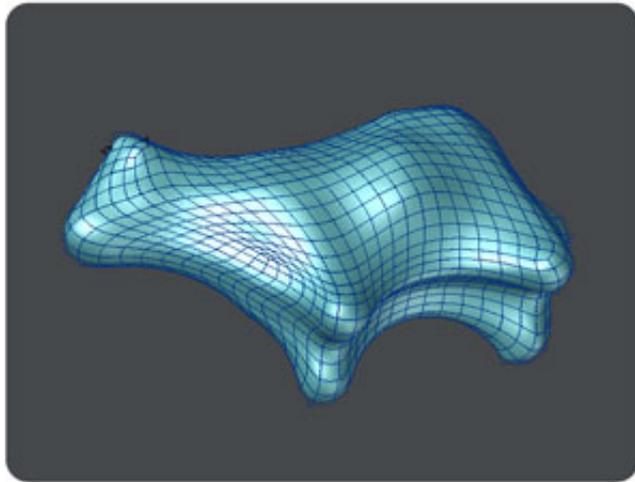
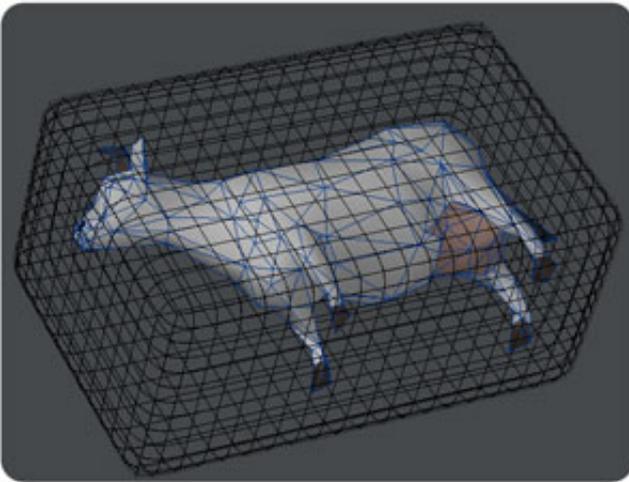


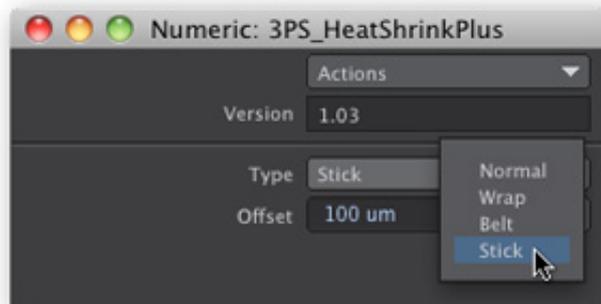
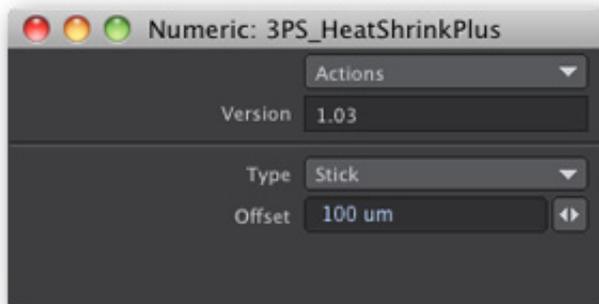
## What is Heat Shrink Plus

Heat Shrink Plus is a modeling tool that conforms a foreground polygon mesh to a background object dynamically, as if by wrapping. Heat Shrink Plus has four types of shrinkage and can be used to wrap something with various shaped mesh. For example, for shrink-wrapping toys, putting a bracelet on princess's wrist, and also for putting stickers on a ball.



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## Controls



**Type** - has the following four types:

**Normal** - moves the points along their normals until they hit the background mesh.

**Wrap** - shrinks the mesh to wrap the entire model. It's suitable for shrink-wrapping products like toys, foods etc. keep dragging until you are satisfied with the result.

