

SketchUp Wavefront OBJ Exporter – Version 4.0.4

I. Overview

The SketchUp OBJ exporter extends the export capability of SketchUp by providing an additional export type in the File > Export > 3d Model dialog. OBJ is a legacy ASCII format developed by Wavefront/Alias Software.

II. What's New?

- Support for positioned textures. The positioning of textures is now preserved upon export.
- Support for transparent materials. The transparency of materials is now exported to the OBJ file.
- Support for double-sided faces. A new option, "Export faces double-sided", has been added to the UI. This option, which allows the export of a back-side material, exports an additional face with flipped normals and reversed vertices.
- Support for object hierarchy. The OBJ output now supports a flat set membership hierarchy, meaning that the format understands which objects belong to any set. It is important to note that it does not support a tree hierarchy meaning it doesn't know if one particular set is actually a component part of another set. This limitation is a limitation of the OBJ format itself.
- Support for raster image objects. Raster images are now exported.
- Support for object visibility. Only visible objects are output to the OBJ file.
- Exported material names are now based on the name of the material in SketchUp vs. being based on the name of the underlying texture file.
- A version number has been added to the OBJ Options dialog so that you can verify you are on the latest release.
- In addition to the above, many bug fixes have been made.

III. Installation

It is not necessary to uninstall a 3.x version of the OBJ exporter prior to installing the 4.x version.

PC:

1. Download the install and double click on it to launch the installer.
2. Follow the installer directions.

Mac:

1. Download the install and double click on it - this will unzip the installer and create a file named skp2obj_eng.pkg.
2. Double click on the skp2obj_eng.pkg file to launch the installer.
3. Follow the install instructions.

IV. Use

To access either exporter, while in SketchUp:

1. Choose File > Export > 3d Model.
2. In the "Export type" (PC) or "Format" (Mac) drop down, choose "Alias (obj)"

V. Options

Selection only

When enabled, SketchUp exports only geometry that is selected. If nothing is selected, the entire model is exported. When disabled, the entire model contents are exported regardless of what is selected.

Triangles only

When enabled, SketchUp breaks up the output into triangles instead of multi-sided faces.

Swap YZ coordinates (Y is Up)

By enabling this option, SketchUp outputs the model with the vertical direction as Y. This is the default for some applications such as Maya. When disabled, the exported model uses the same Z=up system that SketchUp uses internally and is used by applications such as 3D Studio Max.

Export edges

When enabled, SketchUp writes out OBJ line entities for its own edges. When disabled, SketchUp ignores edges. Most applications will ignore edges on import, so you don't need them in those cases.

Export faces double-sided

When enabled, this option outputs each SketchUp face twice - once for the front and once for the back. This doubles the number of polygons in the resulting OBJ file and can slow down rendering, but it ensures that your model will look more like it does in SketchUp. Both faces will always render, and faces that have two different materials on the front and back are preserved.

Units

This determines the unit size in the OBJ output.

VI. Known Issues and Limitations

1. The OBJ format comes from an older generation of software which does not support spaces in filenames. Whenever SketchUp finds a potentially invalid character in a file name, it will replace it with an underscore '_' character.
2. By default, SketchUp exports faces in a direct configuration to the OBJ file. However, we have found that some OBJ importers can't handle triangulation very well, resulting in faces that appear to be missing or reversed. One workaround is to use the "Triangles only" option. This option causes SketchUp, as it exports, to create triangles in a way that less capable importers can still read them properly. The negative to this option is that it does create a busier mesh, but it's a better representation. Another alternative is to open the OBJ file in a fully capable application and then export it as another format.
3. Currently, smooth face sets in SketchUp are converted to faceted faces when exported to OBJ. We are looking at adding this functionality in a future release.
4. The OBJ output supports a flat set membership hierarchy meaning that the format understands which objects belong to any set. It does not support a tree hierarchy meaning it doesn't know if one particular set is actually a component part of another set. This is a limitation of the OBJ format itself.
5. SketchUp outputs polygon faces only. It doesn't spit out nurbs or any of the more advanced OBJ entities.
6. On the Mac, our experience is that some images (e.g. PNGs/JPGs) do not show up in Maya when included in an OBJ file. We believe that this issue is due to a Mac Maya bug.
7. The UV coordinates for textures applied to components/groups are incorrect. Specifically, if you export a component/group which has a texture applied to it, the texture will exist but will look displaced. We hope to fix this in a future release.
8. The back-to-back export of models to OBJ can sometimes result in a failed export. When this situation occurs, we display the following message:

SketchUp SDK Error: An error has occurred resulting in an invalid OBJ file when performing several back-to-back exports without closing SketchUp between each export. Try closing SketchUp, opening your model, and immediately exporting again. @Last Software is working on a solution to this error.

As stated in this error message, if you run into this problem, close SketchUp, re-open the model, and immediately export it again.

9. The presence of *.bmp images in SketchUp models can cause textures to not export accurately on the Mac. We hope to fix this issue in a future release.

10. Only one version of the OBJ exporter can run at a time. This means that if you install the 4.x exporter, you will see the exporter in SketchUp 4.0, but no longer see the 3.x OBJ exporter in SketchUp 3.x. We hope to be able to have the ability to run multiple versions in a future release.