

What's New

in PowerPack for Inventor 2024



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1 GENERAL INFORMATION ABOUT VERSION 2024

The 2024 version of the **PowerPack for Inventor** comes with new features but also improvements on the existing ones:

- Feature Migrator
- Thread Modeler
- Help documentation.
- Browser Name improvements
- Spanish localization

1.1 COMPLIANCY WITH AUTODESK INVENTOR 2024

The **PowerPack for Inventor 2024** is compliant with Autodesk Inventor 2023 and 2024 versions.

The PowerPack for Inventor 2024 can be installed using the Setup PowerPack for Inventor 2024. The setup will install version 2024 of the PowerPack on Inventor 2023 and 2024 if these are installed previously.

1.2 INSTALLATION

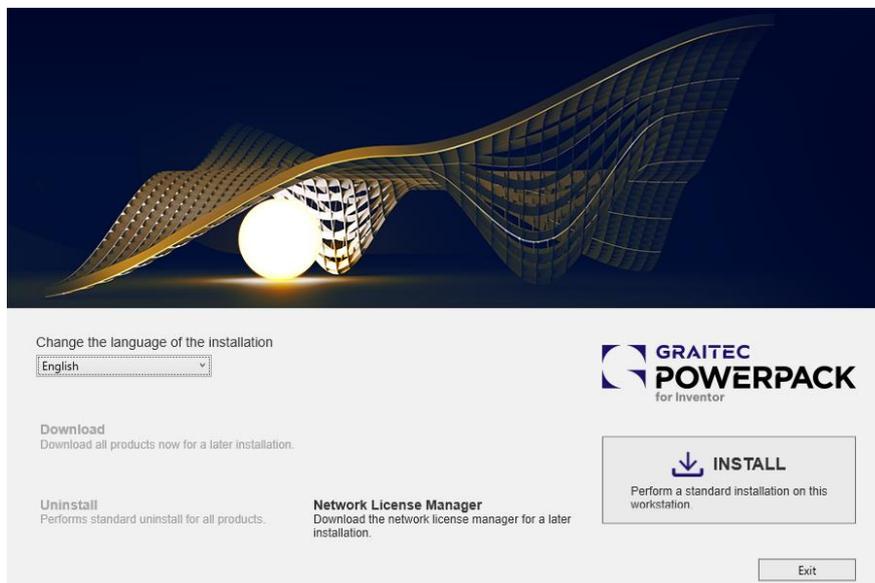
Regarding the installation of the PowerPack version 2024, please follow the following guidance.

Note: *Version 2023 of the PowerPack for Inventor does not need to be uninstalled.*

1. Download the **PowerPack for Inventor 2024** setup from the Graitec Advantage account or the Graitec website.



2. Once downloaded, double-click and open **PowerPack for Inventor 2024** setup and click on the **Install** button.



PowerPack for Inventor 2024 installer

Before the installation starts, the End User License Agreement needs to be accepted to proceed further.

Note: *If Inventor 2022, 2023, and 2024 versions are installed on the same computer, and version 2023 of the PowerPack for Inventor is installed as well, the 2024 setup will automatically update the version of the PowerPack for the 2023 platform. Therefore, for Inventor 2022, the 2023 PowerPack version will remain installed, and for Inventor 223 and 2024, version 2024 of the PowerPack will be installed.*

2 NEW COMMANDS

For version 2024 we have focused to implement a new functionality that will help Inventor users to easily migrate features from assembly level to parts level and create a 3D realist thread with only one click.

Another focus was to create the HELP documentation for the PowerPack for Inventor, so the users can find directly in the application how the commands are working or how to configure them.

Besides new features, we enabled the Spanish language and we have worked on improving the BrowserName.

2.1 FEATURE MIGRATOR

The Feature Migrator functionality was first proposed by CoolOrange software and service provider. Unfortunately, they decided to disconnect this functionality and it was no longer supported starting with Inventor 2021, but the software provider left the code as an open source for those who wanted to take over.

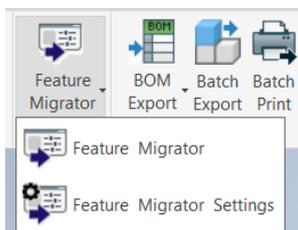
At the customer's request, GRAITEC decided to take source code from CoolOrange, integrate it in the PowerPack for Inventor, and add some improvements by adding 3 more features that are supported for migration.

Therefore, starting with version 2024 of the PowerPack, the user can benefit from this functionality on Inventor 2023 and 2024.

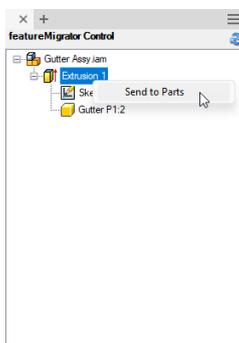
The Feature Migrator is designed to migrate features that are available at the assembly level to the parts.

2.1.1 General usage

The command is available in the assembly environment but also in the part environment, under the Modify area of the ribbon:



When pressing this button, the Feature Migrator command will display a new browser in the Inventor Browser Pane. This browser will display only the supported features for migration in the active assembly.

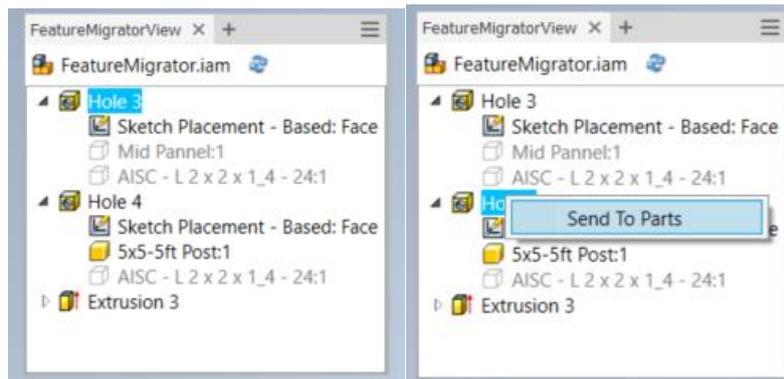


For the 2024 version the following assembly features are supported for migration:

- Extrude Feature
- Hole Feature
- Thread Feature
- Rounding Feature
- Chamfer Feature

2.1.2 Migrating Assembly Features to Parts

The user can migrate assembly features by selecting them in the Feature Migrator browser: by right-clicking on one or several of them, then using the “Send to Parts” commands.