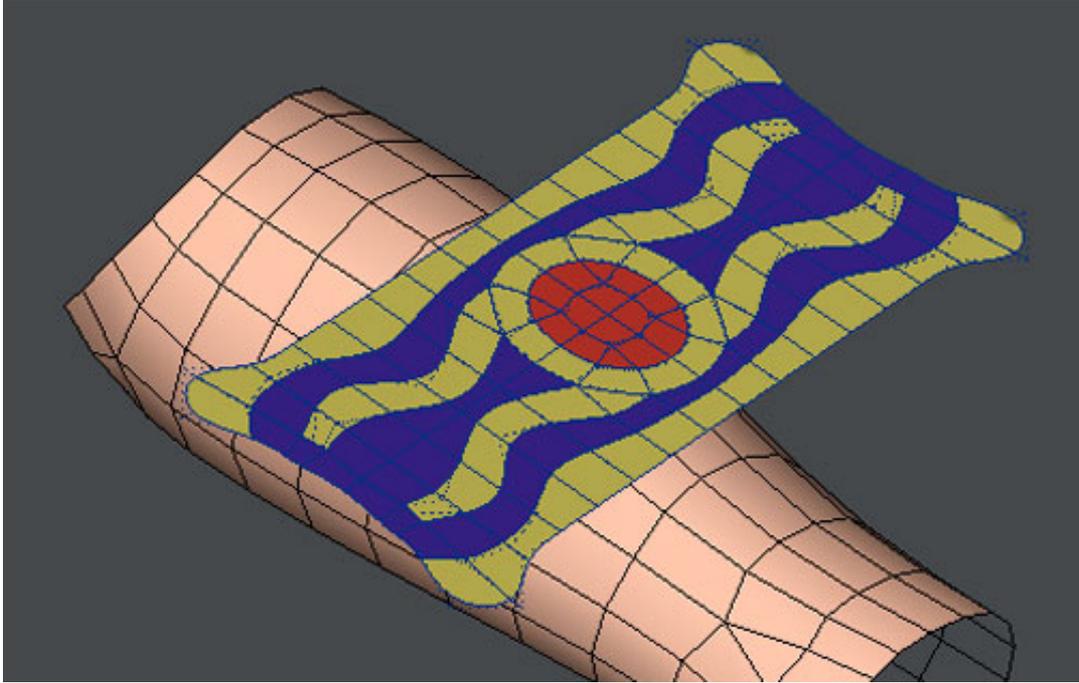
**Belt** - keeps the mesh width and shrinks it. It's suitable for wrapping with ring-shaped mesh. keep dragging until you are satisfied with the result.

**Stick** - keeps the surface area and shrinks it. It's suitable for putting stickers on something. keep dragging until you are satisfied with the result.

