
Intact Stability curve

The Intact Stability curve is shown when the user clicks with the mouse on the relevant order line.

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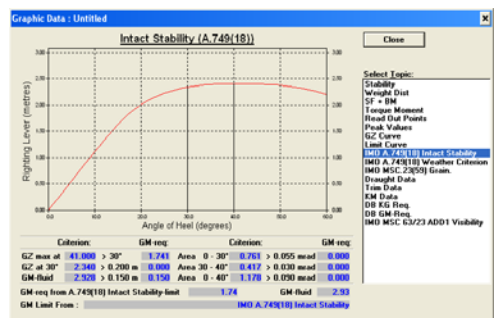
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Damage Stability (optional)

Several damage cases can be defined. Each damage case defines several damaged compartments. After input of the damage case CPC performs a calculation according to the added weight method.
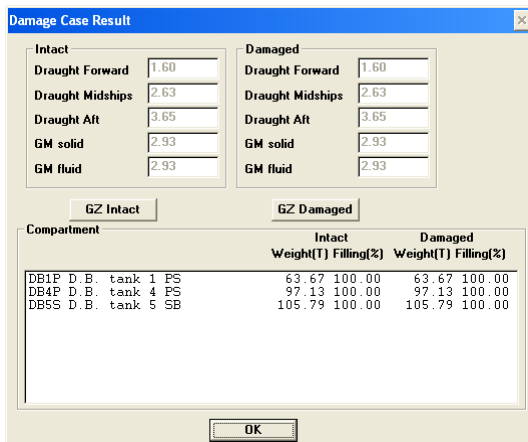
Weather Criterion curve

In the Weather Criterion curve the stability according to IMO requirements is shown.
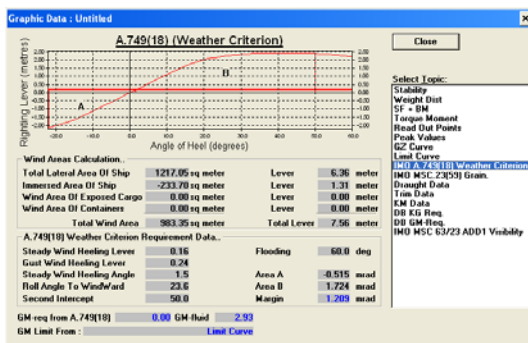
On-line tank measurement (optional)

The option of full interface to tank measuring systems can be provided.

Lifting module (optional)

Lifting operations. Trim, list, immersion and impact on stability and strength can be determined and are being checked against the design criteria.

Printing

Copies can be made of Tank list, Stability Curves, Hydrostatic properties etc.

Training

CPC training of crew may be given on board or in-house at HMC's office.

Delivery

A complete package, including class approved hardware & software and delivery & installation on board can be arranged.

Guarantee & service

CPC is delivered with a one-year guarantee. Additionally Service Contracts can be arranged for vessel's and office versions of CPC. Subject details once a year on board servicing of CPC and the provision of the latest CPC versions is included.

For more information, please contact HMC via info@hmc.nl.

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