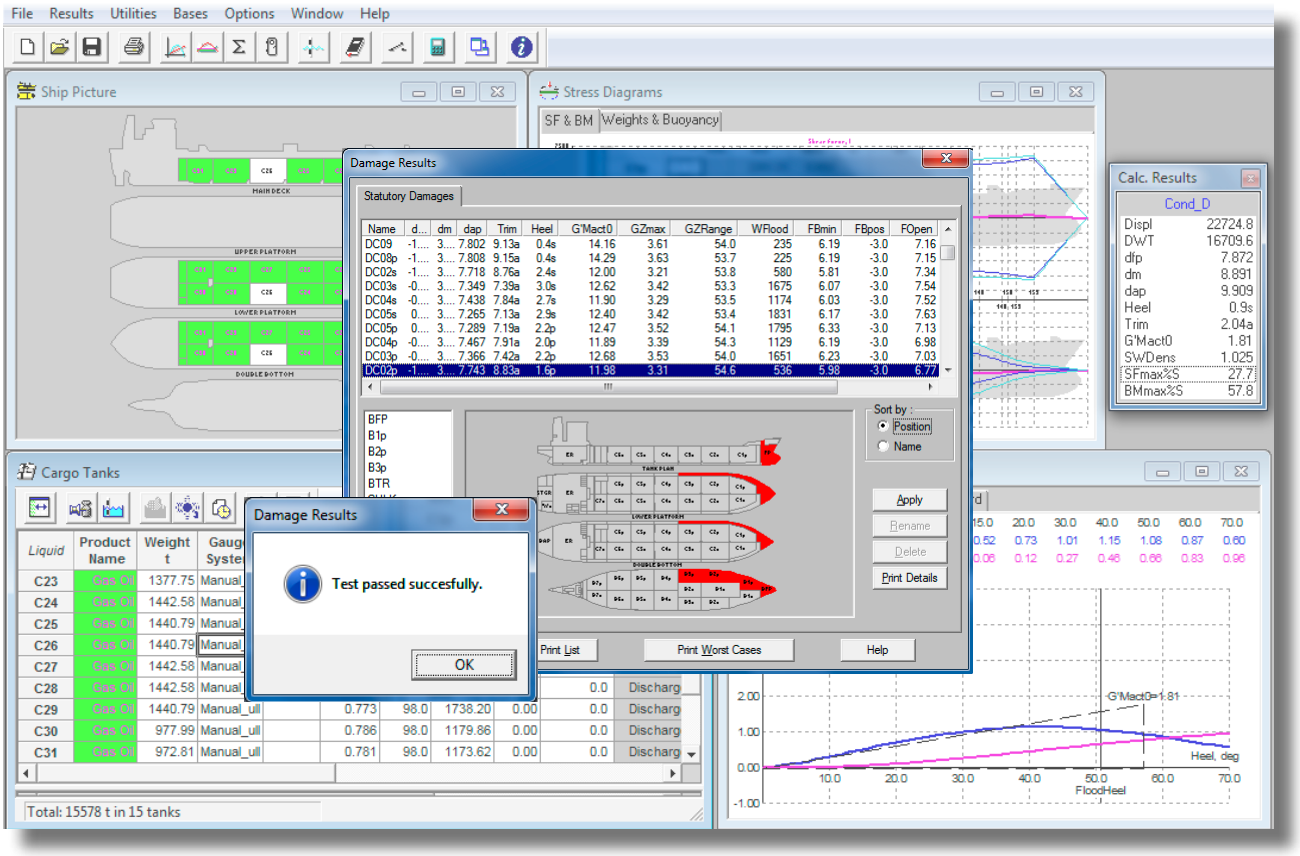
LOADMASTER® x5

Damage stability calculation

In compliance with IACS UR L5 type 3



General Information

LOADMASTER calculates damage stability using the Lost Buoyancy Method. A 3-D description of the hull, as well as the compartments is used in order to find vessel equilibrium. The calculation is in accordance with The International Association of Classification Societies, IACS UR L5 (Type 3). LOADMASTER calculates trim and stability corresponding to the final stage of flooding. In addition five (5) intermediate stages of flooding are calculated and displayed within the damage reports.

