

# Multiframe 10.05 Windows

## 20 June 2008 Release Note

This release note describes the Windows version 10.05 of Multiframe, Steel Designer and Section Maker. This release will run on Windows 2000/XP/2003/Vista.

### Contents

Changes between 10.04 and 10.05 .....	2
Vista Changes for 10.04 .....	3
Changes between 10.03 and 10.04 .....	4
Changes between 10.02 and 10.03 .....	5
Changes between 10.01 and 10.02 .....	6
Changes between 10 and 10.01 .....	7
Multiframe .....	8
New Installers .....	8
Learning Multiframe .....	8
Supported Operating Systems .....	8
Copy Protection Devices .....	8
Application Performance .....	8
Working with design members .....	9
Analysis menus and dialogs .....	9
Analysis settings saved with model .....	9
Deleting items via tables .....	10
New section shapes .....	10
Editing standard section shapes .....	10
Undo/Redo toolbar buttons .....	10
Member results tables .....	10
Member colours .....	11
DXF layers .....	11
Mouse Wheel + Member plots .....	11
Bug fixes and minor changes .....	11
Steel Designer .....	12
Selecting Members by Efficiency .....	12
AS4600 .....	12
AISI .....	12
Section Maker .....	13
Advanced Property Calculations .....	13
Problem Reports .....	14

## **Changes between 10.04 and 10.05**

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- Fix to improve the performance of NL analysis.
- Fix to analysis of end springs.
- Fix to apply user sign convention to max actions.
- Minor improvement to the SDNF file format for orientation of channel and angle sections.
- Fix to the plot window so plot labels are drawn correctly.

## Vista Changes for 10.04

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For users that have Windows Vista, the 10.04 release of Multiframe includes a number of changes for Vista compliance. It is recommended that Vista users uninstall Multiframe 10.03 prior to installing 10.04. Please note that you cannot use the 10.04 update, you must download and run the full installer. This full installer is available for download from the user website: <http://www.formsys.com/users>

If you have problems downloading or would like to request a CD please contact as via [support@formsys.com](mailto:support@formsys.com).

The following are changes for Windows Vista. Non-Vista systems will remain unchanged.

- **Sections Library path change.** The sections library is now located in the **C:\Users\Public\Documents\Multiframe\Multiframe10**
- **Load Library path change.** The load library is now located in the **C:\Users\Public\Documents\Multiframe\Multiframe10**
- **Sample Design path change.** Sample designs are located in there respective directory(s) in **C:\Users\Public\Documents\Multiframe\Multiframe10**.

If you have customised either the Section or Load Libraries, you should copy your customised file into the C:\Users\Public\Documents\Multiframe\Multiframe10 folder.

## Changes between 10.03 and 10.04

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- Report Window is no longer automatically cleared when a design is closed or a new design is loaded.
- Fixed some unusual crashes that occurred during reporting on some systems.
- Fixed issue of guessing section shape from geometry for Section Maker with 5 boxes.
- Added warning message for tension members and/or compression members under linear analysis.
- Fixed issue of node selecting and dragging. When selecting a node, it will not be moved any more.
- Fixed issue of adding a point load to a design member.
- Joint linking can be selected from Menu or mouse click now.
- Fixed issue of adding or drawing spring members.
- Enable code-formed design codes – AS4600 and AISI for demo version;

## **Changes between 10.02 and 10.03**

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- Some optimizations within the software have been disabled to enable support for computers with older AMD CPU's.

## **Changes between 10.01 and 10.02**

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- The expiry date for Academic versions has been changed to 8<sup>th</sup> August 2008.

This version has only been provided to academic users.

## Changes between 10 and 10.01

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- A network installation issue with the [New Installers](#) has been fixed.
- A problem with the display of units in thickness ratio checks in the AIJ design code has been fixed.
- A problem with the AIJ steel check incorrectly reporting “Section shape failed to satisfy clauses 8.1 and 8.2” has been fixed.
- Added cold-formed sections to New Zealand section library.
- Added C40030(c-section), TopSpan 61/120 sections to Australian section library.
- The SetSelection command for Element and Member Lists in the Automation interface is now much faster.
- The non-linear solver now converges on more frames where previously convergence failed.
- The commands of Mesh Size and Advanced Calculations in Section Maker are now separate, which allows users to set and review mesh size before doing advanced calculations.
- Arrow heads are now drawn correctly on dimensions in the Shape view in Section Maker.
- Switching between member plots and global plots in the Plot window no longer displays an intermediate Design Member plot, except when in Design Member selection mode.
- Corrected units for display of buckling mode shapes.
- A problem with rendering of new cold-formed shapes in non-OpenGL mode has been fixed

## Multiframe

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The following features have been modified or added to Multiframe in this release.

### New Installers

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Multiframe now uses a new version of the InstallShield installer. This installs Multiframe applications into a directory at C:\Program Files\Multiframe 10. Note also that it adds shortcuts to Multiframe under Multiframe 10 under the Start menu. The new installer will automatically migrate your old settings and Sections Library from your previous installation.

