



Twinview Best Practice Model Guide

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Twinview[®]

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Introduction

This document describes the process for getting maximum information from the models that can be loaded into Twinview.

It should be noted that this guide is written as a good practice guide, and you should contact a Twinview implementation specialist for project specific advice.

Supported File Formats

Twinview supports over 148 file formats, including native formats such as Autodesk Revit, Navisworks, and Bentley AECOsim etc.

Twinview also supports open standards such as IFC 2x3 and IFC4, so depending on your workflows this may be your preferred option for providing models for upload.

Where available and possible we recommend using Native formats as Twinview has been designed to understand the proprietary data schemas inherently available in these formats, and may provide additional benefits over open formats such as IFC. A couple of examples are sheet support, realistic materials, and weather location data.

Model Preparation

Twinview is designed to understand the 3D model, the inherent data schema, the data itself and the relationships in the models. There are several good practice checks that you should perform before uploading your models.

- **For native formats that support sheets such as Autodesk Revit, we recommend leaving your sheets in the model.** Some consultants make a habit of deleting any sheets before issuing their models, however if these sheets are left in, Twinview will bring these through into the 2D Sheet browser automatically and build the relationships between the 2D & 3D. It is also recommended that any views on sheets are set to vector rather than raster if your software supports this option.

If the sheets are removed, then they can still be uploaded as a separate process, but the 2-way asset relationships may not pull through automatically.

- **If your software supports it, then ensure that you have rooms placed correctly and that they are named properly** Twinview will extract these rooms and the associated levels automatically and build the relationships between levels, rooms/spaces, and assets. It also allows export of room volumes for Heatmapping etc.

*If using Autodesk Revit also ensure that you have your room settings to 'Calculate Areas and Volumes' and not 'Calculate areas only'.

*If using IFC formats ensure that when exporting IFC from your authoring software that spaces are defined properly as 'IFCspace' and that they are included in the export

settings as some software allows for these to be removed or have them removed by default.

- **Twinview will take the default 3D view in the model, and as such this view should represent what you want to be show in Twinview.** You should remove any colour overrides, and section boxes etc in the default view.

For Autodesk Revit you should ensure that the default view also has the correct phasing set (normally '*Show Complete - New Construction*'). You should also ensure that the model LOD/Graphic representation is set to 'Fine Detail', this will ensure that all geometry is exported. This is especially important for MEP models where services will typically show as symbolic lines in anything but 'Fine Detail'.

Models created in 3D software that supports multiple 3D views/representations may require the default view to be specifically defined. For example, in Autodesk Revit you can find the option to set the default 3D view in the manage tab.

- If uploading multiple models, ensure that they all share the same coordinate system and are located correctly in 3D space. Also ensure that all units are consistent between all the models. While it is possible to move and transform the models once they are in Twinview, making sure that this is correct in the native models is the preferred and good practice.

LOD (Level of Detail)

Twinview has no minimum model requirements and can work with 2D or even with no 3D/2D at all. The complexity/detail of the model and what is and what is not modelled will be dependent on the project requirements and the specific use cases.

Twinview supports everything from 'No Model' to fully detailed Fabrication level LOD500 (LOD6) models. We recommend you speak with a Twinview implementation specialist to discuss your requirements.

Data Preparation

If created in an intelligent BIM software, there is a good amount of data available by default in the models. For example, even if no specific classification exists, everything belongs to a software category and Twinview will understand this data. For example, in Revit when drawing a pipe run, that pipe must belong to a system. Twinview understands this data and will pull through all the information automatically. The same logic applies for Levels, Room, Spaces, Assets and their relationship to each other.

Twinview also understands asset/object meta data that may exists in the model in an industry recognised format such as COBie.

Where a classification exists in the model data, Twinview will understand this and utilise this data for internal classification for rooms, spaces, assets, systems and levels etc.

Twinview supports multiple international classification systems out of the box such as Uniclass, Omniclass and CiSFB. If a custom classification is used this can be added in the classification manager via the admin area before uploading the model. If no classification is found Twinview will create one based on the inherent data.

Non intelligent models created in 3D software that does not support data (Autocad, Sketchup, Grasshopper etc) can still be uploaded, and the data mapped using the data importer and mapping tools built into Twinview. This process will be specific to your project and the implementation, and it is recommended you contact a Twinview implementation specialist for advice or training.

Extracting 'Maintainable' Assets Automatically

Twinview brings all model objects and their data into Twinview as objects with data, however only 'maintainable assets' are accessible through the Facilities management interface, and can be used with IOT data streams.

While you can upgrade an object to be a maintainable asset through the Twinview interface (or in bulk via the data import tool), Twinview can automatically make assets maintainable when the model is uploaded. This saves time and makes it much quicker to onboard a project with 10,000s of maintainable assets.

If your model has COBie data, there will be an 'AssetIdentifier' parameter as part of your asset data schema. Typically, this parameter is only populated if the asset has been assigned a unique value. If Twinview finds objects with the 'AssetIdentifier' populated, then these objects will be automatically upgraded to be maintainable assets as part of the model upload process.

If your model/project does not use COBie or does not have a 'AssetIdentifier' parameter then you can define your own parameter to use in place of this. For example, 'Asset ID'. This parameter must be established and set before the models are uploaded.

NOTE: *The above are best practice scenarios based on your models been built in accordance with industry standards, however it is important to understand that Twinview has a comprehensive data manager that allows data to be imported, mapped, and manipulated easily. This allows for models with poor, inconsistent, or missing data to still be onboarded successfully by our implementation team.*

Known limitations.

- Models over 200 miles wide (large linear infrastructure) may require the models splitting and an alternative approach.