Damage generator

Kockum Sonics has improved the damage module to become a unique analysis tool for the damage criterion. Kockum Sonics can take any vessel into the Loadmaster program and run the damage generator. The outcome will be a list of 100–300 damage cases that are required to fully test a departure condition in accordance with MARPOL, IBC and IGC codes.

As per today's requirements from some IACS members it is not enough just to enter the predefined damage cases that are presented in the vessel's damage stability booklet. Therefore the loading computer has been extended to include damage cases that incorporate a complete survey of the intact condition in accordance with MARPOL, IBC or IGC.

The operator can also in addition to the fixed predefined damage cases, create his own damage cases and any damage case can be selected for a detailed and comprehensive evaluation.

3-D calculation method

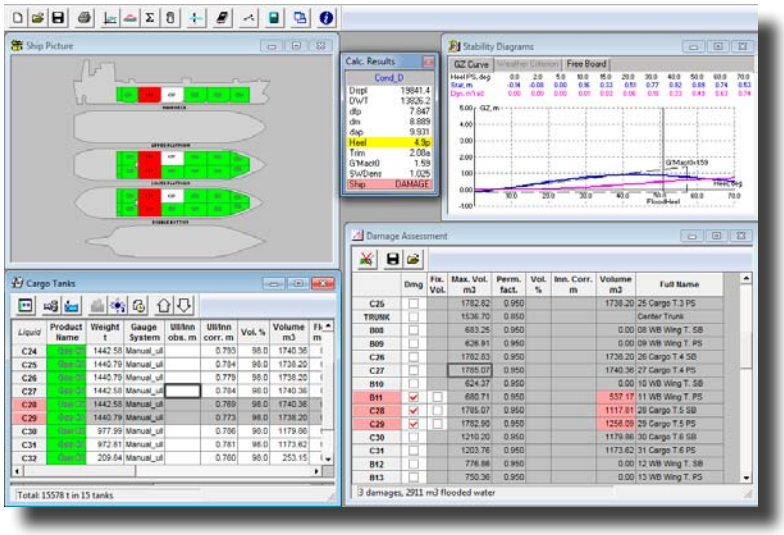
For the vessel's outermost compartments the volume in a damaged tank will be dependent upon vessel's water line. Any changes in the vessel's floating position will impact the content of water in the tanks.

For compartments that are not directly damaged and are partially filled, the volume of water in theses compartments remains unchanged when the vessel's heel changes.

The user also has the ability to enter a fixed volume in a damaged compartment if applicable.

LOADMASTER®

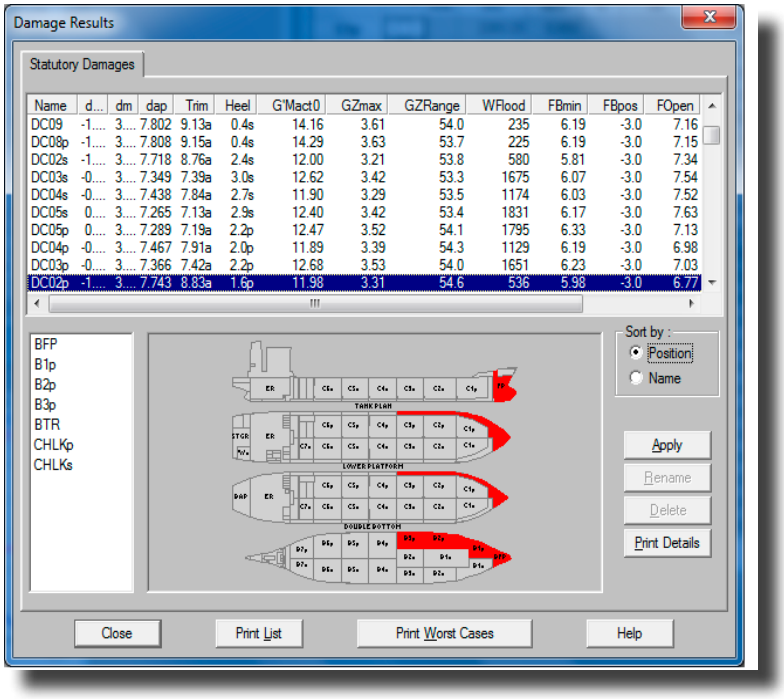
Kockum Sonics AB, Industrigatan 39, P.O. Box 1035, SE-212 10 Malmö, Sweden, Tel: +46 (0) 40 671 88 00
Fax: +46 (0) 40 21 65 13, e-mail: info@kockumsonics.com, www.kockumsonics.com

