

MULTIFRAME CONNECT Edition V22.03.00 ReadMe 28 February 2020



This ReadMe file describes the changes to the Modules in Multiframe CONNECT Edition V22.03.00

Licensing:

This product version uses CONNECT Licensing, which does not support SELECT activation key(s). [CONNECT Licensing](#) features new behavior to enhance your organization's user administration and security with mandatory user sign-in via CONNECTION Client to access the application. If you are already signed in to the CONNECTION Client, you have met this prerequisite. If you have not, please refer to the [Administrator's Resource Center](#) and/or contact your administrator for assistance in the registration and sign-in process.

https://communities.bentley.com/products/licensing/w/licensing_wiki/37813/connect-licensing

<https://www.bentley.com/en/perspectives-and-viewpoints/topics/campaign/bentley-user-registration>

Side-by-side installation – important changes:

This version 22 is a major update and will install side-by-side with earlier versions (for example 21.mm).

Minor version updates, such as 21.14 will replace versions 21.13 and 21.02 if already installed on your computer. Side-by-side installation of versions 21.14 and 21.13, 21.12 or 21.02 is not possible.

Bentley versions numbers are MM.mm.sv.bb where MM is the Major version number; mm the minor version number and sv is reserved for special versions (and bb is the build number). From version 21.10 onwards, side-by-side installations of Multiframe are only possible for different *major* versions. When you are signed in to the CONNECTION client, you will be notified when *minor* updates are available (these are updates with different *minor* version numbers. If you install a *minor* update, the previous version with the *same major* version number will be replaced with the updated version. Thus, installation of version 21.14 will replace 21.13 or 21.02 but would be installed side-by-side with 19.

System Requirements – 64-bit only:

Henceforth MAXSURF and Multiframe will be available in 64bit versions only and will only work with 64bit operating systems.

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Introduction

Product Description / Key capabilities

Multiframe provides linear and non-linear analysis, static and dynamic options and buckling calculations. These analysis options are complemented by a full range of analysis-related modeling tools like master-slave, prescribed displacements, springs, thermal effects, offset members, additional masses and much more. Other modules allow you to draw section shapes and install them in the sections library and perform design checks for a range of design codes. Multiframe Automation allows you to prepare design calculations in Excel and link them directly with your Multiframe model. An ever expanding range of design add-ons also allows you to simplify steel code checking and optimization.

MULTIFRAME helps you redefine design excellence for any types of structures. Choose the version that fits your project needs:

MULTIFRAME: Linear analysis of frame and plate structures, non-linear analysis of frames, Section properties calculator, local steel code checks (AS4100, AS4600, NZS3404)

MULTIFRAME Advanced: Mutiframe capabilities plus dynamic modal analysis and time history analysis, International steel design codes (AIJ, ASD, LRFD, AISI, BS5950, EC3).

Superseded and Removed Features

Multiframe version 22.02 was skipped; the next version after 22.01 is this one: 22.03.

Trial keys are no longer used for trial versions; use of software in evaluation and trail modes is now managed through your Bentley sales representative.

Known Issues

There are no known issues with this release.

Before You Begin

Before you begin, please note the following:

Review the End User License Agreement (or EULA) carefully during the installation of Multiframe. By installing this release, you agree to the terms and conditions of the agreement. A copy of the End User License Agreement named "Eula.pdf" can be found in the location after Multiframe has been installed.

Installation

Installation Requirements

Supported Operating Systems

Windows 10 (64-bit):	Home, Pro, Enterprise, and Education
Windows 8.1 (64-bit):	Standard, Pro, and Enterprise
Windows 8 (64-bit):	Standard, Pro, and Enterprise

Note: For Window 8 and 8.1, you must have the Microsoft KB2919355 installed on your machine.

Bentley does not support its software running on Microsoft operating systems versions that Microsoft has "retired". For more information on Microsoft's application retirement policy, click [here](#). For similar information on Bentley products, refer to the Bentley Product Support article.