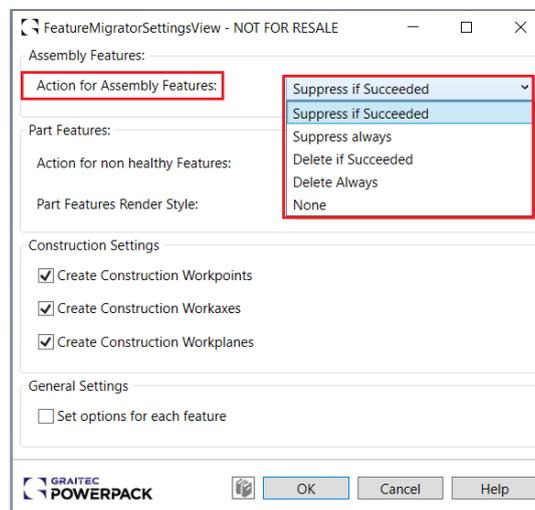


When migrating an assembly feature to the parts, the Feature Migrator will transfer the feature to the part. Per the default setting a backup file of the modified component is created before the modification is made. If this file name already exists at the same location the Feature Migrator will display the “File Overwrite” dialog, prompting the user for a new name to affect the generated copied part.

2.1.3 Feature Migrator Settings

The settings dialog provides the opportunity for the user to select the action to take for all the assembly features migrated/

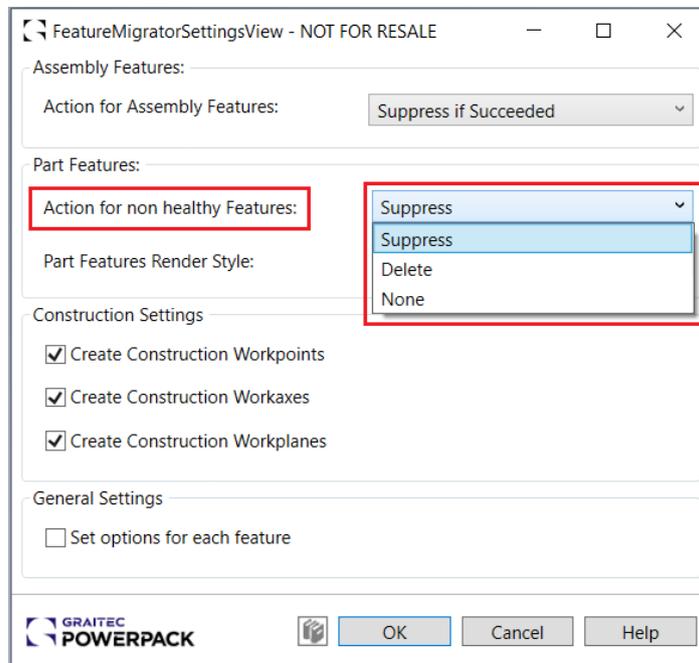
- Suppress if Succeeded - it's deactivating the feature if the operation is successful;
- Suppress always - it's deactivating the feature always;
- Delete if Succeeded - it's deleting the feature if the operation is successful;
- Delete always - it's deleting the feature always
- Nothing - no action is applied to the migrated feature



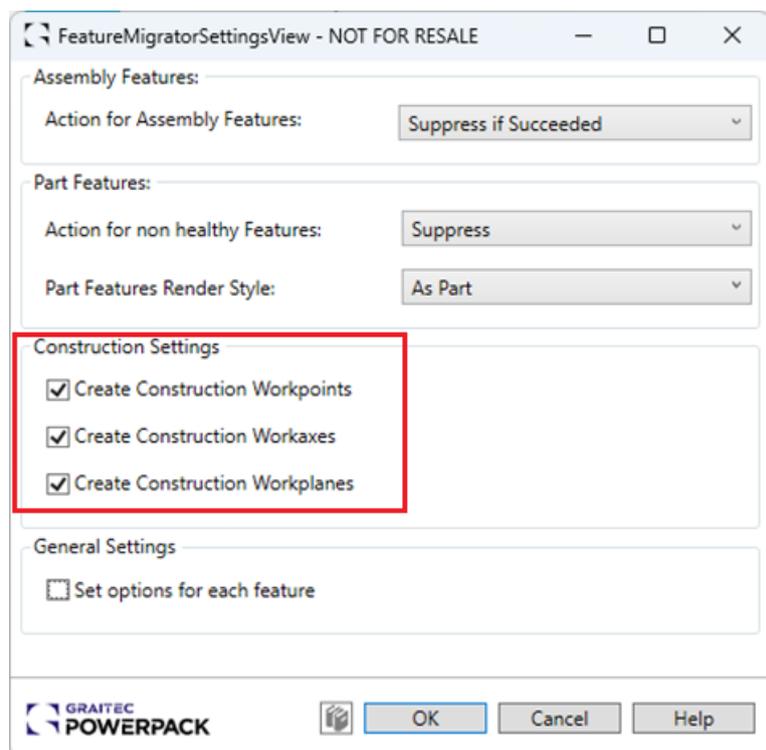
Also, for the part features that haven't been migrated correctly, the Settings dialog gives the user the possibility to select the action to take:

- Suppress - it's deactivating the feature
- Delete - it's deleting the feature
- Nothing - no action is applied.

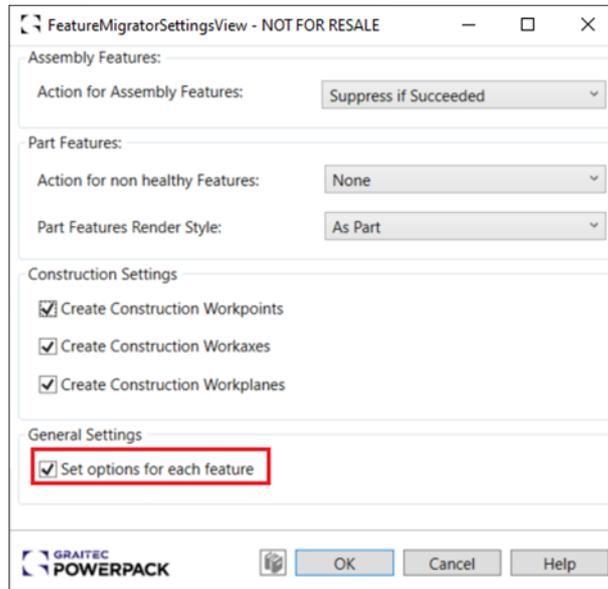
Note: Features created by the add-in can be in an invalid state in the parts for several reasons.



The Construction Settings options have been added to allow the migration of the points, axes, and planes used to create the features, together with these last ones.