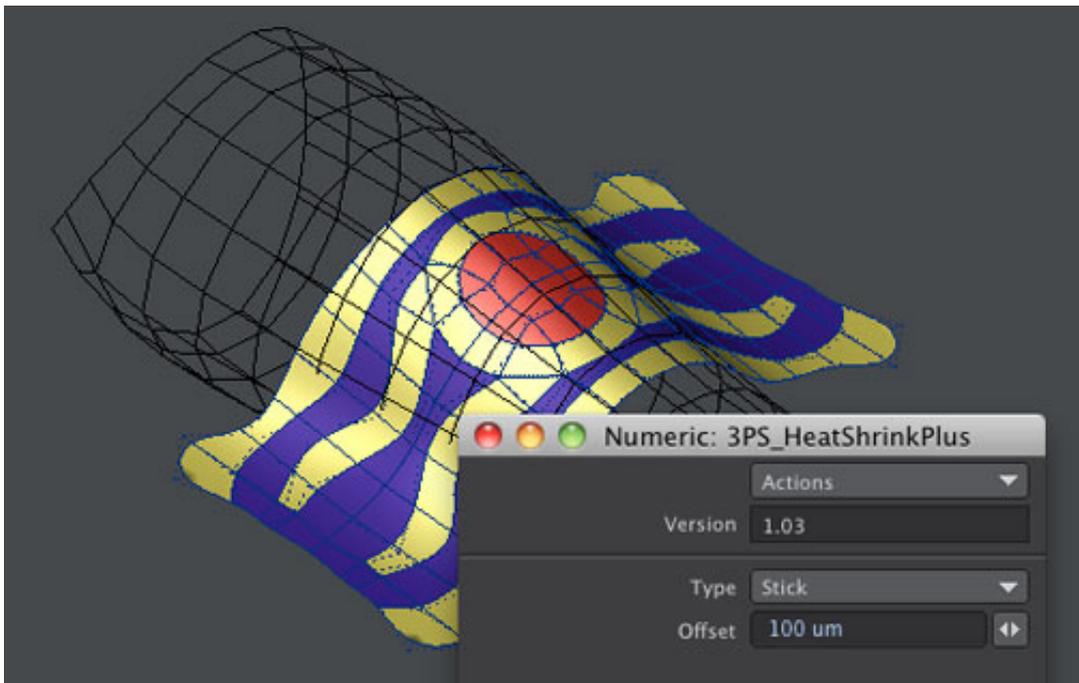
**Offset** - adds a margin to the background object. It give an invisible thickness to the shapes. This can help avoid the foreground mesh sinking through the background mesh.

## Example 1: Putting a Bracelet around the Wrist of a Character

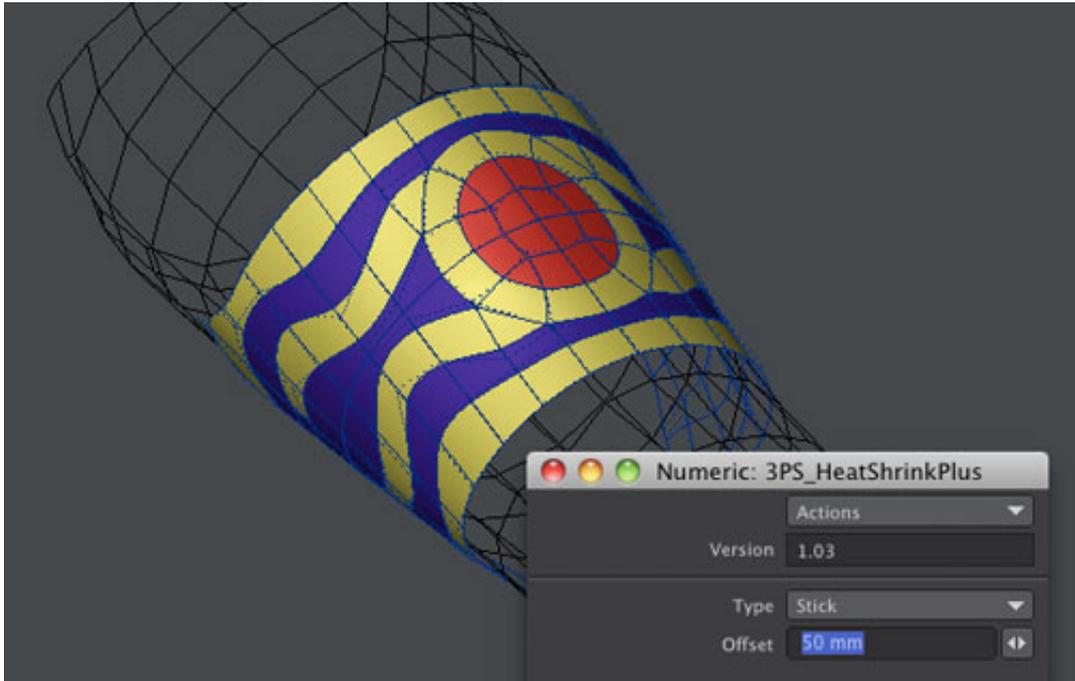
We've loaded the "ArmAndBracelet.lwo" file found in the content, but it's just a sheet metal. Let's use Heat Shrink Plus to finish a bracelet.



