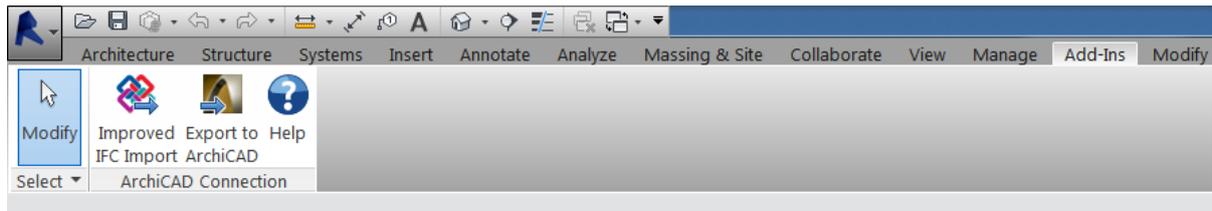


GRAPHISOFT.

ArchiCAD Connection Add-In

The GRAPHISOFT ArchiCAD Connection is a free Add-In for Autodesk Revit 2015 software. The Add-In improves the IFC model-based and bi-directional data exchange between [GRAPHISOFT ArchiCAD](#) and Autodesk Revit.



The GRAPHISOFT ArchiCAD Connection Add-In has two functions:

- “Improved IFC Import” imports IFC models to Revit using extra features that improve the interpretation of architectural models, and
- “Export to ArchiCAD” exports Revit model elements in IFC files that are specially enhanced for use in GRAPHISOFT ArchiCAD.

Improved IFC Import

The “Improved IFC Import” command of the ArchiCAD Connection Add-In is recommended for IFC import of architectural models to Revit applications - especially in case of model exchange with GRAPHISOFT ArchiCAD - and has the following main functions:

- **Direct import of IFC 2x3 (*.ifc and *.ifczip) files**
- **Extra import improvements:**
 - **Set Project Information using IFC Project data:**
The main parameters of the “Project Properties” dialog (Manage > Project Information) are set by mapping the IFC Project data of the IFC model.
 - **Correction of True North settings:**
Revit “True North” data is set by using the North direction of the IFC model.
 - **Conversion of Structural Floor elements:**
Load-bearing IFC Slabs are converted to Revit Structural-type Floor elements.
 - **Improved import of IFC Spaces:**
IFC Spaces (ArchiCAD Zones) are converted to Revit Room elements by placing them at their correct locations.

- **Mapping of ArchiCAD Renovation Status to Revit Phasing:**
ArchiCAD “Renovation Status” is converted to Revit “Phasing” data. Phase mapping takes place based on the current Revit template’s first and last project phase, as defined in “IFC Options” (Open menu).

Example: With the “Architectural” (default.rte) template, the imported ArchiCAD “Renovation Statuses” are mapped as “Existing” and “New Construction” phases. Thus, all imported views are assigned a “Phase Filter” that displays elements having a “New” or “Existing” status (and hides elements having a “Demolished” status).
- **Import of all IFC parameters as schedulable Revit parameters** (optional):
This function imports all Attributes, Properties and Classification Reference data of the IFC model elements as schedulable Revit parameters in the group called “IFC Parameters”. A Property name is shown together with its container (so-called) “Property Set” name in brackets. The value of a Classification Reference parameter is combined from its “Item Reference” and/or the “Name” component.
- **Auto-Join Elements** (optional):
This function joins walls automatically to other walls or to columns. For more control over the import results, try disabling this function.

The steps of the improved architectural model import:

1. In Revit 2015, go to the “ArchiCAD Connection” panel on the Add-Ins ribbon and click the “Improved IFC Import” command.

Note The “Improved IFC Import” function uses the settings of Revit’s “IFC Options” (Open menu). Revit generates “Generic Model” category elements from some special IFC entity types. For example, an IfcFlowController or an IfcCovering element is converted to Generic Model element by default. If you want to manage the target Revit category type for the imported model elements by IFC entity type, you should modify and save the mapping rule before using the “Improved IFC Import” command. The mapping of ArchiCAD “Renovation Status” to Revit “Phasing” is also done based on the template’s phasing settings (if any) defined at “IFC Options” (see above).

2. In the open dialog box, select the IFC (2x3) file you would like to import.
3. The Add-In imports the IFC model with corrections and improvements.
4. After finishing the IFC model import, a dialog box summarizes the results of the improved import processes.

