

Specify IFC Entities for Families

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Revit 2016

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Help

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Revit exports building elements to an IFC file based on the categories (and subcategories) to which the elements belong.

For example, Revit exports a wall to the IFC entity `IfcWallStandardCase`, because the wall is an element from the wall category. In many cases, exporting elements from Revit to IFC is straightforward and simple, and the default settings make sense.


In some cases, however, you may want to specify the IFC entity to which elements from a particular family should belong. For example, suppose you design an escalator family. It belongs to the Generic Model category, and you create for it a subcategory called Escalator. You want to ensure that when you export a project to IFC, an escalator is properly (and automatically) mapped to the class `IfcTransportElement` and the type `IfcTransportElementType`.

To map a family to an IFC entity

1. Create shared parameters named `IFCExportAs` and `IFCExportType`. See [Shared Parameters](#).

Save these shared parameters to a file that resides in a network location, so that you can add the parameters to other families and projects. You can also use the shared parameter file that Revit makes available (`IFC Shared Parameters.txt`). See [Access IFC-Specific Files](#) for information on how to access this file.

For example, in a folder where you store other corporate standard files, create a parameter file named `IFCexportParameters.txt`. You only need to create these shared parameters once. You can reuse them in multiple families.

2. Use the Family Editor to create a new family or to modify an existing family. See [Revit Families](#).
3. Add the shared parameters to the family:
 - a. In the Family Editor, click Create tab ► Properties panel ►  (Family Types).
 - b. In the Family Types dialog, for Name, select a family type.
 - c. Under Parameters, click Add.
 - d. In the Parameter Properties dialog, under Parameter Type, click Shared parameter, and click Select.

- e. Navigate to the shared parameters file that defines IFCExportAs and IFCExportType (for example, IFCexportParameters.txt), and open the file.
- f. In the Shared Parameters dialog, under Parameters, select IFCExportAs, and click OK.
- g. In the Parameter Properties dialog, under Parameter Data, for Group parameter under, select IFC Parameters.
- h. Make sure that Type is selected, and click OK.


In the Family Types dialog, IFCExportAs displays in the parameter list.

- i. Under Parameters, click Add.
- j. In the Parameter Properties dialog, under Parameter Type, click Shared parameter, and click Select.
- k. In the Shared Parameters dialog, under Parameters, select IFCExportType, and click OK.
- l. In the Parameter Properties dialog, under Parameter Data, for Group parameter under, select IFC Parameters.
- m. Make sure that Type is selected, and click OK.


In the Family Types dialog, IFCExportType appears in the parameter list.

4. Specify values for IFCExportAs and IFCExportType.

When you add the shared parameters to one family type, Revit automatically adds them to all types in that family. Next, you can specify values for each parameter in each family type.

- a. In the Family Types dialog:
 - For Name, select a family type.
 - For IFCExportAs, specify the desired IFC class.
 - For IFCExportType, specify the desired IFC type.
 - Click Apply.
 - b. Repeat the previous step to define the IFC parameters in Family Types dialog for each of the remaining types in this family.
 - c. When you have defined values for all family types, click OK.
 - d. Save changes to the family.
 - e. If you want to load the updated family into a project, open the project. Then return to the Family Editor, and click Create tab ► Family Editor panel ►  (Load into Project).
5. Check parameter values in a project (optional).

You can verify the IFC export parameter values assigned to an element in a project.

- a. In the project, select an element that belongs to a family to which you added the shared parameters IFCExportAs and IFCExportType.
- b. On the Properties palette, click  (Edit Type).
- c. In the Type Properties dialog, scroll down to the IFC Parameters group.

The IFCExportAs and IFCExportType parameters display the values that you specified for the family type. When you export the project to IFC, elements in this family will be mapped to the specified IFC class and type.