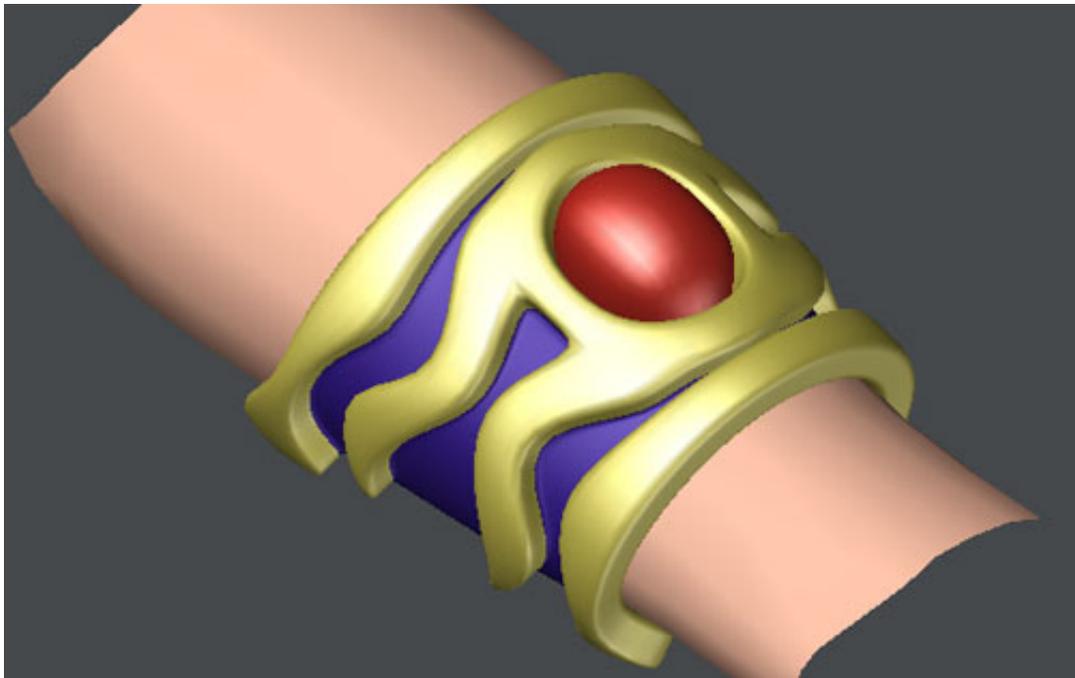
We'll cover the background arm object with the foreground sheet object, as if by wrapping. We've set the **Type** to **Stick** and we've dragged the mouse to make a bracelet. drag, drag and keep dragging until you are satisfied with the result.



To avoid the foreground mesh sinking through the background mesh, we've increased the **Offset** value to **50 mm**, and drag the mouse again.