Software Prerequisites

The software prerequisites are included in the Multiframe installer.

Supported i-model publishing engines

Publishing i-models from Multiframe requires Bentley ISM

Microsoft Office

For reporting using Microsoft Word, this must be installed on the system.

Minimum Profile

The minimum recommended workstation profile for running Multiframe CONNECT Edition is:

Processor:	Intel® or AMD® processor 1.0 GHz or greater. MicroStation is not supported on a CPU that does not support SSE2.
Memory:	4 GB minimum, 16 GB recommended. More memory almost always improves performance, particularly when working with larger models.
Hard Disk:	4 GB free disk space (which includes the 2 GB install footprint for a complete installation)
Video:	Graphics card which fully supports DirectX 11 and OpenGL with up to date drivers. A stand-alone graphics card with 512 MB of video RAM or higher is recommended.
Screen:	A resolution of at least 1024 x 768 or higher.

No Longer Supported or Delivered

Windows 7 support: Whilst MAXSURF software may well continue to function on Windows 7 with SP1, this operating system is no longer officially supported by Bentley Systems. Microsoft support for Windows 7 ended on January 14, 2020.

32-bit operating systems are no longer supported.

Quick Install Guide

Please refer to the separate installation guide document for information relating to downloading and installing Multiframe.

Before you start the Installation

When installing or uninstalling this product, you must be logged on with Administrator rights.

It is highly recommended that you close any programs and disable any antivirus software that is running prior to the installation of this software. Be sure to turn on your antivirus software when you have finished.

Licensing

This version of Multiframe uses CONNECT Licensing which replaces the older SELECT Licensing used by Multiframe 21 and earlier versions.

The CONNECT Licensing is Bentley's new process for product activation and usage tracking, improving our licensing capabilities with features such as:

- **License alert notifications when you are approaching a custom usage threshold**
- **Replacing site activation keys with user validation, enhancing security around your Bentley licenses and subscriptions**

With traditional SELECT Licensing, product activation has been through an activation key that an Organization distributed to all users. With CONNECT Licensing, product activation is managed by user sign in through the CONNECTION Client, which is installed on each machine that uses Bentley applications. This offers a more secure and manageable system as it offers usage alerts, notifying your users when they are about to reach a certain usage limit set by the Administrator.

This product version uses CONNECT Licensing, which does not support SELECT activation key(s). CONNECT Licensing features new behavior to enhance your organization's user administration and security with mandatory user sign-in via CONNECTION Client to access the application. If you are already signed in to the CONNECTION Client, you have met this prerequisite. If you have not, please refer to the Administrator's Resource Center and/or contact your administrator for assistance in the registration and sign-in process.

Detailed information is available at Bentley Communities Licensing and Activation Wiki:

https://communities.bentley.com/products/licensing/w/licensing_wiki/37813/connect-licensing

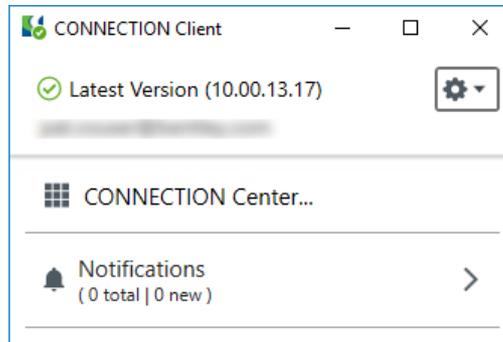
<https://www.bentley.com/en/perspectives-and-viewpoints/topics/campaign/bentley-user-registration>

