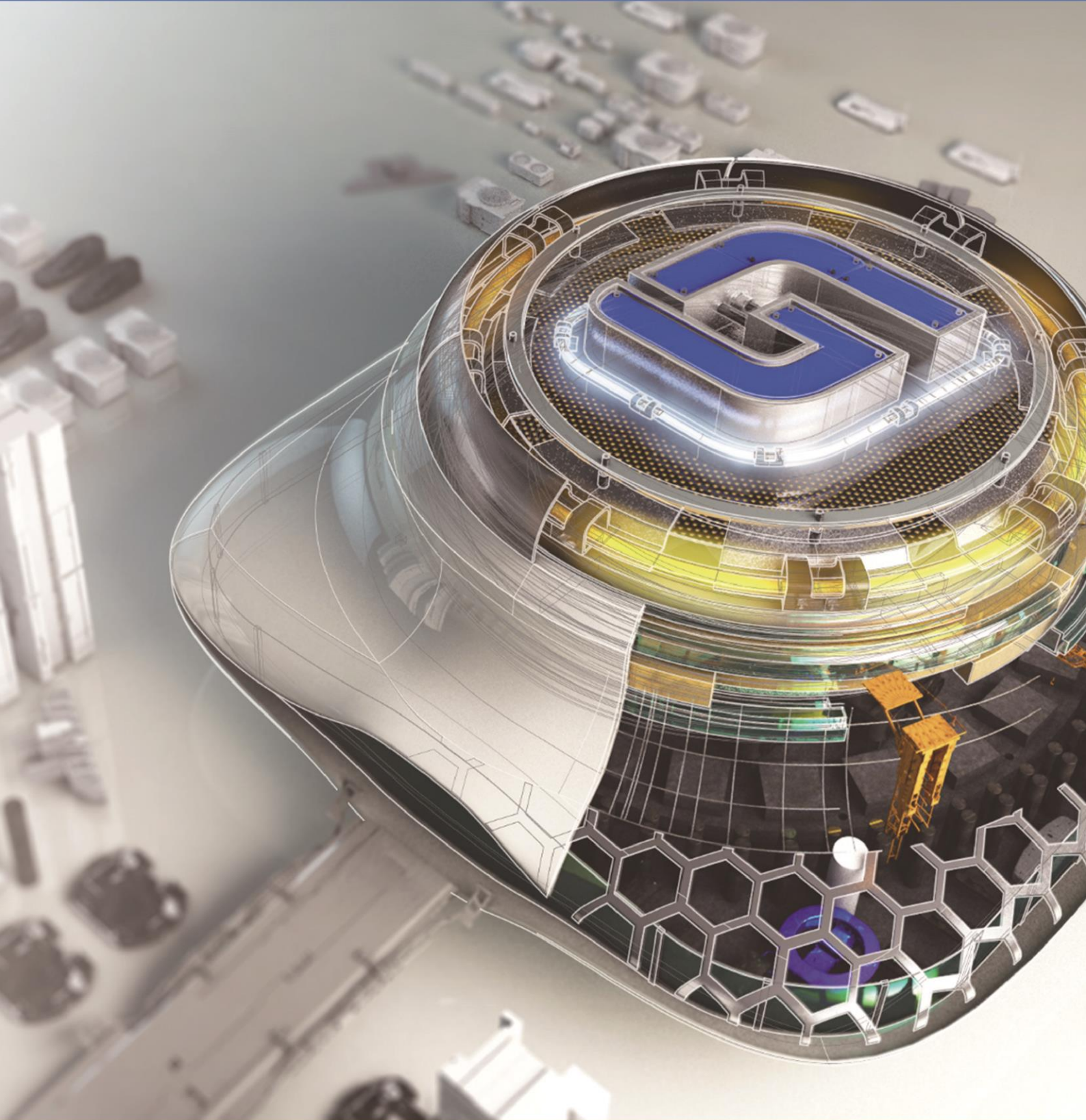




IFC Import and Export Guide

GstarCAD 2019 SP2



IFC Import and Export Introduction

1. Overview

With GstarCAD 2019 SP2, you are able to import the standard IFC files Ifc2x3, Ifc2x2_Final and Ifc2x_Final, and export standard IFC file Ifc2x3.