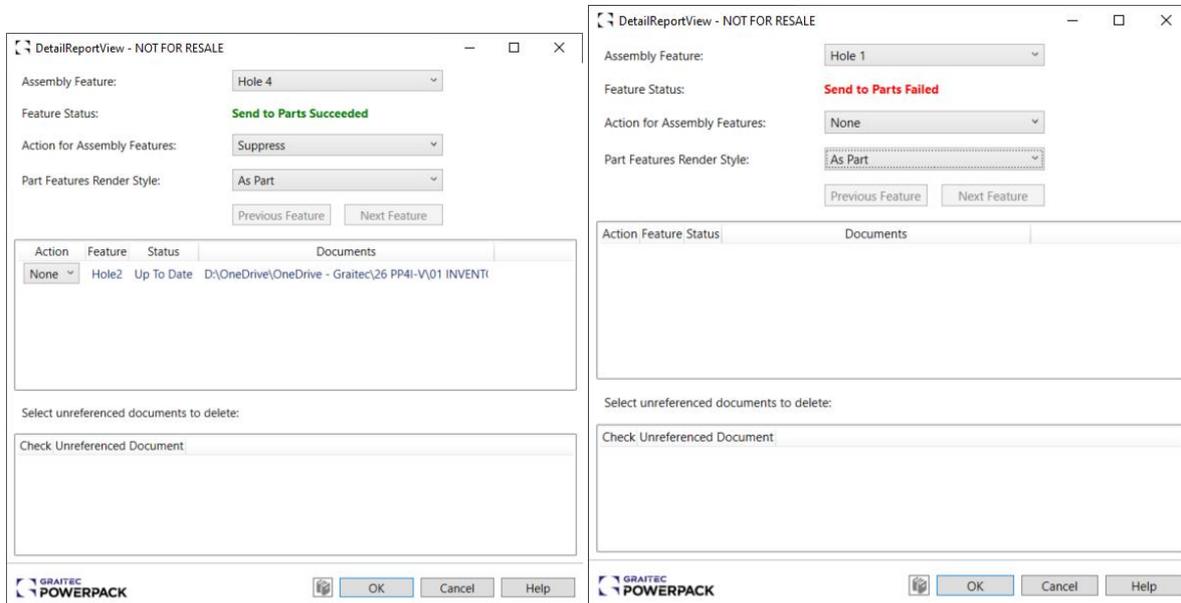


The command gives the possibility to set the options for each feature when the checkbox "Set options for each feature" is selected. In this case, the dialog "Detailed Report" is displayed after the "Send to parts" command was selected.



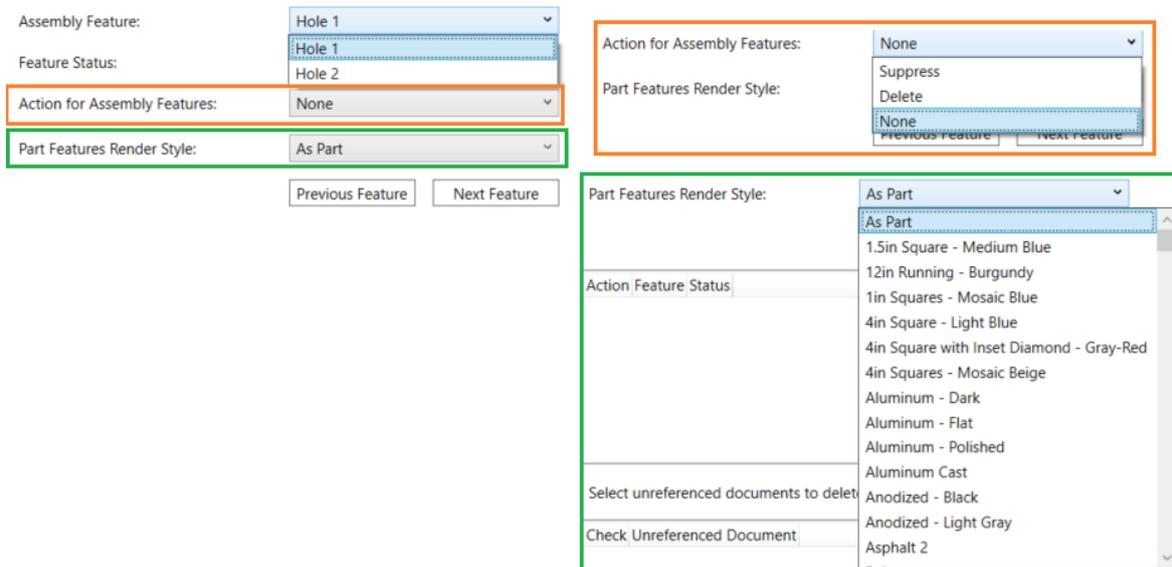
General Settings

In this case, the dialog "Detailed Report" is displayed after the "Send to parts" command was selected.



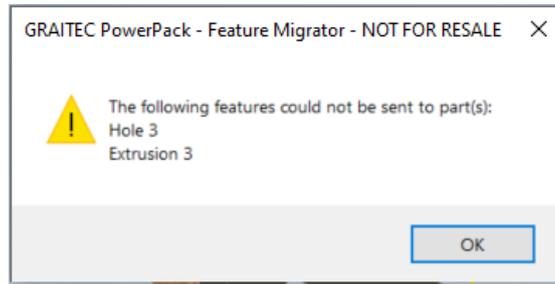
Detail Report View - Feature Status

In the dialog an action for each assembly feature can be selected and a different render style.



The Status of the features can be seen in the detailed report view dialog, even if the migration has been done or not with success.

For features that fail to be migrated, a warning message will be displayed.



Warning message

2.2 THREAD MODELER

The Thread Modeler functionality was first proposed by CoolOrange software and service provider. Unfortunately, they decided to disconnect this functionality and it was no longer supported starting with Inventor 2020, but the software provider left the code as an open source for those who wanted to take over.

At the customer's request, GRAITEC decided to take source code from CoolOrange, integrate it into the PowerPack for Inventor and

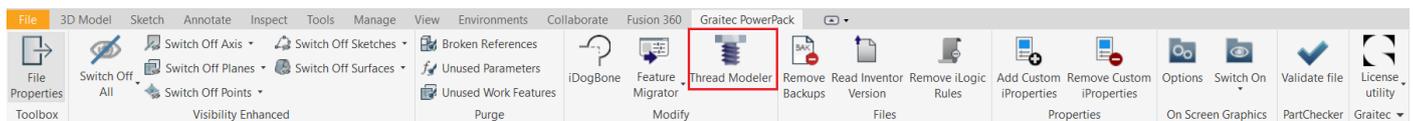
Therefore, starting with version 2024 of the PowerPack, the user can create realistic 3D threads with one click on Inventor 2023 and 2024.

The Thread Modeler tool has been developed to allow Inventor users to generate a realistic model equivalent thread based on an existing Inventor thread feature.

