

The build attribute



here are three Build Styles you can use to build your objects: Extrude, Flags, and Tubes. These are described in the sections below.

The current Build Style settings appear in the Details window in the Build tab.

You select a build method by clicking on one of the Build Style radio buttons in the Build tab.

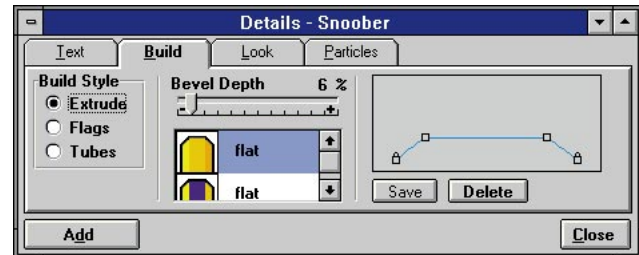


To set an object's Build Method and settings:

1. If you've already created the object, select it in the project window.
2. Make sure the Details window is showing. If it's not, select Details from the Windows menu.
3. Click on the Build tab in the Details window.
4. Change the settings in the Build tab or select a new Build Method from the Method radio buttons.
5. Click on the Add/Modify button.

Extrude

This extrudes letters, beveling the edges according to the bevel style you choose, or create, in the dialog. See "Using the Bevel Editor" later in this section if you'd like to create your own bevels. This creates letters with a front and a back face, with Sides connecting the two faces. The Sides can be one smooth curve, or they can be a front and back bevel connected by a middle section.



By default, the Sides take on the Look of the faces, but you can give them a different Look if you wish. In the Bevel Styles with simple yellow icons, when you apply a Look to the Sides (one of the choices in



the Looks window), the Look controls the appearance of the Sides as a whole, whether or not they have actual bevels. In the Bevel Styles with yellow and purple icons, the middle piece connecting any bevels (the purple part in the icons) takes on the Look applied to the faces; the bevel edges themselves are then considered the Sides, and can have their own Look.

Depth. This slider sets the thickness of the object. Of course, you can change this with the Scale tool once the object is in the project window. If you change just the object's depth with the Scale tool the bevel will get stretched or squeezed.

The following images show examples of the different bevel options, including some custom bevels. To the right of each image is its Bevel Style icon.





extrude
the build attribute





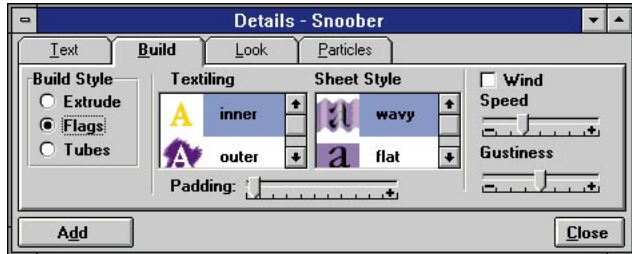


extrude
the build attribute



Flags

This method allows you to put letters on six different objects.



Use the Textiling to determine what part of the surface appears: **inner** creates just the parts where there's text; **outer** creates just the parts without text (creating holes where the text is); **both** creates the whole surface.

- If you choose the whole surface ("both"), be sure to use each of the radio buttons in the Look tab, applying a Look to both parts of the surface. Otherwise you won't see the text at all.

Use the Sheet Style to put the text on a long, tall, or wavy rectangle, a sphere, a cylinder, or a ring. These shapes are flimsy and flexible — rubber-like, even — and can be blown by wind, which is controlled by the sliders on the right side of the dialog.

The first two Textiling choices consist only of faces, and no sides. The third has both — the letters are

the faces, and the rest of the object is the sides.

Here are some examples, along with their Textiling and Sheet Style settings:





rubber sheet
the build attribute



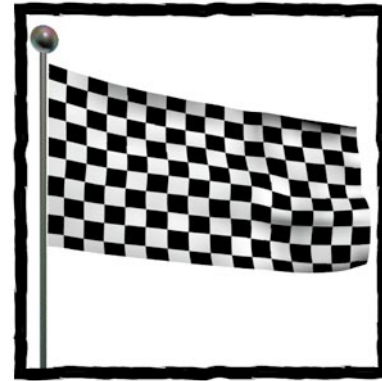
Padding. This adds space around the text vertically and horizontally. This is so you can avoid filling up all the available space on whatever Sheet Style you selected. On a sphere, for example, two letters would appear on opposite sides. Increasing the padding squeezes them together so you can have them both appear on the front. Of course, they'll be smaller, but you can always resize the sphere.

Use the wind controls on the right side of the dialog to allow the surface to act as if it's being blown by the wind.