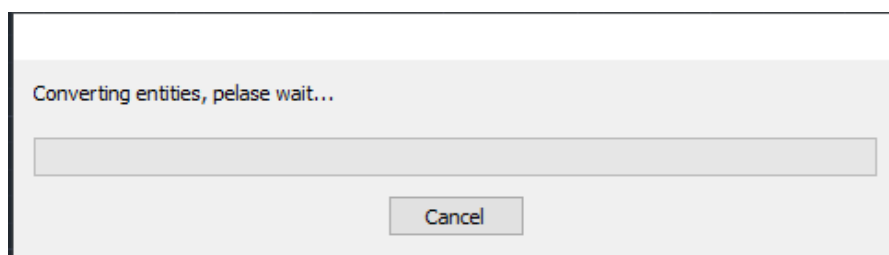
You can view the imported 3D models in GstarCAD by category and perform Move, Delete and other operations. Commands for Import, Export, and View are “DRIFC”, “DCIFC” and “IFCPANE”.

2. Import function

After running “DRIFC” command, please enter keyword “AEC construction entity(A)” or “Block reference(B)”, then please specify the IFC file to be imported in the pop-up box.

By “Block reference (B)”, IFC data will be converted to block reference objects; by “AEC construction entity (A)”, construction entities(such as walls, pillars & columns) will be converted to GstarCAD-defined objects which could be modified then.

A process bar will pop up when running IFC import/reading functionality and entity conversion functionality. You can cancel the ongoing process by clicking “Cancel” button, as shown in the following picture.



The import process might take from a few seconds to one or two minutes depending on the size of the IFC files. The number of imported entities will be displayed in the command bar, indicating the import has been successfully completed. If you cancel this ongoing process, a message “Import canceled by users” will be displayed in the command bar.

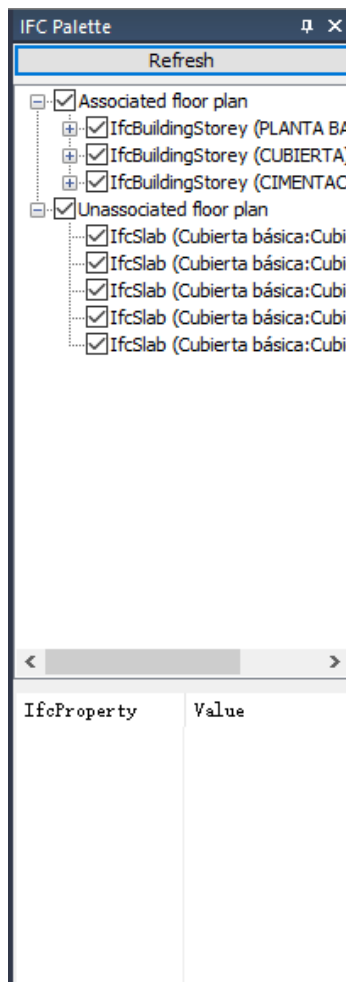
```

Command:
Command:
Command: DRIFC
Please specify the entity type [Architecture/Block] <A>: b
Regenerating model.
Imported: 239 entities.
    
```

After the import is completed, all imported entities will be displayed in southwest isometric view.

3. View entity

By running “IFCPANE” command, the IFC panel will be shown on the right side of the screen by default, as shown in the following screenshot:



IFC panel is a dockable window that you can choose to close via pushbutton in the upper right corner of the window, you can resume it by entering command “IFCPANE”. If you open multiple drawings in GstarCAD, please click the Refresh button in the IFC panel so as to have the data of current drawing been displayed.

Data displayed in IFC panel contain two categories: IFC entities and associated storeys; attribute

value (such as survival attribute) of a certain IFC entity.