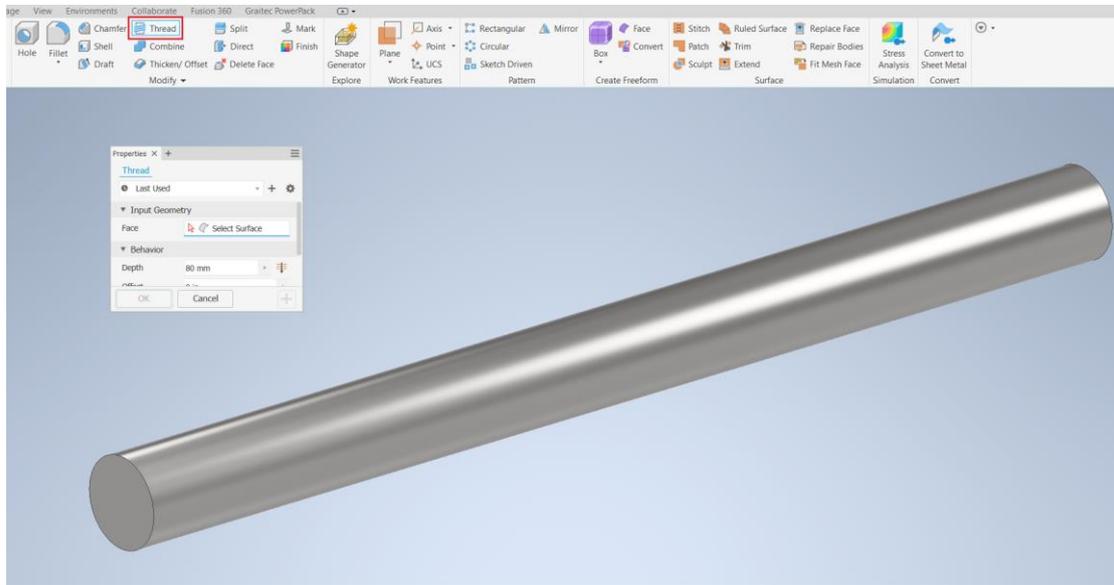
2.2.1 General usage

Modeled threads are accurately generated saving a lot of time and effort for the user when compared with a manual approach, bringing a higher degree of realism to the models.

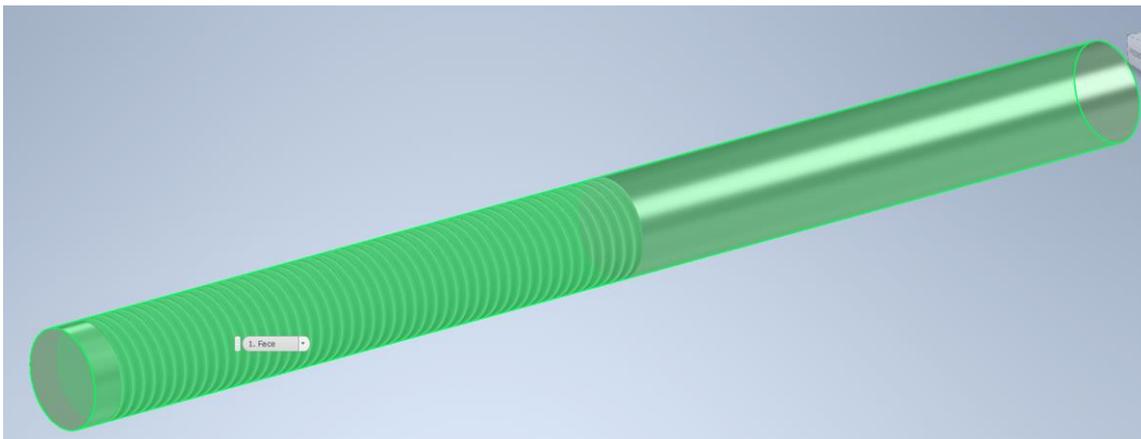
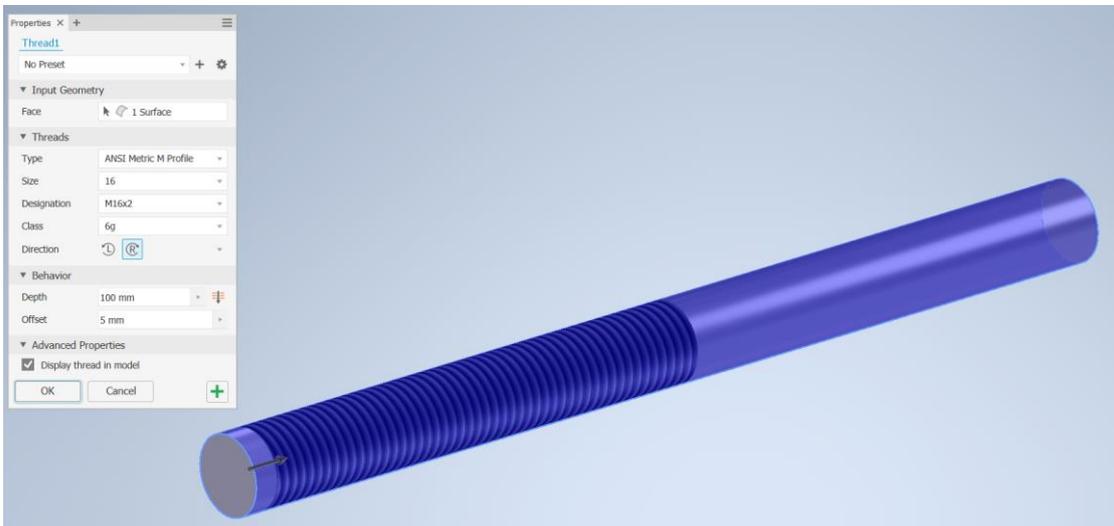
The new command can be found only in the parts environment and is available in the **Modify** area of the ribbon.



To use the Thread Modeler command, first, the user must create a thread feature in the model, using the Inventor command.