See <http://www.formsys.com/extras/FDS/webhelp/installationguide/installationguide.htm>

### Learning Multiframe

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There is now a comprehensive training package included in the software; featuring step-by-step tutorials supported by videos. The Learning Multiframe training can be done online via our website, or from your computer after installing the Learning Multiframe installer from the installation CD.

All information can be found at:

<http://www.formsys.com/support/learning-centre/learning-multiframe>

In the Multiframe application, Learning Multiframe can be accessed from the Help menu. The Learning Multiframe command will start the PDF document if Learning Multiframe has been installed on your computer. In case Learning Multiframe has not been installed, the online version will be started in your web browser.

### Supported Operating Systems

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Multiframe now supports the new Windows Vista operating system. Support has also been added for 64 bit operating systems and Multiframe can now be installed on computers using x64 editions of the Window XP and Vista operating systems.

### Copy Protection Devices

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With this release of the software licensing will only be provided via Hasp and Sentinel copy protection devices. Support for older Unikey and Microguard dongles is no longer provided. Customers with these types of devices will be issued with replacement dongles.

### Application Performance

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Further work has been done to improve the performance of the software. Areas of the software to benefit from this include

- **OpenGL rendering, particularly in the Plot Window.**
- **Drawing of the model in the Graphical views**
- **Processing of graphical interaction with the model.**
- **Geometric manipulations of the model such as duplication, subdivision and other transformations of the model.**

## Working with design members

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When working in the graphical views the user now has the option to work with either selections of members or design members. When working with members, the selection of members within the window works as in previous version of the software. However, when working with selections of design members, clicking on a member will select an entire design member. The selection in the window will then be treated as a selection of design members. This selection of design members will then be used as the list of items that will be manipulated by commands working on members.

The user can change between the two modes of selection via the Design Member Selections command in the Selection menu.

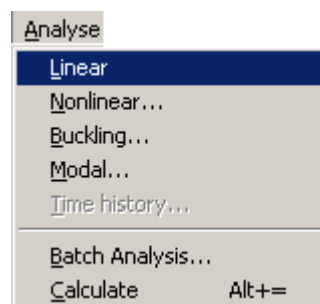
In the Frame Window the use of design members as the selection is most significant in relation to commands manipulating the properties at the ends of members such as member releases and member end springs. When working with selections of design members, these commands will manipulate the properties at the ends of the design members and NOT the properties at the ends of members.

In the Load Window, member loads will be applied to design members when working with selections of design members. As such the position of loads will be determined by the length of the design member. The shape of loads will also be applied across the entire design member and not to the individual members that make up the design member. It is important to note that loads applied to design members will still be stored as a number of individual loads applied to the members that make up the design member.

## Analysis menus and dialogs

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The analysis commands in Multiframe have been removed from the Case menu. They have been replaced with a new Analysis main menu which now contains separate menu commands for initiating each of the types of analyses available in Multiframe. If you wish to run multiple analyses at the same time, you can use the Batch Analysis command.



## Analysis settings saved with model

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The settings last used in the analysis of the model are now stored with the model when it is saved. These values are then restored for use in analysis when the file is re-opened.

The “analyse” shortcut button on the toolbar now runs the most recent analysis type which has been run from the menu. After opening a file, you must choose an analysis type from the menu once before you can use the toolbar button.

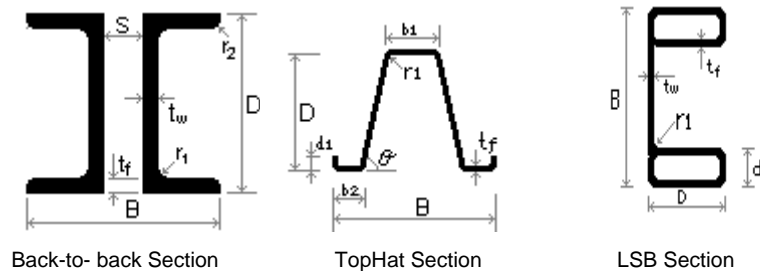
## Deleting items via tables

Many of the tables in the Data window now allow items to be deleted from the model. This may be done by selecting entire rows of the table and then pressing delete. Tables supporting this include

- Member geometry
- Member properties
- Member loads
- Restraints
- Joint Springs
- Joint Masses
- Joint Loads
- Thermal Loads
- Prescribed displacements

## New section shapes

Multiframe now supports cold formed back-to-back, tophat and LSB section shapes. The LSB section is a new cold formed profile available within Australia.



## Editing standard section shapes

New sections can be added within Multiframe using the Add Standard Section command and specifying the dimensions of the section. Sections created in this way are now edited using an alternative Edit Section dialog that requires the user to only enter the modified dimension of the sections. On exit from this dialog, the section properties will be automatically recomputed and updated by the software.