For full details of Subscriptions and Licensing please visit

<http://www.bentley.com/subscriptions>

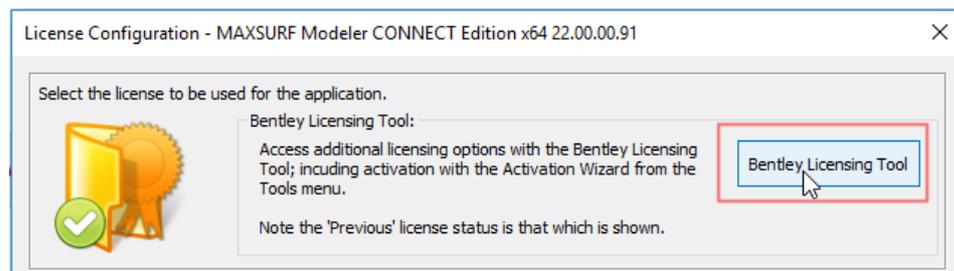
Signing in with CONNECTION Client

In general, you should be signed in with the Bentley CONNECTION Client to obtain a license and use the software. If you are signed in the real-time usage of the software is known, enabling license overuse and other notifications to work as designed.

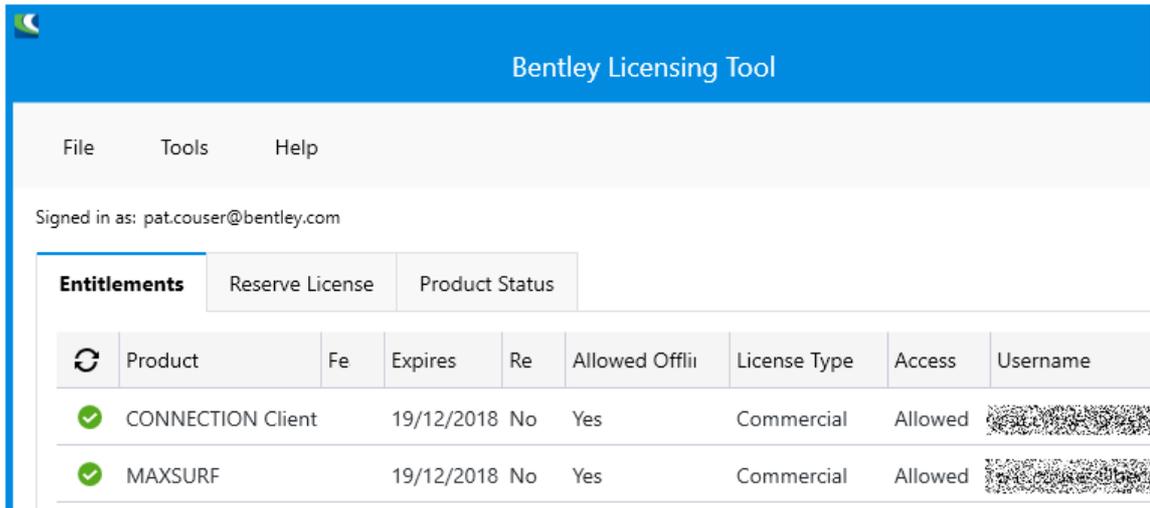


Bentley Licensing Tool

The Bentley License Tool can be accessed from the Start Menu or from the Multiframe License Configuration dialog:



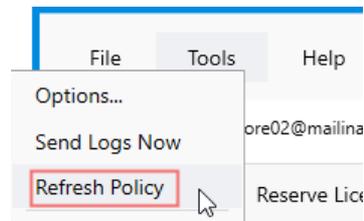
The Bentley Licensing Tool will enable you to see the status of the Bentley Software installed on your system. The products which you are entitled to use will be shown in the "Entitlements" tab in the Bentley Licensing Tool. Normally only recently used products will be displayed in the Entitlements; if you do not see the expected products it may be because they have not yet been used on the system. You can try to use and/or activate products even if they do not appear in the list, these products may then appear in the list once they have been used.



Product	Fe	Expires	Re	Allowed Offlii	License Type	Access	Username
CONNECTION Client	✓	19/12/2018	No	Yes	Commercial	Allowed	[Redacted]
MAXSURF	✓	19/12/2018	No	Yes	Commercial	Allowed	[Redacted]

License Policy

If your administrator has modified your entitlements, then it is necessary to refresh the Policy. This is done with the Bentley Licensing Tool through the Tools menu:



You should then use the “refresh” icon to update the list of entitled products: ; under some circumstances it may be necessary to close and restart the Bentley License Tool to effect a full refresh of the policy.