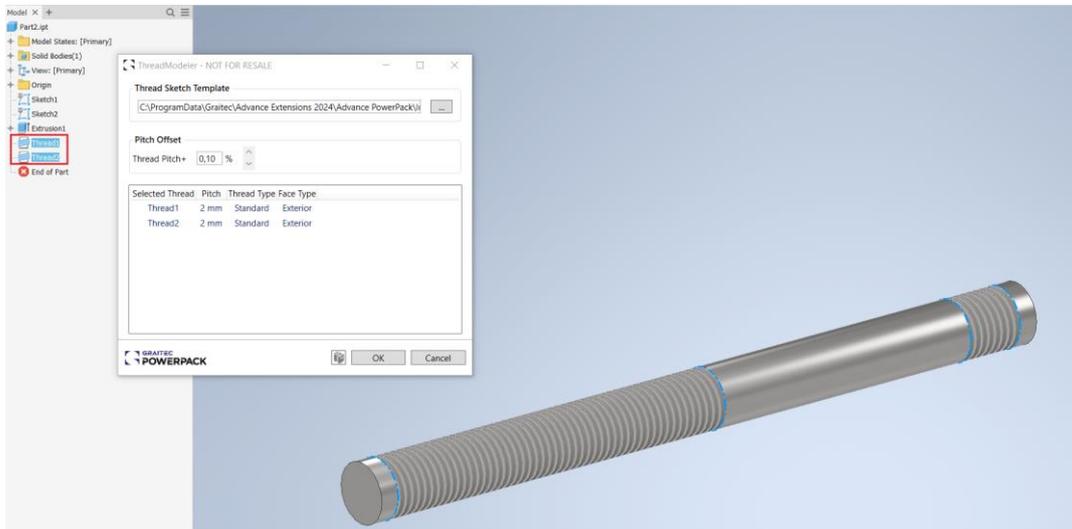


The Thread feature will create a surface that mimics the real thread. So, the result it's just an image.



Once the thread surface is created, select the Thread Modeler command. This action will open a dialog and will activate the selection mode that will allow the selection of the thread features from the Model Panel.

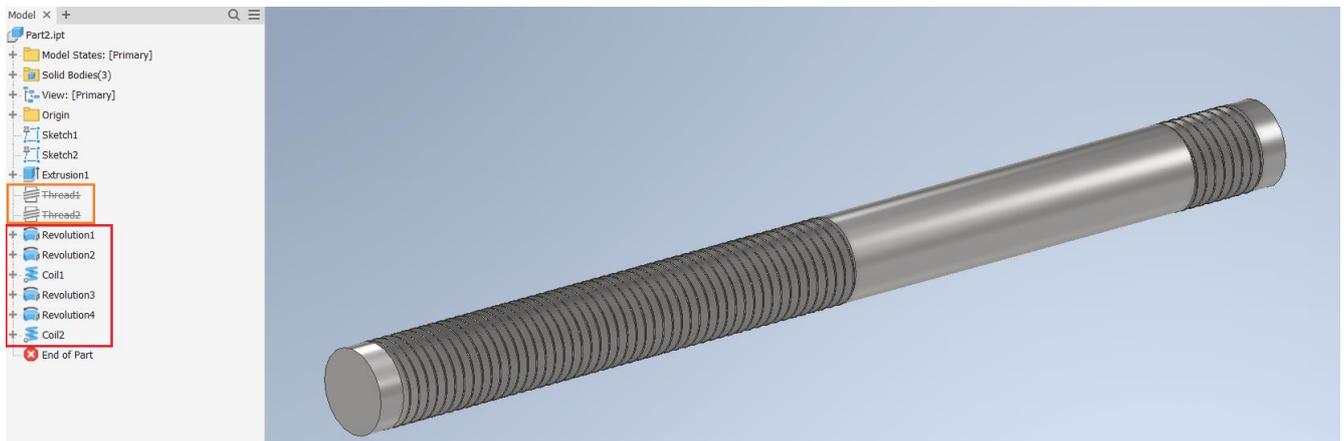
You can select one or multiple threads, if available in the model.



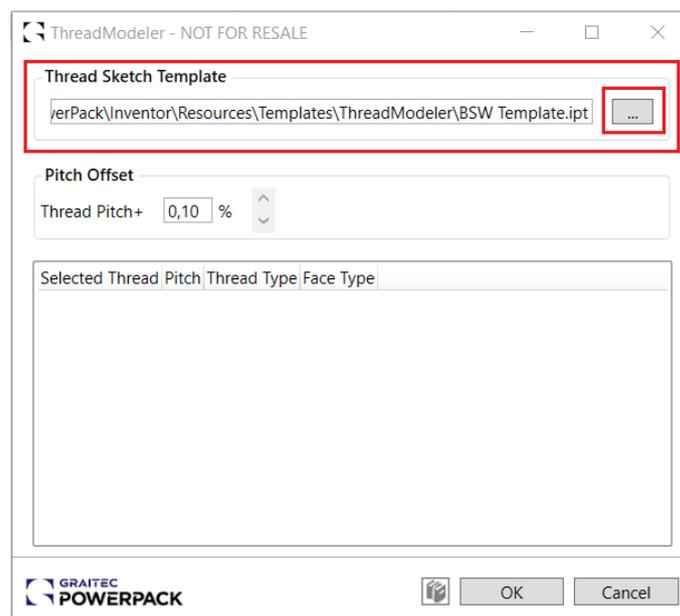
After the selection, press OK and the thread will be generated automatically.

Behind this, the program is creating very fast several features based on the selected threads and applying the selected standard. So new feature will appear in the structure of the part.

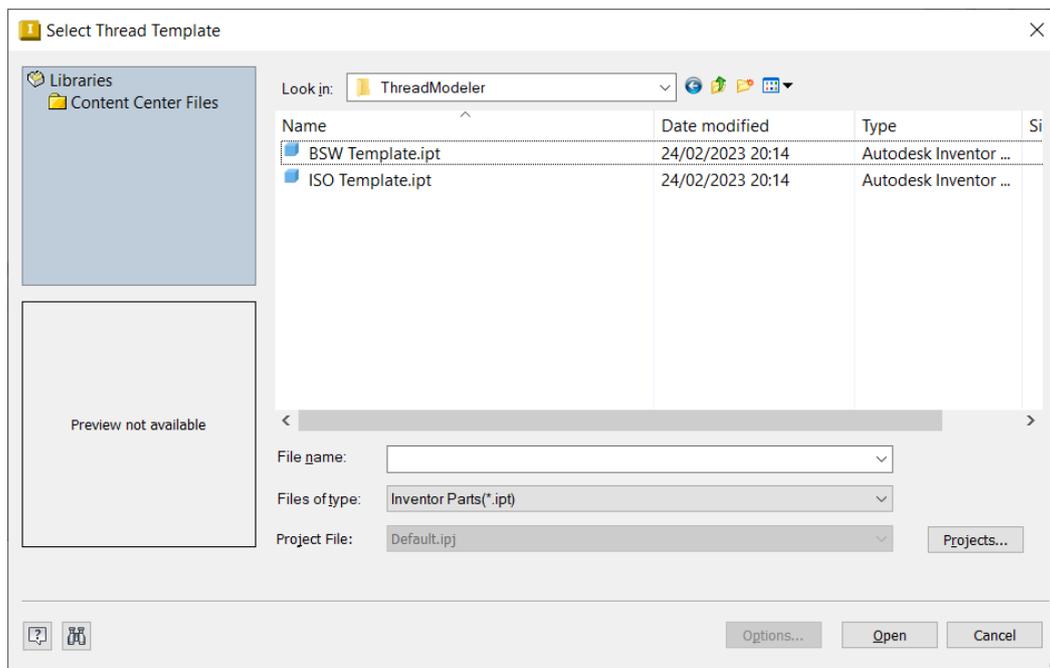
Also, the thread features created with the Inventor command will be deactivated.