## Undo/Redo toolbar buttons

The file toolbar now includes buttons for accessing the undo and redo commands.



## Member results tables

The tables in the Result window containing member actions and stresses now include a column displaying the section type of the member.

## Member colours

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Users can now assign their own colour to members via the Frame | Member Colour command. This colour can then be used in drawing or rendering the model by selecting the User Colour scheme for members from within the Symbols dialog or by Right-Clicking on the Colour legend in the Frame window.

## DXF layers

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When importing a DXF file containing more than a single layer, a new group set is created within Multiframe that contains groups representing each of the layers in the DXF file. Members imported from the layers within the DXF file are then grouped into the corresponding group.

## Mouse Wheel + Member plots

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The mouse wheel can now be used to move the position of the crosshair in the Local Member view within the Plot Window. Each click of the mouse wheel will move the crosshair a single pixel. More rapid movement is obtained by holding down the ctrl key in which case the crosshair will move in much larger increments.

## Bug fixes and minor changes

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- **Masking in load table in the Data window now updates correctly when switching load cases**
- **Adding a prescribed displacement on top of a restraint now overrides correctly in the target load case**
- **Select | From view | xxx commands are now disabled when the Report Window has focus.**
- **Potential crash when accessing Member End Springs table in Multiframe 2D has been removed.**
- **Pre-solve connectivity check now considers connectivity due to joint linking.**
- **Crash when printing the summary of the frame.**
- **Further problems with size extremely large fonts in the printing of reports**
- **Animations now work again**
- **Potential crash when rendering a frame without any section sizes specified**
- **Incorrect text in Export Time history Results dialog, 'Forces' now replaced with 'Displacements'**

## Steel Designer

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The following features have been modified or added to Steel Designer in this release.

### Selecting Members by Efficiency

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A new command for selecting members by design efficiency has been added to the Select menu. This functionality had previously been available via the command to select member by action.

### AS4600

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A new design module for the design of cold formed steel structure to the Australian Standard AS4600 is now available. Details of the implementation of this code within Steel Designer are provided in a separate document accompanying this release note.

Click [here](#) to download the AS4600 release note.

**For this release AS4600 has been made available to all beta testers until the end of May 2007. In future releases licensing will only be available to customers who have purchased this design module.**

### AISI

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A new design module for the design of cold formed steel structure to the AISI Standard is now available. Details of the implementation of this code within Steel Designer are provided in a separate document accompanying this release note.

Click [here](#) to download the AISI release note.

**For this release AISI has been made available to all beta testers until the end of May 2007. In future releases licensing will only be available to customers who have purchased this design module.**

## Section Maker

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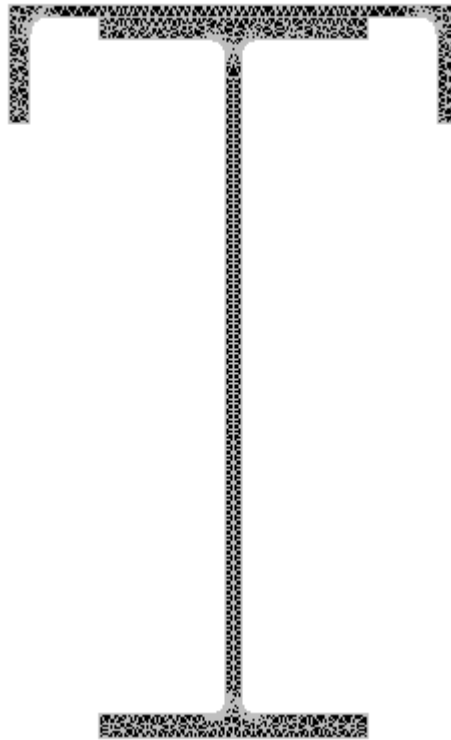
The following features have been modified or added to Section Maker in this release.

### Advanced Property Calculations

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The calculation of section properties has been significantly enhanced with the addition of finite element techniques to compute the torsion constant, warping constant and the location of the shear centre. These quantities can now be computed accurately for any shape and not just for the standard section shapes supported within the software.

The calculation of section properties using these techniques requires the shape to be analysed. This is performed by executing the Advanced Calculations command from the Analyse Shape submenu in the Shape menu. Upon executing this command the software will automatically mesh the shape drawn in the Shape window and perform a finite element analysis of the section to determine the torsion constant, warping constant and the location of the shear centre. The accuracy of these properties is reflected in the size of the elements in the finite element mesh. More accurate results may be obtained by refining the mesh size via the Mesh Size command in the Analyse Shape submenu.



The display of the finite element mesh can be controlled via the Toggle mesh command in the Analyse Shape submenu.

## **Problem Reports**

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We greatly appreciate any bug reports or suggestions you may have. Please report any bugs or anomalies you find to:

Fax: +61 8 9335 1526

Email: [support@formsys.com](mailto:support@formsys.com)