Product Activation

Product activation will not normally be required, if you have entitlements to the product, you will be able to use it without the need to activate it first.

Evaluation

You will be given a grace period to use the software in trial mode, this will normally be a period of 7 to 30 days depending on the product.

Legal

Trademark Notice

Bentley, the "B" Bentley logo, MAXSURF, Multiframe, MicroStation and ProjectWise are registered or non-registered trademarks of Bentley Systems, Inc. or Bentley Software, Inc. All other marks are the property of their respective owners.

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www.subsystems.com

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Boost; Copyright © Boot.org: www.boost.org

Catch; Copyright © Two Blue Cubes Ltd.: catch-lib.net

Clipper; Copyright © Angus Johnson: www.angusj.com/delphi/clipper.php

Komplex SQLite Wrapper; Copyright © Sven Broeske: sqlitewrapper.kompex-online.com

GA, GALib; Copyright © Matthew Wall, MIT: lancet.mit.edu/ga/

GPC Generic Polygon Clipper; Copyright ©, Advanced Interfaces Group, University of Manchester: www.cs.man.ac.uk/~toby/gpc/

Open NURBS; Copyright © Robert McNeel & Associates: www.rhino3d.com/opennurbs

Rhino5SDK; Copyright © Robert McNeel & Associates: www.rhino3d.com

Complete copyright information can be found in the product Help | Copyright dialog

For reference, a copy of the End User License Agreement named EULA.pdf is installed in the same folder as the product.

Restricted Rights Legend

If this software is acquired for or on behalf of the United States of America, its agencies and/or instrumentalities ("U.S. Government"), it is provided with restricted rights. This software and accompanying documentation are "commercial computer software" and

"commercial computer software documentation," respectively, pursuant to 48 C.F.R. 12.212 and 227.7202, and "restricted computer software" pursuant to 48 C.F.R. 52.227-19(a), as applicable. Use, modification, reproduction, release, performance, display or disclosure of this software and accompanying documentation by the U.S. Government are subject to restrictions as set forth in this Agreement and pursuant to 48 C.F.R. 12.212, 52.227-19, 227.7202, and 1852.227-86, as applicable. Contractor/Manufacturer is Bentley Systems, Incorporated, 685 Stockton Drive, Exton, PA 19341-0678. Unpublished - rights reserved under the Copyright Laws of the United States and International treaties.

Bentley Information

Services and Support Information

TechNotes, FAQs, and additional Bentley product information, can be found on the Bentley Communities Product Technotes and FAQs Wiki page.

<http://www.bentley.com/ProductTechnotesAndFAQs>

Log issues that you encounter with Bentley products using the Service Request Manager. This can be done from the application with the Help | Service Request Manager menu.

<http://www.bentley.com/CreateNewServiceRequest>

Support Path

Please go to the CONNECTION Center, and create an account if you do not already have one, this will enable you to take advantage of all the Bentley CONNECT features:

<https://connect.bentley.com/>

Full details of the features provided by Bentley CONNECT are described in the document BentleyCONNECTEditionOverview.pdf which is installed with MULTIFRAME.

Bentley Headquarters

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Links

MAXSURF Information:	http://www.bentley.com/MAXSURF
Bentley Online Documentation:	https://docs.bentley.com/LiveContent/
TechNotes and FAQs:	http://www.bentley.com/ProductTechnotesAndFAQs
Bentley Communities:	http://communities.bentley.com/
Bentley SELECT:	http://selectservices.bentley.com/
Bentley Products:	http://www.bentley.com/products/
Bentley CONNECT:	http://connect.bentley.com/
Licensing and Subscriptions	http://www.bentley.com/subscriptions

Release Notes

The following sections describe the changes which have been made to the Multiframe modules.