The Thread Modeler command is using sketch templates to generate the real Thread model.

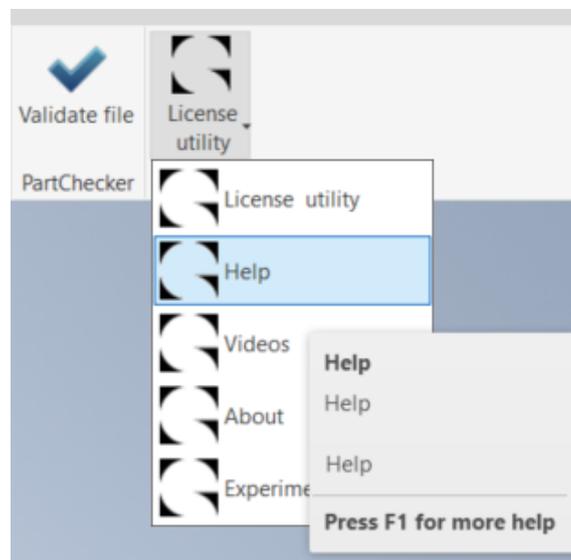


In the 2024 version we have 2 standards: ISO and BSW.



2.3 HELP

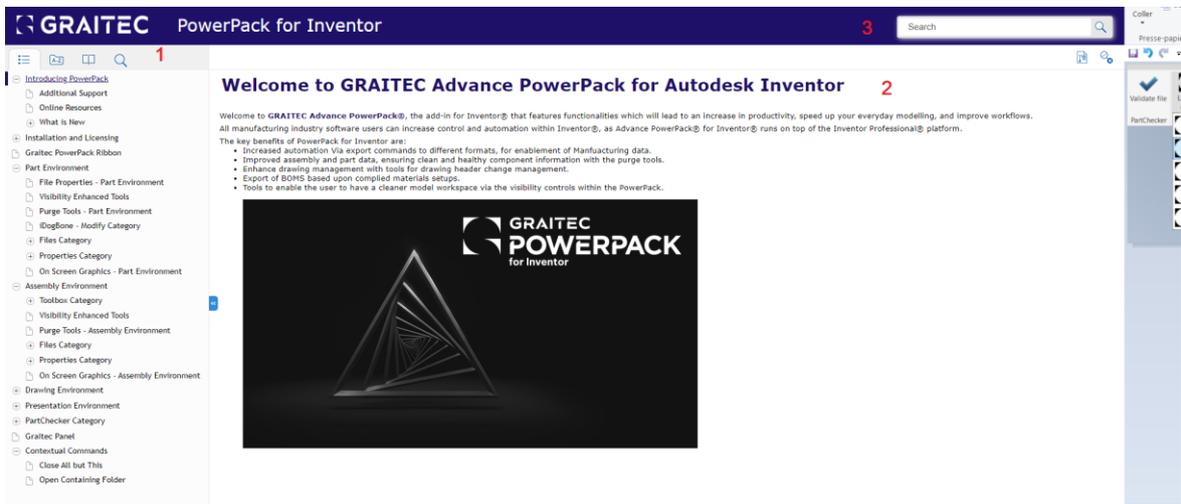
With the Version 2024 of PowerPack for Inventor, we are introducing the HELP for all our commands. The Help can be accessed from the ribbon of the GRAITEC PowerPack under the GRAITEC drop-down menu.



Help option

The Help option from the menu is opening our Online Help:

https://www.graitec.com/Help/PowerPack_for_Inventor/En/#t=Introducing_PowerPack.htm



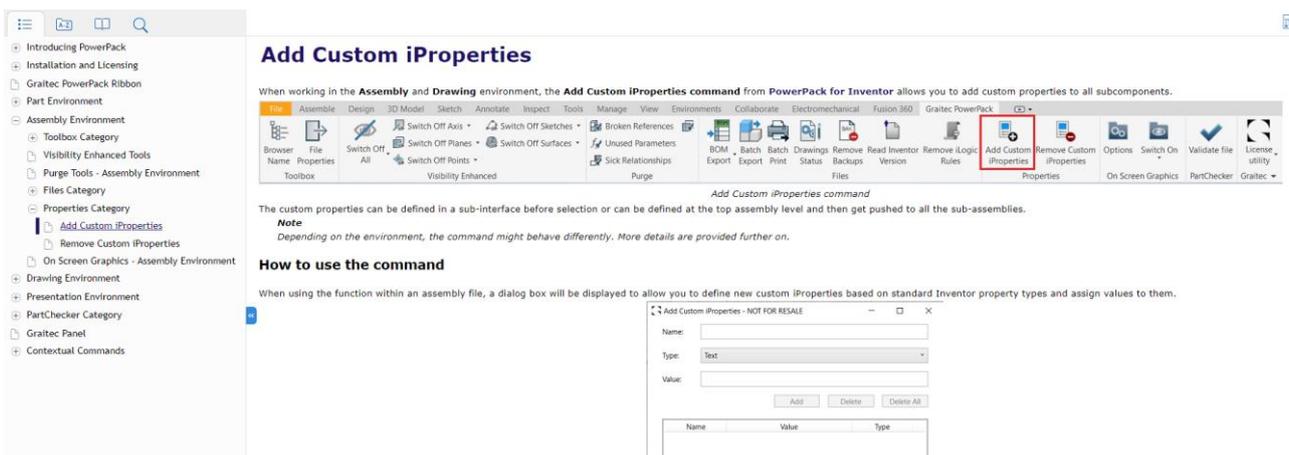
The Help page has dedicated areas like:

- 1- List of commands/Index/Glossary/Search
- 2- Content window
- 3- Search option

Besides the help option available in the GRAITEC PowerPack ribbon, each command has on the dialog a Help button which is linking the command to the help section dedicated to that command.



By clicking the Help button from the dialog of the command, a webpage will be opened in which the dedicated help will be loaded.



