

# Flexcom.

Flexcom is the leading finite element software for the design & analysis of all types of riser and other slender subsea structures.

## Overview

Used extensively by major operators, contractors, construction companies, manufacturers, design houses and consultants, **Flexcom** is the pre-eminent industry-leading software for the design and analysis of risers and subsea structures for the world's most demanding offshore projects.

**Flexcom** is the preferred program for reputable organisations requiring the highest levels of quality and confidence in their subsea operations.

**Flexcom** combines state-of-the-art analytical capabilities with a next generation user interface for optimum productivity and performance. The program offers a wealth of practical modeling features and uses an industry-proven finite element formulation, incorporating a 3D hybrid beam-column element with fully coupled axial, bending and torque forces, for reliable and accurate modeling.

MCS Kenny has maintained a continuous update program of **Flexcom** for nearly three decades and this is bolstered by an unrivalled technical support service.

## Key Technical Features

- Highly accurate superior finite element formulation based on:
  - Hybrid beam finite element with fully coupled axial, bending and torque
  - Consistent 3D kinematics algorithm
- Time and frequency domain analysis capabilities
- Wealth of practical modelling facilities including hinges, flex joints, guide surfaces, damper elements, winch elements, point masses, point buoys, bend stiffeners, and tapered stress joints
- Range of seastate modelling options:
  - Regular: Airy, Stokes V, Dean's Stream
  - Random: Pierson-Moskowitz, JONSWAP, Ochi-Hubble, Torsethaugen, User-defined
- Range of non-linear material models, including non-linear bending with hysteresis
- Pipe-in-pipe & pipe-on-pipe configurations
- Soil-structure interaction
- Wake interference
- Line clashing
- Coupled analysis
- Internal fluid and slug flow analysis

## Flexcom V8 Highlights

- Brand new User Interface
  - Highly intuitive, QA friendly
  - Dockable windows
- Integrated engineering environment
  - Highly project-focused
  - Easy to create and manage directories
  - File icons to denote analysis status
  - Automatic post-processing interface to Excel™
- Easy to build models
  - Automatic mesh creation facility
  - Live structure preview facility
  - Comprehensive context-sensitive on-line help
- Integrated keyword editor
  - Colour coding, syntax checking/data validation
  - Input prompting/tooltips
  - Parameterisation facility, allowing model/load case variations to be generated automatically
- Improved run-time performance
  - Average 40% speed increase
  - Powerful Batch/Branch run features
- Sentinel SRM 'software' dongle support

## Licensing Options

- Perpetual, Rental or Annual Lease options
- Standalone PC or Network based (local area or wide area network)
- Standard or High Performance Multi-Processing

### Additional Modules:

#### Modes

- Calculates the natural frequencies and mode shapes of offshore structures

#### LifeTime

- Time domain fatigue analysis postprocessor

#### LifeFrequency

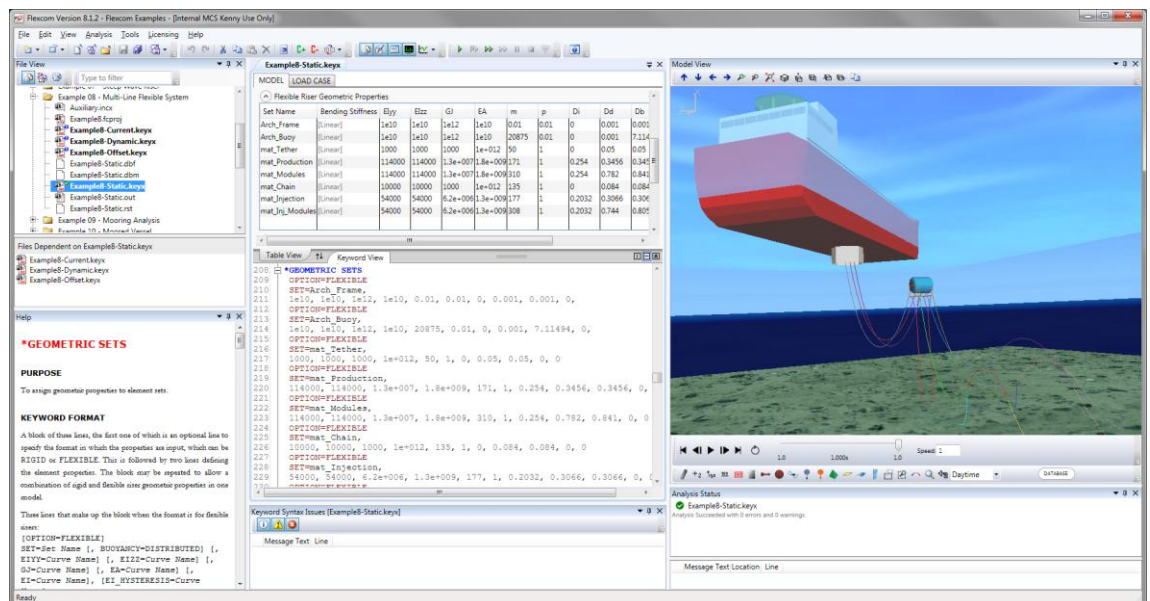
- Frequency domain fatigue life prediction

#### Clear

- Clearance postprocessor for calculating clearance between adjacent structures

#### Histogram

- Frequency domain general cycle counting tool



## Applications

- All flexible riser configurations
- Top-tensioned drilling and production, steel catenary, completion/workover, pipe-in-pipe, hybrid rigid/flexible systems, multiple/bundled risers.
- Umbilicals & jumper hoses
- Transfer lines & offloading systems
- Catenary mooring systems and integrated riser/mooring systems
- Tanker mooring and loading systems
- Towed array systems and floating bodies
- TLP tethers (towing, upending and operating)
- Pipelines and pipelay operations
- CALM/TALM buoy coupled analyses

## Learn More

- Contact the MCS Kenny Software team for more information on **Flexcom** and other industry-leading solutions in the MCS Kenny advanced software range.
- Email: [software@mcskenny.com](mailto:software@mcskenny.com)

MCS Kenny advanced software is designed to the highest development standards, backed up by renowned global customer support services. MCS Kenny software delivers tangible efficiency benefits to hundreds of leading oil and gas industry customers around the world. MCS Kenny is a **Wood Group Kenny Business**.