Compatibility with Previous Versions

Multiframe data files are forward and backward compatible between most versions of Multiframe. Where backward compatibility has been broken, the option to export to earlier file formats is provided in the new version.

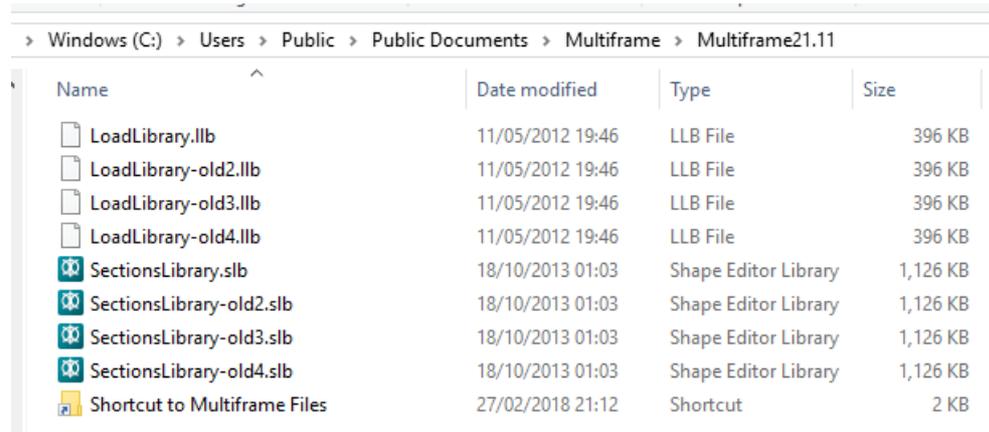
Directory Structure

The main application executable files, manuals etc are installed in the root level of the folder selected for the installation. Folders containing sample models are also included.

Name	Date modified	Type	Size
Automation Samples	27/02/2018 21:12	File folder	
ConnectAdvisor	27/02/2018 21:12	File folder	
Data	27/02/2018 21:12	File folder	
ECSchemas	27/02/2018 21:12	File folder	
en-US	27/02/2018 21:12	File folder	
MsiKeyFile	27/02/2018 21:12	File folder	
Quickstart	27/02/2018 21:12	File folder	
Section Libraries	27/02/2018 21:12	File folder	
Struclink	27/02/2018 21:12	File folder	
Training Samples	27/02/2018 21:12	File folder	
ac1st20.dll	05/02/2015 20:48	Application extens...	339 KB
acdb20.dll	05/02/2015 20:48	Application extens...	25,817 KB
AcDbDimAssoc20.dbx	05/02/2015 20:42	DBX File	22 KB
acdbmgd.dll	05/02/2015 20:42	Application extens...	6,286 KB
AcDs.dll	05/02/2015 20:41	Application extens...	329 KB
acge20.dll	05/02/2015 20:42	Application extens...	1,531 KB
AcGeoLocationObj.dbx	05/02/2015 20:42	DBX File	175 KB
AcGradient20.dll	05/02/2015 20:41	Application extens...	18 KB
acismobj20.dbx	05/02/2015 20:42	DBX File	354 KB
AcPersSubentNaming20.dll	05/02/2015 20:42	Application extens...	516 KB

MULTIFRAME installation folder

Some additional files are installed under the “Public Documents” folder. These include the libraries used by Multiframe.



