



corenetx

IFC-SG Revit Content “How To” Guide

Version 2.0, 25 November 2023

Introduction

The CORENET X team has engaged with Autodesk to build tools and content for Autodesk Revit to enable design and construction teams to deliver projects that meet the IFC-SG standard. This guide describes those IFC-SG tools and content for Revit as well as provides a step-by-step process for how to use them.

Resources

The following software tools and content for Revit are provided to assist with IFC-SG compliance.

Tools

- Autodesk Shared Parameters Tool for Revit (SPT)
- Autodesk Standardized Data Tool for Revit (SDT)
- Autodesk Model Checker for Revit (MCX)

All of these tools come standard with the Autodesk Interoperability Tools (formerly the BIM Interoperability Tools). They are free to all Revit users and can be downloaded from:

<https://manage.autodesk.com/>

Content

- 1 SPT Configuration File (“IFC-SG_SPTConfiguration_v2.0.xml”)
- 1 MCX Checkset File (“IFC-SG_ModelValidationChecks_v2.0.xml”)
- 2 Shared Parameters Files, one with all parameters in a single IFC-SG group and one with the parameters in groups based on their discipline
 - “IFC-SG_SharedParameters_v2.0.txt”
 - “IFC-SG_SharedParameters_ByDiscipline_v2.0.txt”

These files can be downloaded from the dedicated content page for IFC-SG:

<https://interoperability.autodesk.com/singapore/>

Process

The process to follow includes the following five steps, each of which is described in more detail below.

- Step 1 – Add Parameters to Your Model
- Step 2 – Designate the IFC Classes
- Step 3 – Validate the Parameters
- Step 4 – Populate the IFC-SG Parameters
- Step 5 – Export to IFC

Unless otherwise noted, all steps shown in this guide are for Revit 2023. The IFC-SG tools and content work on all currently supported versions of Revit (2021 through 2024). The steps below will be the same for the other supported versions of Revit, with the exception of possible variations in user interface elements.

Step 1 – Add Parameters to Your Model

The first step is to add all the IFC-SG parameters to your model.

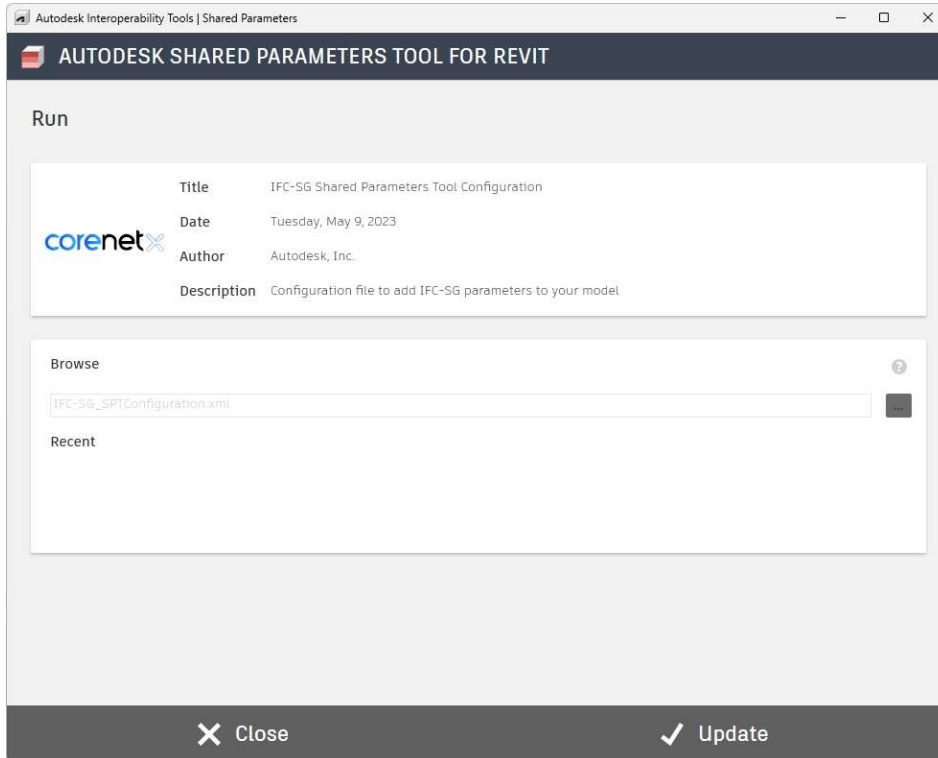
- 1.1 Download the Shared Parameters Tool configuration file for IFC-SG from the dedicated web page at:

<https://interoperability.autodesk.com/singapore/>

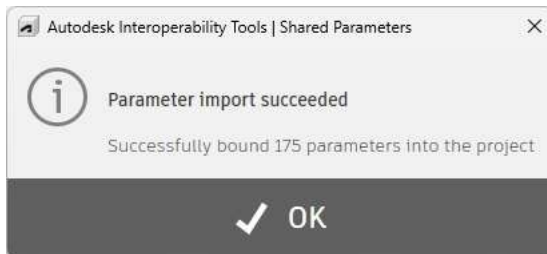
- 1.2 Open your Revit model, click on the “Interoperability Tools” ribbon tab, and click the “Run” button on the “Shared Parameters” panel:



- 1.3 Use the browse button to find the SPT configuration file you downloaded, then click the “Update” button:



- 1.4 “OK” out of the confirmation dialog box when complete:



Step 2 – Designate the IFC Classes

The second step is to designate the IFC classes for all the elements in your model. This process is different based on the version of Revit you are using.

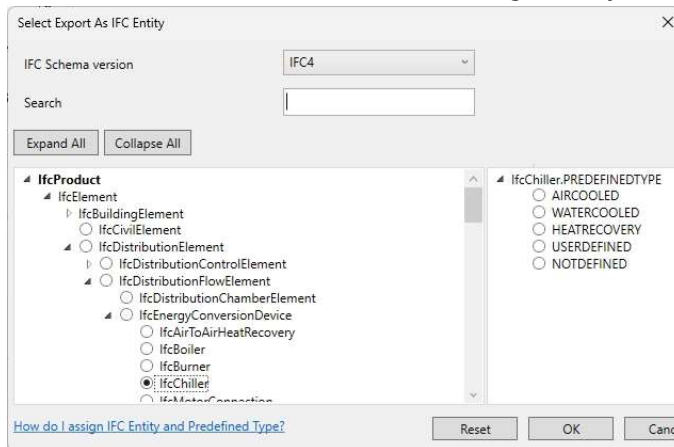
For Revit 2023 and newer...

You will use the built-in IFC tools in Revit.

- 2.1 Select one or more elements in your model that are to be exported to the same IFC class.
- 2.2 From the Properties palette, click into the “Export to IFC As” field, then click the browse button:



- 2.3 Find the correct IFC class value and assign it to your elements:

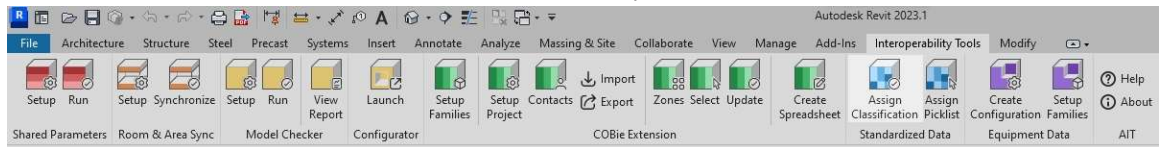


For Revit 2022 and older...

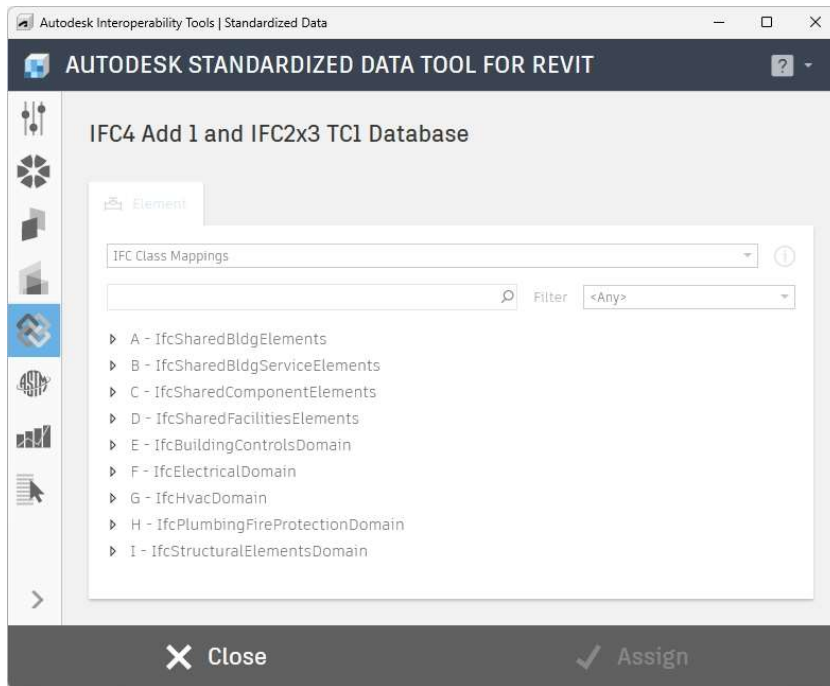
You will use the Standardized Data Tool for Revit.