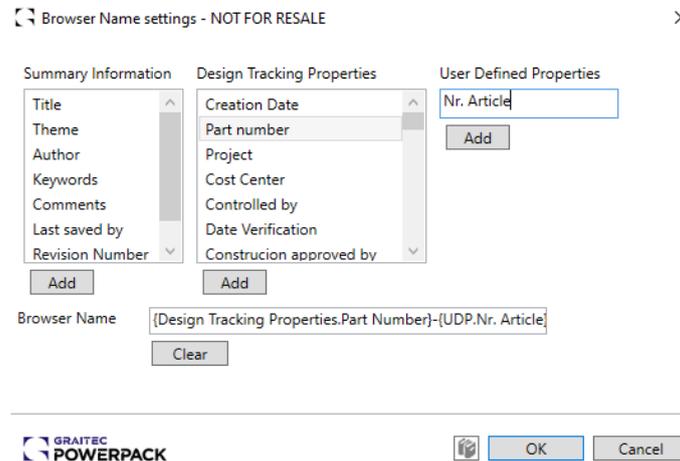
3 IMPROVEMENTS

In this version, at the request of our users, we worked to improve the Browser Name and officially enable the Spanish Localization.

3.1 BROWSER NAME

The Browser Name functionality has been created to allow the user to rename very fast all components of the assembly by applying different properties available in the model or User Defined properties.

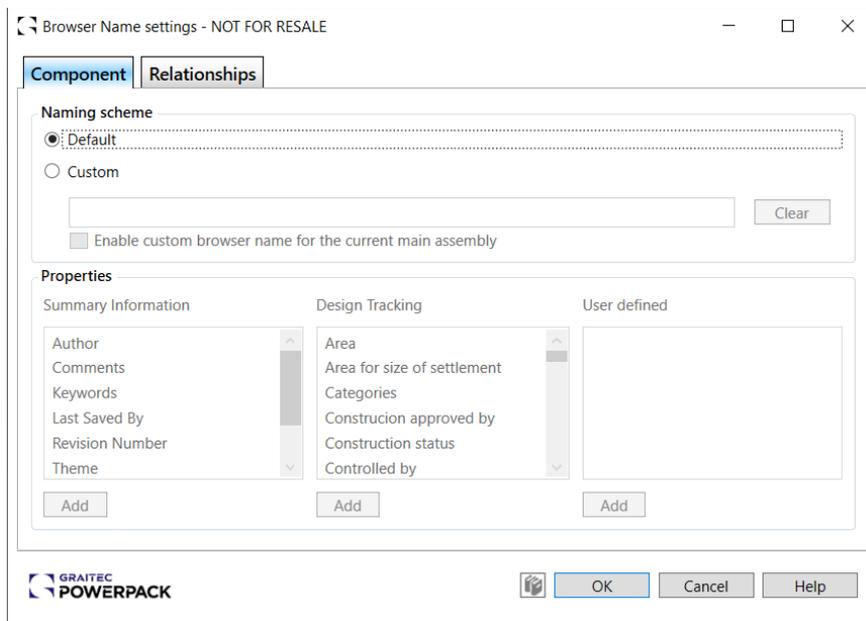
The old Browser Name dialog was looking like this:



Browser Name - Old Version 2023

For version 2024 we worked to improve the User experience and to add more functionality to this command. Therefore, the dialog has been updated and 2 tabs are now available: Component and Relationships.

In version 2024 the Browser Name is looking like this:

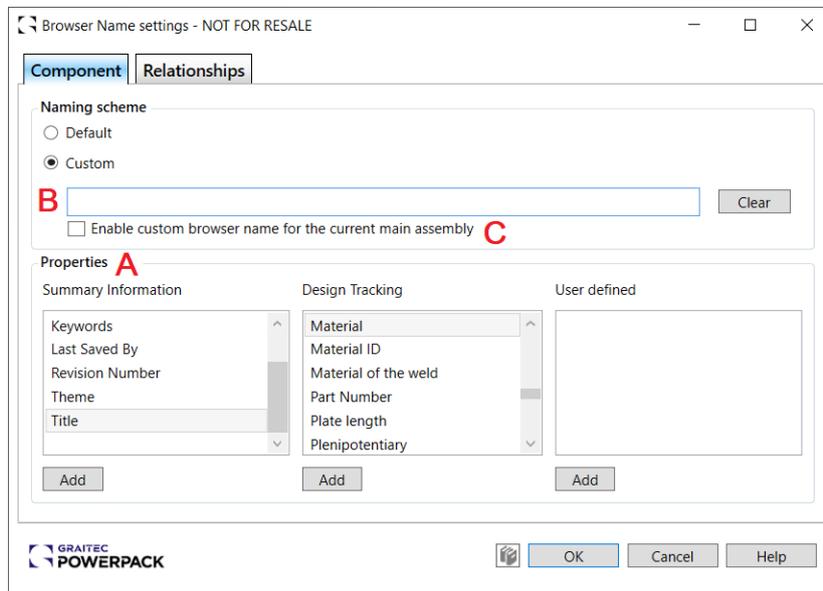


Browser Name - New Version 2024

The **Component tab** has been redesigned and now the Naming scheme can be found at the top of the dialog, with 2 options: Default and Custom.

The **Default option** has been added in case the user would like to go back to the default renaming of the Browser structure.

If **Custom option** is enabled, all options will become active and can be set to rename components.



The **Properties zone (A)** is divided into 3: Summary Information properties, Design Tracking Properties, and User defined properties. By selecting the properties and pressing Add, these will be automatically added in the expression field.

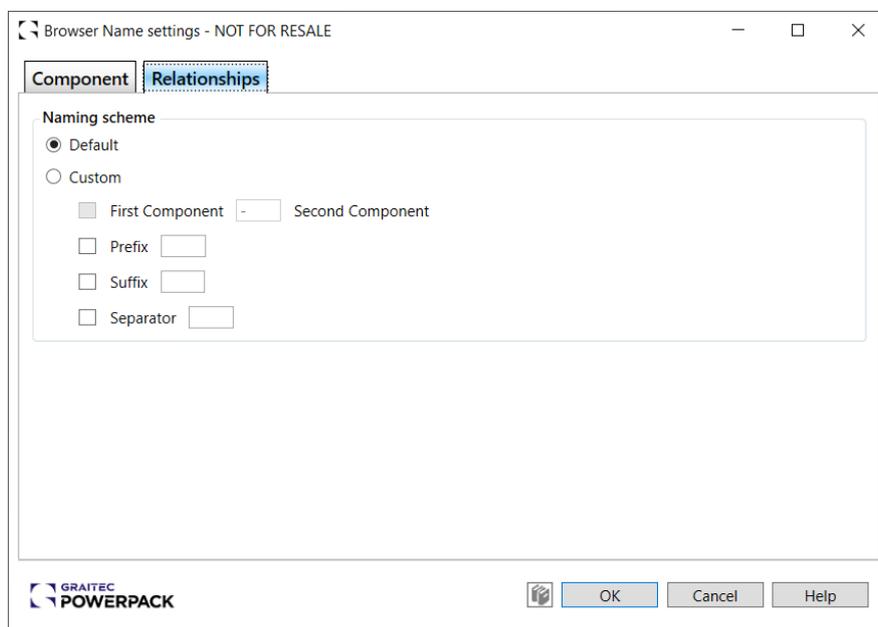
The User defined properties are populated based on the properties defined by the user in the model.