3.1 IFC Entity Information

The node of tree view control is presented by “Ifc class name (Ifc entity name). The Ifc class name stands for the IFC class name such as IfcWindow, IfcBuildingStorey, which are based on the given IFC standards. Ifc entity name is the content of the Name field in superclass IfcRoot of certain Ifc entity.

The node of tree view control contains check box where you can check/uncheck in order to show/hide the imported entities.

3.2 IFC entity attribute

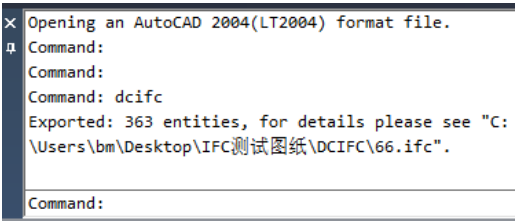
You can view attribute information in the lower part of the IFC panel if the imported IFC entity has an attribute. There are two lines in attribute list with the attribute name on the left and the attribute value on the right, corresponding to IfcProperty of the IFC standard. The grouping items of list control correspond to IfcPropertySet in IFC standard.

4. Export function

The command of export is “DCIFC”, by running “DCIFC”, the current opened dwg drawing will be exported to and IFC file.

Please specify the IFC file where you want to save. When you click on the Save button, the exporting process bar is displayed, during this process, you can click on the “Cancel” button to cancel the export process.

When the export process is completed, the number of exported entities and the path of exported files will be displayed in the command bar, as shown in the following screenshot.



```
× Opening an AutoCAD 2004(LT2004) format file.
# Command:
Command:
Command: dcifc
Exported: 363 entities, for details please see "C:
\Users\bm\Desktop\IFC测试图纸\DCIFC\66.ifc".
Command:
```

5. FAQ

1. Is IFC import and export model installed by default?

Answer: While installing GstarCAD, please click Option, select the option to install “IFC import and Export model” option.

2. Does the program support import of files in IFC4 format?

Answer: The program currently supports standard IFC file of Ifc2x3, Ifc2x2_Final and Ifc2x_Final.

3. Will the program detect content errors in the IFC file to be imported?

Answer: When the entity class of IFC file is incorrect, the program will terminate the import process and give an error message, as shown in the following picture.

```
Command:
Command:
Command: DRIFC
Please specify the entity type [Architecture/Block] <B>:
ERROR: Syntax error on entity definition #12951, line 9895
Command:
```

The program will ignore data error in IFC file and will not generate the corresponding model.

4. Why is the location of the wall hole incorrect while importing the IFC file as AEC entities?

Answer: This happens when importing a whole building, and the main reason is that in the same 2D coordinates, GstarCAD doesn't support simultaneous display of upper and lower storeys (the difference is elevation height). We recommend you to import as a reference block.

5. After importing the IFC file, why are there entities of unassociated storeys in the IFC panel?

Answer: Two possible reasons: First one is there are entities in the IFC file that are not associated with storeys. Second one is the child entities of the combined entities have no information about associated storeys.

6. Will the IFC attribute be exported together?

Answer: Currently the attributes will be exported include layer, color, material, and other information.

7. How to define the storey of the entities while exporting to the IFC file according to the current drawing?

Answer: If exported according to the current drawing, all entities to be exported will be on the same storey due to no storey has been defined in the CAD and the storey elevation in IFC is 0.0mm.

8. What object can be imported?

Answer: Predefined curves supported: rectangle, I type curve, U type, L type, T type, circle, polyline and combinations between them; 3D modeling supported: face extrude, flat combination, map (one-layer map only); for creating holes: face extrude- creating holes with face extrude; combination of surfaces.

9. Why there is something missing in the imported file?

Answer: the import of the software is only for parts of predefined curves, part of 3D modeling and for creating holes. Please refer to previous passages for file formats that can be imported for those that the software doesn't support cannot be imported. If the combined curves contain one base curve that is not supported by the software, the whole combined curves cannot be imported.

10. Why the exported model is small?

Answer: The default unit for export is mm, if the unit of the imported model is M, then the size will be ten times different. You can enlarge it as they want.