

# A R C H | V I S U A L S

## *SweepProfilePro for modo301*

*SweepProfilePro (SPPro) extrudes in-built and user generated profiles along a path defined by vertices producing a mitre type joint at each point.*

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## *Feature List*

### *New Features for v1.3*

#### **“Square Off” Swept Geometry Ends**

- The start/end of the swept geometry is usually aligned to the direction of your path. However, with this option selected the ends of the swept geometry are “squared off” i.e. The points are projected to an imaginary vertical plane which is inline with the start/end of your selected path.
- This is especially useful for architectural work, for example, to “square off” Bargeboards, Fascia & Soffit extruded along a gable or shed roof etc. This method maintains the original profile size/volume i.e. no distortion.
- Note. “Square off” to vertical only. Where Y+ axis is up (modo's default).

#### **Other tweaks**

- “Progress Bar” re-activated for use when sweeping polygons in normal sweep mode. This allows you to cancel the sweep in case you forget to select Speed (long path) Mode when using long paths.

### *New Features for v1.2*

#### **Align and Sweep Multiple Profiles at the Same Time**

- You can now align and sweep multiple profiles at the same time. This feature works with all the alignment tools in the current SPPro toolset e.g. Spin Align Edge, Align to Point, Bounding Box etc. (see below).

#### **Preserves Original Materials**

- Swept geometry is now assigned the same material as the original profile/s.

#### **Zoom Option**

- This automatically zooms all active 3D viewports around the aligned profile, making it faster to do fine alignment to the first vertex in the sweep path.

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## New Features for v1.1

### **Speed Mode**

- This allows you to extrude profiles along very long paths creating thousands of polygons.. For example, extruding the in-built “boltel” profile along a 512 point path creates 20,000 polygons and takes just 3 seconds (approx.) on a single core 1.8 GHz machine.

### **Select Last Used Path**

- Re-selects the vertex path used for the last extrusion. A very useful time saver when used in conjunction with the new speed mode option.

## Key Features

### **Non-destructive work flow**

- User created n-gon profiles remain in their own layer and a copy is used for alignment and extrusion. This allows for fast and easy re-use of your profiles.

### **Built-in profiles**

- Quick Timber – Creates basic yard lumber cross-sections (imperial sizes).
- Quick Mouldings - Add fine details around windows etc. Types incl. ovolo, quarter-round and cavetto.
- Quick Windows - Two window frame styles for general use and one set of profiles to make the core elements for a casement window (plus casement window video guide).

### **Alignment and Scale Tools**

- The script automatically aligns profiles to your path. This works for paths in any orientation.
- Align any point on the profile to the first vertex in your path.
- Align any point on the profile's bounding box (8 point) to the first vertex in your path.
- Rotate the profile in 90 degree increments (CW/CCW) around the centre of the profile's bounding box.
- Spin Align Edge option rotates the profile so that a selected edge on the profile matches that of another selected edge (in the same plane). This allows for precise orientation of the profile.
- Flip the profile along its local X axis.
- Re-align the centre of the profile (defined by its bounding box) to the path.
- You can also use modo's move tool to offset the profile from the path prior to sweeping/extruding it.
- Scale profiles to precise dimensions, along their local X & Z axes, whilst they are aligned to the path.

### **Path and Cap options**

- Separate controls to “cap” the start and/or end when using an “open loop” path.
- Close loop option creates a continuous loop of geometry around the desired path. This option automatically over-rides the Cap Start/End options.

## Limitations

- Bounding Box: When using multiple profiles you may delete or move one or more profiles independently after alignment and the script will extrude them as expected, however, the bounding box will not update under such conditions. The bounding box will update if you move all the aligned profiles as one, in the original alignment plane.
- Start/End Vertical Alignment: Currently supports modo's default World Space orientation, where Y+ is up. A future version will address this issue by reading the selected Coordinate System.
- Speed mode: Does not support modo's undo. So you have to double click the geometry and hit delete.
- Speed mode: Creates the geometry in a child layer, rather than the original layer.
- Large Profiles and Tight Curves: If you're sweeping a profile along the inside of a tight curve (with many points) and if the profile is larger than the radius of that curve, then you'll get over-laps. This must be manually corrected.
- Paths: SPPro currently aligns and sweeps along the cage vertex positions rather than the limit surface if your using an SDS surface for your path.
- Symmetry: SPPro does not support modo's symmetry selection mode. This should be de-selected prior to selecting the path vertices and extruding. To duplicate the swept geometry use modo's built-in mirror tool, instead.

## *Additional Information*

### Install and User Guides

- This script plug-in comes complete with a PDF install guide together with a video that shows hows to install the script and quickly set-up its user interface within modo 301.
- The User Guide is completely video based and consists of an additional nine videos (h.264 encoded) which will get you up to speed with this user friendly script.

### Extras (Free)

- An additional six videos are available for download which work though one method of creating a casement window using the in-built profiles. modo203 was used for these videos.
- You also get access to an additional 30+ free profiles for general use.
- A casement window model (.lxo format) created using the built-in profiles is provided. This can easily be re-sized and its layout easily changed, using modo's built-in tools (move+snap etc.), to create many variations. This saves you from having to build the whole window from scratch, as shown in the casement windows videos.

## *Contact and Online Support*

If you have questions about the scope of this script plug-in, then please contact me at:

Web: [www.archvisuals.co.uk](http://www.archvisuals.co.uk)

Email: [neil@archvisuals.co.uk](mailto:neil@archvisuals.co.uk)

Skype: Neil\_Hayes

## *Acknowledgements*

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