The **expression field (B)** is where the structure of the name is built depending on the selection of the properties. The field is editable and can be cleared by using the Clear option.

When adding the corresponding property, a default separator "-" is automatically added between two properties. This separator can be changed if needed just by replacing it directly in the expression field.

Option "**Enable custom browser name for the current main assembly**" (C) has been added to give the possibility of renaming the current assembly at the browser level. If this option is checked, the main assembly's name in the browser will be changed.

The Relationships tab has been added starting from version 2024, at the users' request.



The **Default option** has been created to allow the user to go back to the default naming in the browser.

The user can add separately a **Prefix** and/or a **Suffix**. If a suffix is added, then the **Separator** is required. Therefore, when the Suffix option is activated, the Separator becomes active as well.

Here below some examples of how the browser name is working on relationships:

Settings:

Naming scheme

Default

Custom

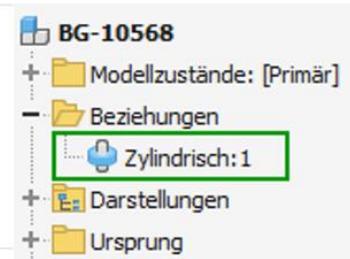
First Component - Second Component

Prefix

Suffix

Separator

Results:



Naming scheme

Default

Custom

First Component - Second Component

Prefix

Suffix

Separator



Naming scheme

Default

Custom

First Component - Second Component

Prefix

Suffix

Separator



If the **Custom** option is enabled, the option **First Component / Second Component** will become active and can be set to rename components.

Settings:

Naming scheme

Default

Custom

First Component - Second Component

Prefix

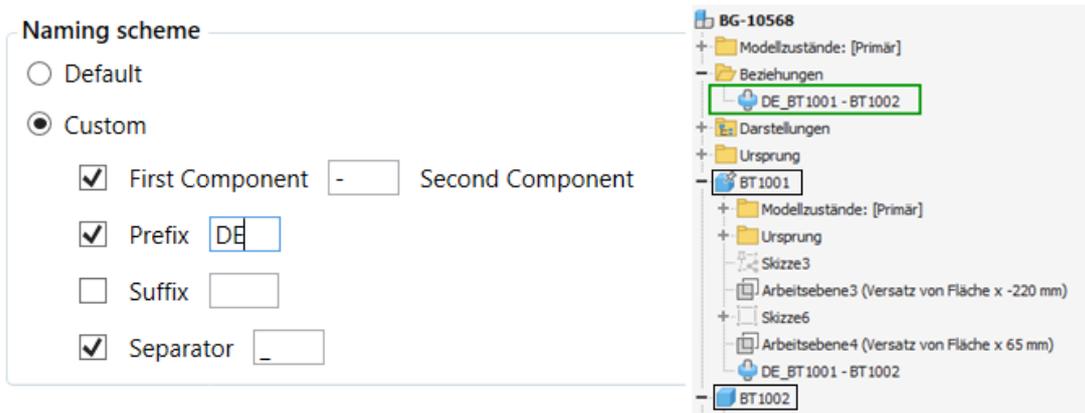
Suffix

Separator

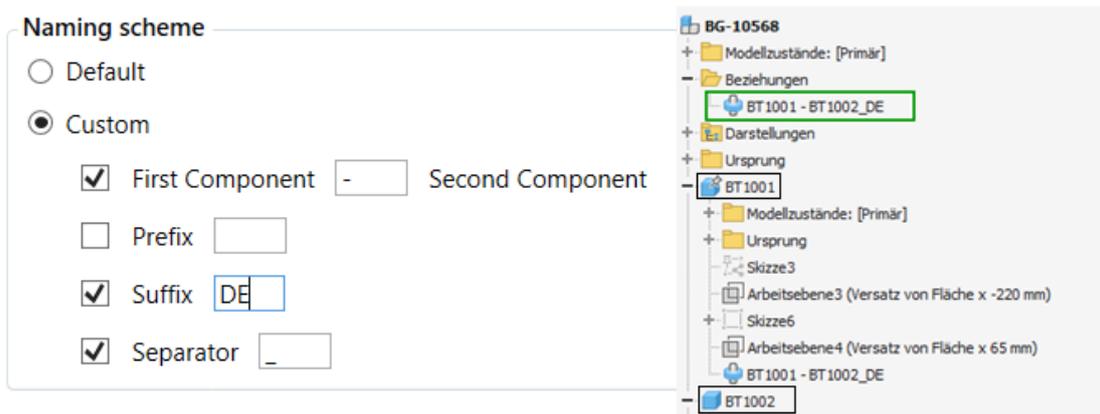
Results:



Custom Settings



Custom Settings + Prefix



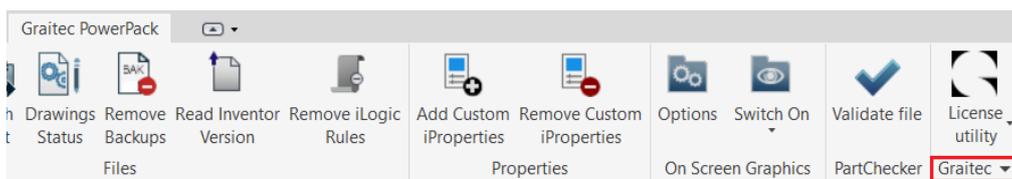
Custom Settings + Suffix

3.2 SPANISH LOCALIZATION

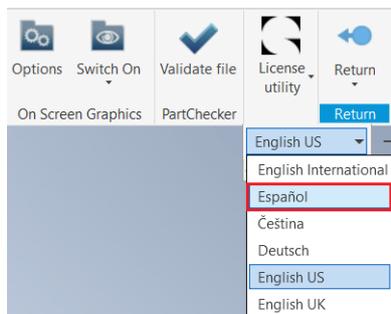
Starting with version 2024 of the PowerPack for Inventor, we officially support the Spanish language.

The PowerPack of Inventor allows to change the interface language directly from the application, without being necessary to reinstall the application.

From the PowerPack Ribbon, go to the GRAITEC command:



Click on the small arrow and choose from the drop-down list Español.



Wait for a few seconds and the ribbon will be changed automatically into Spanish.