2.4 Select one or more elements in your model that are to be exported to the same IFC class.

2.5 Click on the “Interoperability Tools” ribbon tab, and click the “Assign Classification” button on the “Standardized Data” panel:



2.6 Click the “IFC” option on the left side navigation menu and load the database:



2.7 Find the correct IFC class value and then click the “Assign” button.

Step 3 – Validate the Parameters

This third step utilizes the Model Checker to validate that your model has the IFC-SG parameters added to the appropriate family categories based on the IFC class you have assigned to them.

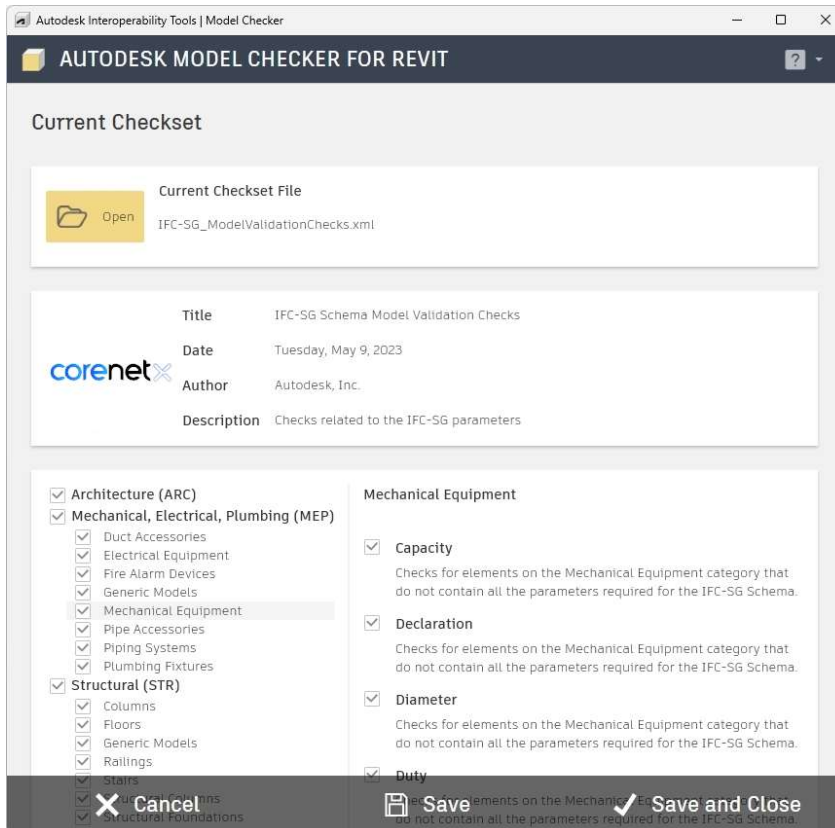
3.1 Download the Model Checker checkset file for IFC-SG from the dedicated web page at:

<https://interoperability.autodesk.com/singapore/>

3.2 Click on the “Interoperability Tools” ribbon tab, and click the “Setup” button on the “Model Checker” panel:



3.3 Use the “Open” button to find the MCX checkset file you downloaded. Check or uncheck any sections of the checkset you need, then click the “Save and Close” button:

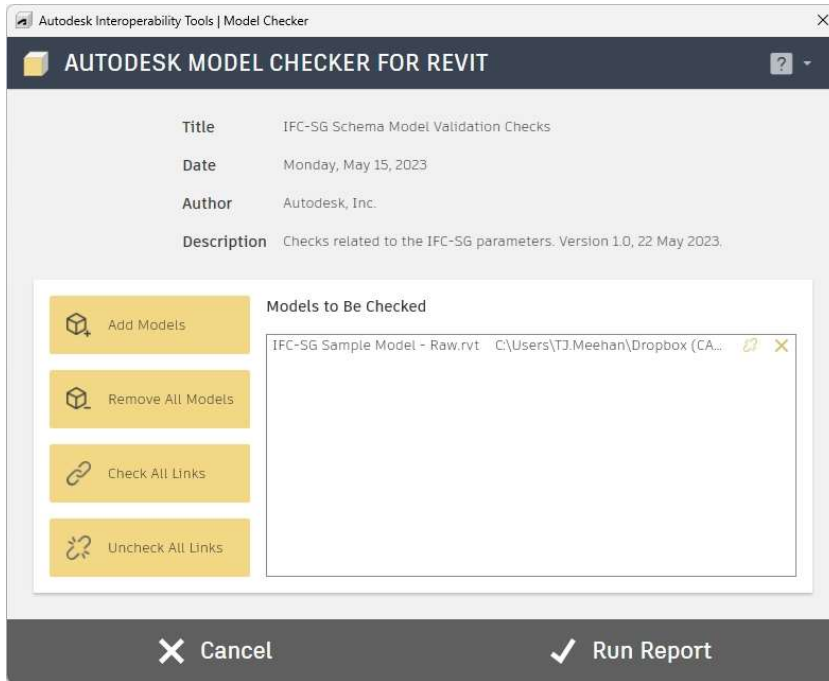


3.4 Click on the “Interoperability Tools” ribbon tab, and click the “Setup” button on the “Model Checker” panel:

3.5 Click on the “Interoperability Tools” ribbon tab, and click the “Run” button on the “Model Checker” panel:



3.6 If you need to add any links or additional models, do so using the buttons on the left. When finished, click the “Run” button:



3.7 Once complete, review the report. Based on the findings, adjust your model as necessary.

Step 4 – Populate the IFC-SG Parameters

For this fourth step, use the Revit tools and techniques you know to populate the IFC-SG parameters with the appropriate and necessary data.

All IFC-SG parameters are grouped under the “IFC” data header:

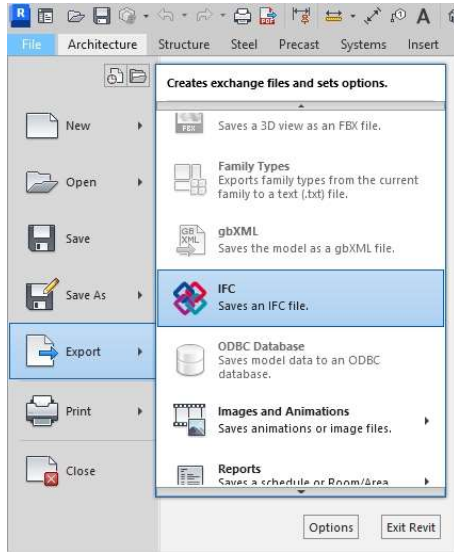
IFC Parameters	
IFC Predefined Type	
Export to IFC As	IfcChiller
Export to IFC	By Type
IfcGUID	1EmNM5msvCmuC10Tz8hLj\$
Declaration	
Standby	<input checked="" type="checkbox"/>
NominalCapacity	
IsPotable	<input checked="" type="checkbox"/>
Duty	<input checked="" type="checkbox"/>
Width	
Length	
Capacity	
BarrierFreeAccessibility	<input checked="" type="checkbox"/>
Diameter	
Thickness	
Height	
Hose_NominalDiameter	
IfcObjectType	
IfcExportAs	IfcChiller

Step 5 – Export to IFC

Once the first four steps are complete, you are ready to export your Revit model to an IFC model.

5.1 Make sure you have installed the latest “IFC for Revit” extension for your version of Revit. You can get this extension from your Autodesk account at: <https://manage.autodesk.com/>

5.2 The exporter can be found from the “File > Export > IFC” option in Revit:



If you are using Revit 2024, you have the option to choose “IFC-SG Regulatory Requirements View” as your option for the “Export setup”:

