Maritime Business Applications

Complete Solutions for the Maritime Industry

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HMC's new Lashing Module

Voyages are made in a variety of weather conditions which are likely to exert in a combination of forces upon the ship and its cargo. These forces arise from pitching, rolling, heaving, surging, yawing or swaying or combination of these six degrees of freedom. These motions act on the container frames and lashing systems and influence the safety of your crew, the vessel and the cargo.

When accidents are investigated fully, causes of these losses are quite often problems with lashing. The number of lashings, inadequate strength or the securing arrangements were not enough under consideration. Unfortunately there is a continuing incidence of the collapse and loss overboard of deck cargo items. Basic cause of many collapsed container stows and the loss of containers overboard can be attributed to inadequate or incorrect securing, resulting from either lack and/or misunderstanding of instructions information on-board concerning applicable stowage and securing arrangements. HMC's new lashing tool/module can be used as standalone or as a module inside our loading instrument CPC. Companies which are involved in the lashing and securing of deck cargoes should bear in mind that calculations before the start of your lashing operations are very important for a safe voyage. Our goal is to reduce the total cost of damage and accidents which occurs by the lashing of containers with the right cost-saving measurements. For more information please contact info@hmc.nl

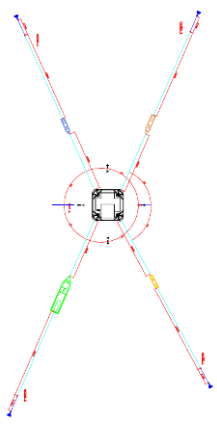
"Importance of a well secured container"

HMC's new Mooring Module

The calculation method of various applied and resulting forces are comprehensive and time consuming. Some time ago these time consuming and expensive calculations were the work of specialists.

HMC developed a simulation tool which is easy to use. For users it is very important to identify which loads are acting on the mooring items. This can be steady fluid loads or dynamic fluid or inertial loads. HMC's Mooring Module checks the static and dynamic response of any type of inshore or offshore mooring system to wind, current and waves. HMC's Mooring Module provides the user a clear result. The module is aimed to ship managers, naval architects, port designers and expert witnesses. Our new mooring module tool is simple to use and ensures that the vessel is safely moored in several environmental conditions. Our goal is to reduce costs, improve the reliability and to get a better understanding of any mooring operation. For more information please contact our office at info@hmc.nl.

"Our mooring module ensures safe operations"



4D-Fatigue

TU Delft, together with leading offshore firms, initializes a research on Multiaxial Fatigue Analysis of Welded Structures. Multiaxial fatigue analysis for ships and offshore structures are highly relevant.

A Joint Industry Project (JIP) "4D-Fatigue" is being initialized to improve fatigue assessment and automatic screening of welded joints in ships and offshore structures which are subjected to multiaxial and variable-amplitude loading. Improvement of fatigue assessment has a large influence on maintenance and repair costs, operational downtime, and potential lifetime extension. The existing multiaxial fatigue design methods can overestimate fatigue lifetime of welded structural details by more than a factor of ten and predict lifetime of 30 years whereas the actual fatigue lifetime is three years only. Therefore, there are large interests of Dutch and International ship and offshore companies to enhance the knowledge by a thorough fundamental approach and participating by supporting this project financially. The main objective of the 4D-Fatigue experimental research program is defining the most simplified approach to estimate fatigue lifetime of welded details subjected to multi-axial, non-proportional and variable-amplitude stresses. The approach should be applicable for welded details in ship and offshore structures and should predict the fatigue lifetime with an accuracy of at least 50 percent. If you are interested in joining this JIP please contact Prof. Mirek Kaminski of TU Delft m.l.kaminski@tudelft.nl or our office at info@hmc.nl

"Multiaxial fatigue analysis are highly relevant"

HMC Product Presentations

HMC develops a broad range of maritime applications for the industry which can be demonstrated onsite or online.

We are always willing to have an informal introduction with you to discuss one of our products. In about an hour we can guide you through our products and services which could be important for your company. A lot of our products contribute to the safety or economic aspects of your company. If you are interested in a presentation please contact our office at info@hmc.nl.

"HMC offers product presentations at your office"

Mobile Hull Monitoring (MQK)

The Marine Quality Kit (MQK) is the mobile version of our Hull Monitoring System. It consists of a mobile box containing an embedded computer, strain sensors and a multi-directional acceleration sensor.

During operation or transportation of a cargo or heavy lift item HMC's measurements can be used to verify and increase the remaining fatigue life. Such measurements should be performed in areas of maximum stress, as predicted in the design and simulation phase. By measuring both local strains and accelerations, the remaining fatigue life can be determined. This will assure that repairs are being performed before the fatigue damage results in material failure which also guarantees more safety for workers and the environment. Such measurements can be performed using our Hull Monitoring System or our Marine Quality Kit. These systems have been tested on ships and are suitable to measure the fatigue life of platforms and rigs at sea. More info? please contact our office.

"Fatigue of structures require accurate knowledge of environmental loading cycles"

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