Wind. Turning this on makes the wind blow, deforming the sheet appropriately in an animation. When the wind blows, it's controlled by the two sliders below.

Wind Speed. Blowing wind causes sheets to wave. The higher the Wind Speed, the faster the waves. The speed's variability is controlled by Wind Gustiness.

Wind Gustiness. Gusty wind produces variability in the waves. This control varies the wind's direction (it blows along the length of the sheet by default), and varies the Wind Speed somewhat as well. The Wind Speed then becomes an "average" speed.



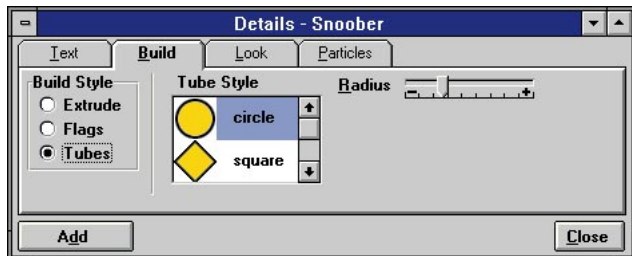
Remember, you'll only see the effects of the wind if you create an animation. However, you can create a still image using the effect by creating a 2-frame animation. To do this, see the section on "Creating a 2-frame animation" near the end of the Animation section.

Note: Each object has its own wind. When you turn on the wind, it doesn't blow through the whole scene, only on the object to which it's attached.

Tubes

You know how the lettering in neon signs looks? That's what this does — it's just the outline of the letters where the outline is a tube. There are three

Tube Styles: tubes whose cross sections are circular, square, or scalloped. Use the Tube Radius slider to control the size of the tubes.



- Warning: Some fonts may appear slightly misshapen when you use a very large bevel size or Tube Radius. Although Pixar Typestry uses only the

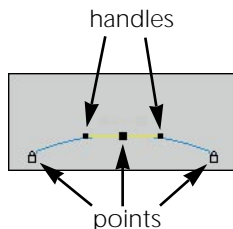


PostScript curves that already exist in the font, when these curves get greatly exaggerated they may create unexpected results.

Using the Bevel Editor

When a letter gets extruded into 3D, it has a front face and a back face. The bevel is what connects the two faces. The Bevel Editor allows you to change the shape of the curves that make up a bevel. Selecting any bevel loads it into the Bevel Editor area. Here, the bevel's left side connects with the front face, the right side with the back face. The editor works similarly to drawing programs that edit curves. To wit:

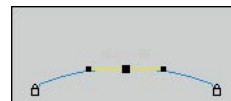
There are two things you can adjust: points and handles.



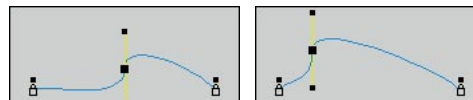
Every point has two handles. But you'll only see the handles of the point that's currently selected.

Points control where the parts of the line are; handles control the shape of the line. The direction of a handle determines which way the curve goes, while its length controls the "amount" of curving: the shorter the handle, the straighter the line. Try selecting the Dome bevel and playing with the middle point to get the feel of what handles and points do.

Here's the Dome bevel, unedited :



In the illustrations below, the bevel on the left has had its handles moved, adjusting the direction and amount of curving. On the right, the point itself was moved, taking that part of the curve with it.

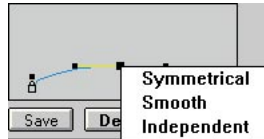


You can't add or delete points, so you might pick a bevel based on the number of points it has to offer. They have from 1 to 4 points in addition to the end points.

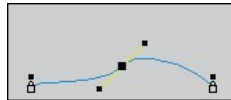
If you want to reset a bevel shape to its original state, just click on the bevel you originally loaded in.

Adjusting points and handles

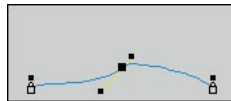
There are three kinds of points. You select one by double-clicking on a point. This displays a popup menu with the choices:



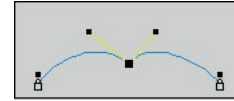
Symmetrical. This creates a smooth, curved point. The point's two handles are connected at the point, so moving one handle moves the other as well. The length of the handles is always the same — stretching one handle stretches the other.



Smooth. This is like the Symmetrical point above, but the length of each handle can be different.



Independent. This allows you to move the two handles independently of each other. Using this you can create a “corner” point.



To move a point or adjust a handle, just click and drag it.

Warning: You can end up making some pretty crazy bevel shapes starting from the ones provided. If the line actually intersects itself somewhere, you'll get some unexpected results. But who knows, they may be just what you were looking for!