Export to ArchiCAD

The “Export to ArchiCAD” command of the Add-In is recommended for IFC model export from Revit applications to GRAPHISOFT ArchiCAD, and has the following main functions:

- **Direct export of IFC 2x3 (*.ifc and *.ifczip) files**
- **Extra export improvements:**
 - **Export of True North data:**
The Revit “True North” data is mapped to the correct North direction data of the IFC model.
 - **Export of Grid elements:**
Revit Grid elements are converted to IFC Grid elements.
 - **Intelligent export of MEP elements:**
Revit MEP System elements (HVAC, Mechanical, Plumbing & Piping and Electrical Equipment) are exported with intelligent data for converting them to native MEP Modeler elements in ArchiCAD. The [GRAPHISOFT MEP Modeler](#) (installed in the ArchiCAD environment) recognizes the imported MEP elements as such, including their ports, and automatically identifies collisions between the imported MEP systems and the architectural models.
 - **Mapping of Revit Phasing to ArchiCAD Renovation Status:**
Revit “Phasing” data is converted to the appropriate ArchiCAD “Renovation Status”.
- **Customizable export options** (available at “Options”):
 - **Phase to export:**
This option allows you to export only those elements assigned to the phase status selected here.
 - **Export only elements visible in view:**
This option allows you to export elements that are visible in the current view. For example, you can display only the structural or MEP parts of the entire Revit project, then use this option to export these elements only.

Notes

- “Visible” elements include the following:
 - Elements which are hidden due to hidden line or shaded mode
 - Underlays
 - Elements cropped out of the view
- Temporarily hidden elements (using temporary hide/isolate) will not be exported.
- “Revit Categories” marked as “Not Exported” (Export > Options > IFC Options) will not be exported.

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- To export Rooms from a plan view or a section view, select this option. To export Rooms from a 3D view, clear this option.
 - With this option enabled, elements are exported according to the export view's current "Phase Status" (and the "Phase to export" option is not available).

 - **Export annotation elements:**
If you check this box, the export process of the following 2D elements is allowed: annotation texts, annotation region details and architecture lines.

 - **Split walls and columns by level:**
Use this option to divide multi-level walls and columns by level. Such walls and columns will be cut at each level that is defined as a Building Story.

Notes

- If an element's base level is not a Building Story, then that element will be exported with a base level corresponding to the next lower Building Story, plus an offset as needed.
- The original elements will be split into several new elements. Thus, the IFC GUIDs ("GlobalId" IFC attribute) of the original elements will be eliminated, and the newly created elements will get new IFC GUIDs. In the receiving application, which will display the exploded element parts, the original elements will not be identifiable. Consequently, if you use this option, certain workflows that depend on tracking IFC GUIDs (such as the BCF (BIM Collaboration Format) workflow) will not work.

- **Export parts as building elements:**
This option allows you to export element parts (for example the skins of composite walls) as standalone IfcBuildingElementProxy model elements. This option is available only if the "Export only elements visible in view" option is checked.

- **Export internal IFC property sets:**
If you check this box, all Revit parameter groups are exported in specific IFC Property Sets (in addition to the "Common" Property Sets, which are always exported regardless of this option, provided that Revit data are available for them).

- **Export schedules as property sets:**
This option allows you to export Schedule data in specific IFC Property Sets.

- **Export Family and Type name as Reference property:**
This option allows you to set the "Reference" property (of the "Common" Property Sets) value to "FamilyName:ElementName" or "FamilyName".

The steps of the improved Revit model export:

1. In Revit 2015, go to the “ArchiCAD Connection” panel on the Add-Ins ribbon and click the “Export to ArchiCAD” command.

Note If you have special elements in the current model which are not supported by the default Revit export settings, you have to set their export permission in the Export > Options > IFC Options dialog. For example, to export structural connection elements categorized as Structural Connections, just type “IfcBuildingElementProxy” instead of “Not Exported”. Categories marked as “Not Exported” will not be exported.

2. In the export dialog box, set a file name and the IFC file format (*.ifc or *.ifczip) for the export.

Note The zipped IFC (.ifczip) file format is the compressed version of the normal IFC (.ifc) file format. An .ifczip file usually compresses an .ifc down by 60-80%

3. Configure the export options at “Options” if necessary.
4. The Add-In exports the IFC model with corrections and improvements.
5. After finishing the IFC model export, a dialog box summarizes the results of the improved export process.

Useful Links

[GRAPHISOFT site](#)

[Structural Workflows site](#)

[GRAPHISOFT MEP Modeler site](#)

[IFC Downloads site](#)

[Revit Interoperability Downloads site](#)

[Technical Support](#)

[OPEN BIM site](#)

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