GM Catenary

Single line 2D analysis software for Mooring and Towing lines.

GLOBAL MARITIME

blue sea thinking

Program Overview

GM Catenary is a single line 2D catenary analysis program designed for use in analysing moorings or towing lines. The software has been developed for the marine marketplace where mooring and towing operations are proposed. The program is a useful toolkit for surveyors and others responsible for anchor running and towing operations.

Program Benefits

Global Maritime considers the program an invaluable tool on tugs, anchor handling and all spread-moored vessels where it supports mooring analysis and provides quick, efficient and detailed results of the catenary line problem when addressing pay-out and clearance issues.

Mooring line entanglement with subsea assets is a costly business in terms of asset integrity and pollution risks. This software provides instant assurance of clearance issues associated with mooring lines that cross subsea assets. Proposed changes in mooring line makeup are easily accommodated and various changes in mooring line makeup can be readily compared. Clearances from known subsea assets are tabulated for ease of reference. In addition, catenary line properties can be assessed on range, pay-out or tension properties.

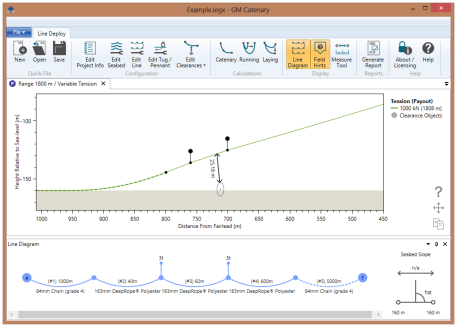
The program accommodates touchdown of mooring lines for accurate representation of clearance issues. The program also accommodates mooring line development while running anchors in that the anchor can be at the stern of an anchor handling vessel or on a length of pennant. In addition, the program also addresses tow-line 'dip' for tow operations (particularly important where tow operations are being conducted in shallow water). By simple 'mouse' placement, clearance issues of a mooring line at any point along its length can show distance from the anchor fairlead, distance from the anchor, and height of the mooring line above the seabed or below the sea surface (useful in assessing draft available alongside a moored vessel during supply type operations).

Key Capabilities

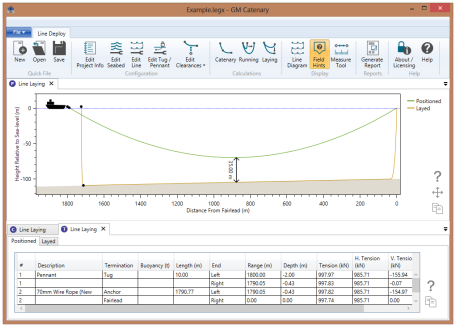
The key capability features of the program are:

- Multi-component—There is no limit to the number of components.
- Buoys and/or clump weights. Inter-components can be buoys (surface or subsurface, with or without a pennant) or in-line clump weights (e.g. concrete blocks).
- Anchor end can be off seabed. The anchor can be off the seabed (e.g. to model on deck of tug, or modelling a tow).
- Intermediate grounding allowed. The line is allowed to ground between 2 buoys or between anchor and fairlead, if the anchor is off the seabed.
- Automatic Clearance Calculation. Clearance to specific objects (e.g. pipelines) as well as depth of line and height above seabed are calculated.
- Sloping seabed. The seabed is modelled as a straight line between the fairlead and anchor which can be level or sloping.
- Elastic lines. The line elasticity can be modelled by linear, quadratic and cubic elastic coefficients.

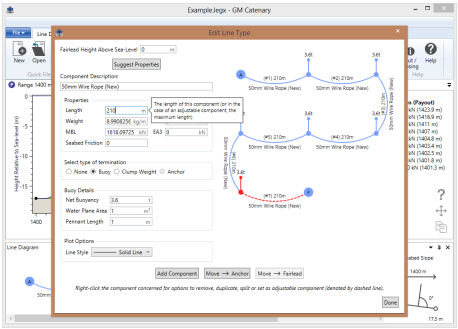
Example Screen Stills:



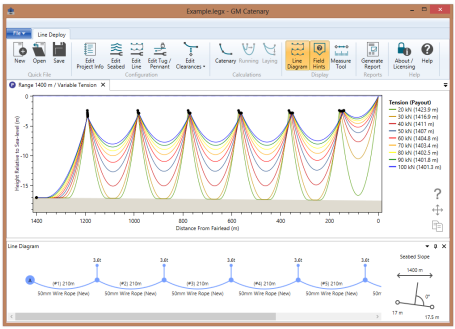
Pipeline Clearance



Line laying



Line Editor



Complex Line

Instant Download

GM Catenary is sold as a one off download per user for unlimited use. The software is fully supported by a robust support team who are on hand to assist with any questions.

For further information, please contact support@globalmaritime.com.

Other Software from Global Maritime

In addition to GM Catenary we also offer for lease our mooring analysis software, GMOOR.

GMOOR is a quasi-static frequency domain mooring analysis program, principally aimed at spread moored drilling vessels and other subsea support vessels, in open water. It also has low frequency time domain modes of operation for investigation of transient offset after line failure and, optionally, calculation of damping where non-linear effects are important.

It can be used for engineering assessment, planning and approval work in advance of a mooring deployment and can also be used on board the vessel for prediction of vessel movement and tensions in advance of approaching weather or in preparation for a rig move. It has also been used for analysis of turret moorings and quayside moorings.

GMOOR features include:

- Single/dual line break transient time domain
- Batch and consequence analyses
- Reports directly to pdf files
- Includes post-processor to Excel format
- Option to display DXF or DWG files as a 'background' field display
- Graphs of catenary parameters
- Manual and auto-balance thruster control
- Wave frequency and low frequency motion calculation
- Mooring line and wave drift damping
- Wind spectrum
- PM, Jonswap or variable gamma wave spectrum
- Separate sea and swell wave components

Global Maritime , Saddlers House, 44 Gutter Lane,

London, EC2V 6BR +44 (0) 203 465 2500

support@globalmaritime.com **| www.globalmaritime.com**

GLOBAL MARITIME
blue sea thinking