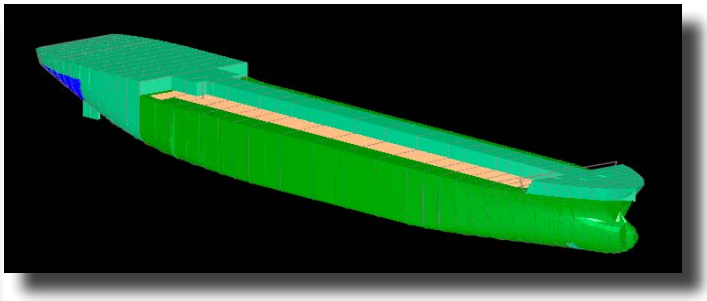


Operator can create his own damage cases

Damage survey

By the click of a mouse, damage stability calculations are executed almost instantly and any previously user defined damage cases are also calculated.
The damage calculation is applied to any intact condition, real or theoretical.
A summary of the calculation results is presented clearly on screen and the program's powerful functionality allows any of the cases may be selected for a detailed study with the survey report generated for on-screen presentation as well as hard copy, thus making IACS UR L5 (TYPE 3) reporting extremely simple.
The operationally focussed reports are extended to include class requirements governing intermediate stages of flooding as well as the five worst damage cases presented separately. The user will also be visually alerted if the present condition is not evaluated against the required damage scenarios as required.



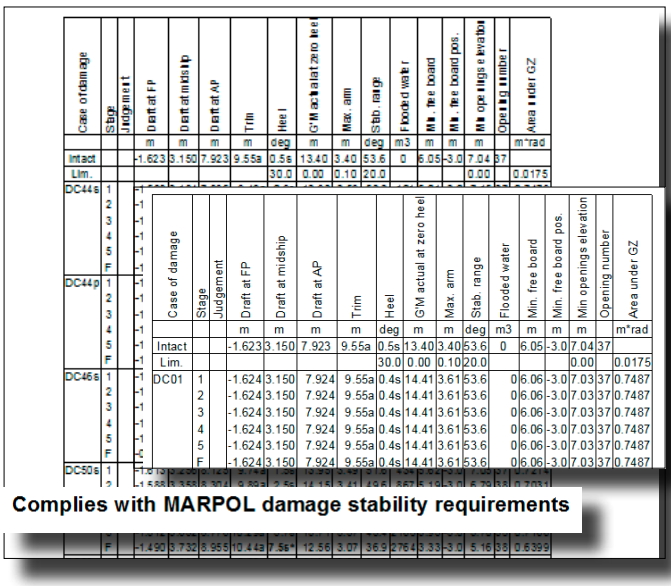


Ship's picture

Drawing of the vessel showing one side view as well as one or more horizontal plans. The window is interactive and presents visually the compartments that are damaged.

Damage consultant

By using the Loadmaster damage generator, Kockum Sonics can offer support on damage analysis in accordance with MARPOL, IBC or IGC Codes. This additional survey is mandatory for existing vessels before approval of damage calculations in accordance with IACS UR L5 (type 3). Consequently Kockum Sonics' damage generator we can facilitate the Owner new damage manual potentials, addendums for existing damage manuals and a tool to assist in the analysis of damage implications in cases where the ship's structure is to be, or has been modified.



Kockum Sonics AB, Industrigatan 39, P.O. Box 1035, SE-212 10 Malmö, Sweden, Tel: +46 (0) 40 671 88 00
Fax: +46 (0) 40 21 65 13, e-mail: info@kockumsonics.com, www.kockumsonics.com