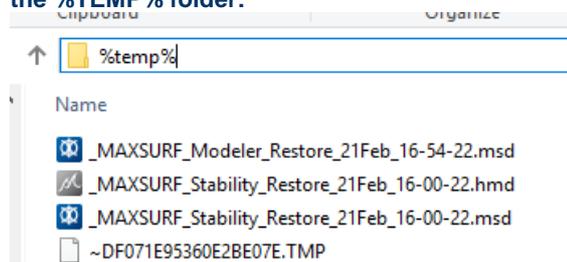
Name	Date modified	Type	Size
 LoadLibrary.llb	11/05/2012 19:46	LLB File	396 KB
 LoadLibrary-old2.llb	11/05/2012 19:46	LLB File	396 KB
 LoadLibrary-old3.llb	11/05/2012 19:46	LLB File	396 KB
 LoadLibrary-old4.llb	11/05/2012 19:46	LLB File	396 KB
 SectionsLibrary.slb	18/10/2013 01:03	Shape Editor Library	1,126 KB
 SectionsLibrary-old2.slb	18/10/2013 01:03	Shape Editor Library	1,126 KB
 SectionsLibrary-old3.slb	18/10/2013 01:03	Shape Editor Library	1,126 KB
 SectionsLibrary-old4.slb	18/10/2013 01:03	Shape Editor Library	1,126 KB
 Shortcut to Multiframe Files	27/02/2018 21:12	Shortcut	2 KB

Additional files under the "Public Documents" folder

Changes: MAXSURF Multiframe

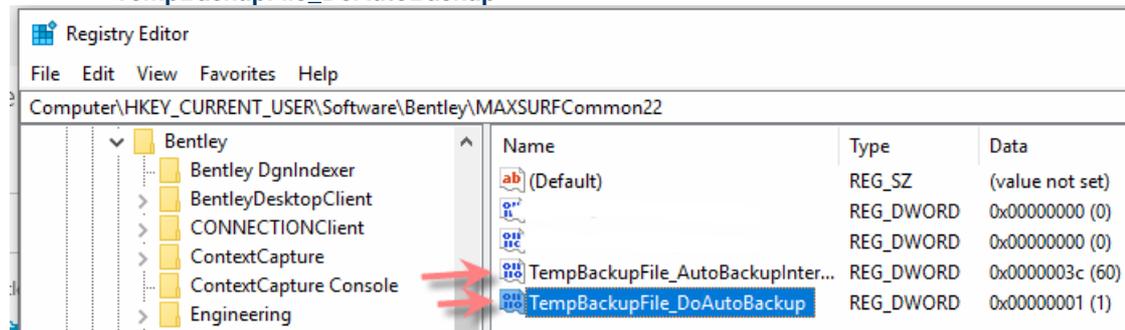
Bug fixes and minor changes

- **1060502:** Evaluation and Trial licenses are differentiated in the Help | About > Sys Info. dialog. Evaluation licenses must be specifically requested and typically valid for 30 days; trial licenses allow the software to work for the first 7 days of use without the need for activation.
- **1050044, 1030356:** A crash which could occur on startup with some very slow computers has been fixed.
- **1028035:** Application log files (if generated) are now time-stamped and saved in the %temp% folder.
- **948698, 938158:** Auto saved files have been added for most of the MAXSURF Modules. In the event of an unexpected crash, these restore files can be found in the %TEMP% folder:



This feature may be disabled or the Auto-save interval adjusted using the following Registry settings:

TempBackupFile_AutoBackupIntervalSeconds
TempBackupFile_DoAutoBackup



- **1079285:** Fixed incorrect Kl/r calculation in Compressive Capacity check for AISC ASD2010
- **1068670:** After turning off patch visibility, patch results are still visible in plot window. Fixed
- **1067218:** Set best section for a design member causes a crash. Fixed.
- **1064896:** The rendered model now correctly updates when the section type is changed from the drop-down combo-box.
- **1047721:** Random crash for certain models due to model depth sorting. Fixed
- **1040812:** A crash which occurred when performing a plate analysis in Multiframe basic has been fixed.
- **1015006:** A problem which caused non-uniform, distributed patch loads to be shown in the incorrect direction has been fixed.
- **1067218;** Set best section for a design member causes a crash. Fixed.
- **228207:** A LRFD bug where effective section properties were not calculated for no-compact HSS sections has been fixed.

Security Release Notes

Not applicable to this release.

Problem Reports

We greatly appreciate any bug reports or suggestions you may have. Please report any bugs or anomalies you find through <http://apps.bentley.com/srmanager/ProductSupport>.