Tips: We've found that some of the most interesting bevel shapes result from treating the end of the bevel in two contrasting ways. One is to create a marked discontinuity where the bevel meets the face: an inward or outward bulge or “V” shape, for example. The other is to make a very smooth transition from the face, and then curving to catch highlights. Also, you can get more complex shapes if you don't make the bevel symmetrical front and back, but ignore the back of the bevel (if you won't be seeing it in the image). This allows you to drag some points to the front that would otherwise be used in the back.

- Note: You should design the bevel with the character's Depth setting in mind. If you later change a letter's thickness very much it will tend to exaggerate or diminish the effect of the bevel shape. For



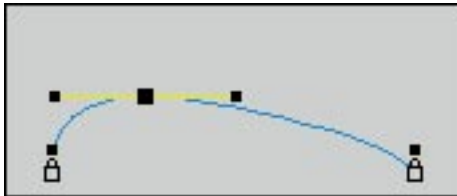
example, thickening a letter with a small bevel size will stretch out rounded bevels, tending to flatten them.

Let's take a look at a short bevel editing session, by way of example.

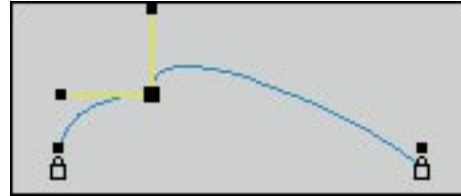
Here's a simple bevel before anything's been done to it:



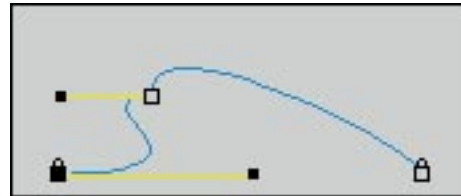
Next, the middle point has been dragged up and over slightly.



The point has been changed so the handles can move independently (Independent was chosen from the popup menu), so we can create a corner. The right handle has been made to point straight up:



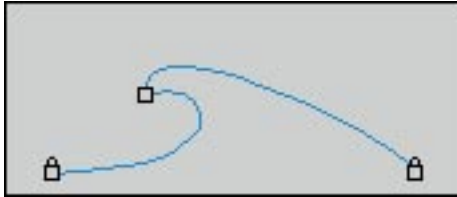
The lower left point's handle has been pulled way out to the right:



Now the middle point's other handle has been swung around more than 180°:



The finished bevel curve:



Saving finished bevels

Once you've got a bevel the way you want it, you can save it:

1. Click on the Save button. This brings up a dialog that allows you to type in a name for the bevel.
2. Type in a name and click on OK.

The saved bevel will appear at the bottom of the scrollable bevel list.



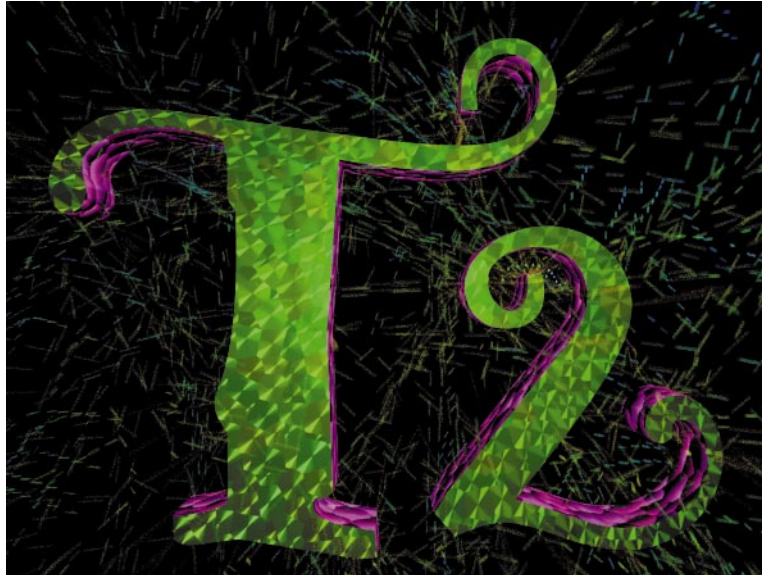


Image: Joy Gipson

Font: Remedy Single

Build Method: Extrude

Bevel: custom (flat)

Effects: Particle System; Mass 2,
Elasticity 12, Colors green and
purple, Randomness 0, Particle
Density 2, Ejection Speed 6

Text Look: ECGems Swirl Flat

Lights: #5 100%; #7 75%

Frame #17 rendered