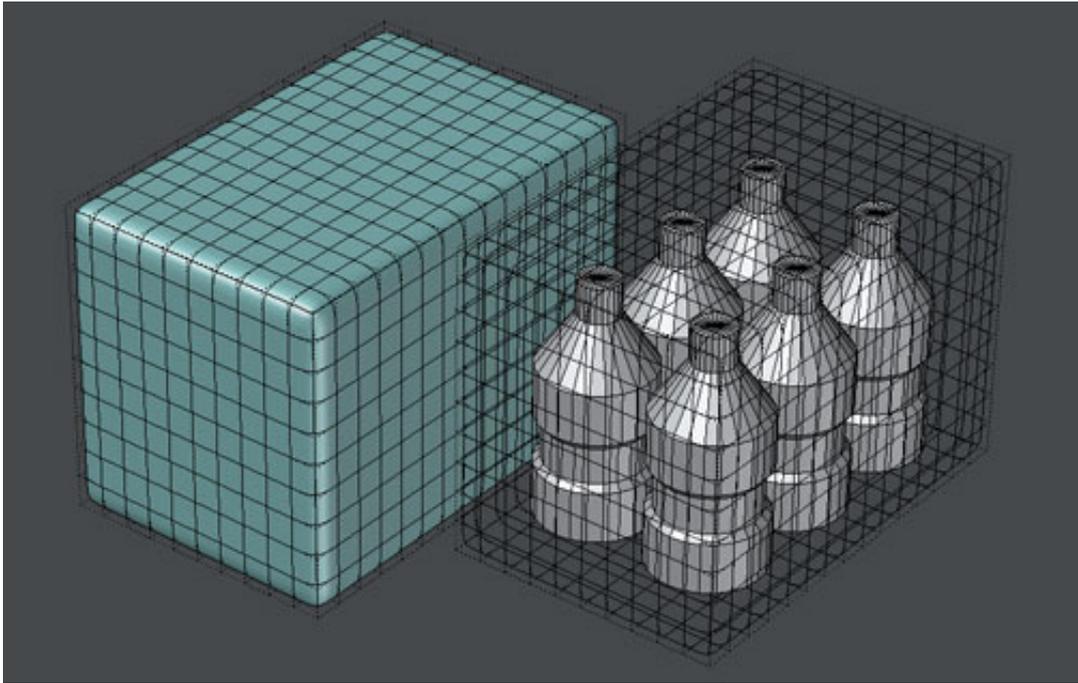


Finally, we've used the Thicken tool to add dimension to the geometry. The fantasy bracelet has been finished.

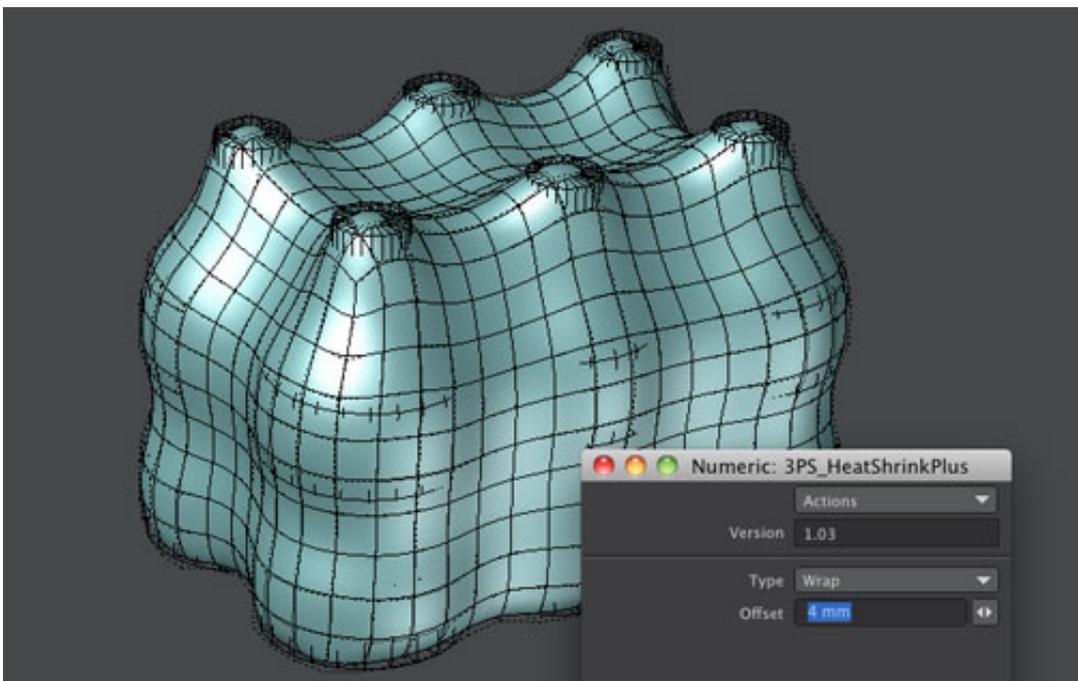


## Example 2: How to Shrink Wrap a 6 Pack of Bottles

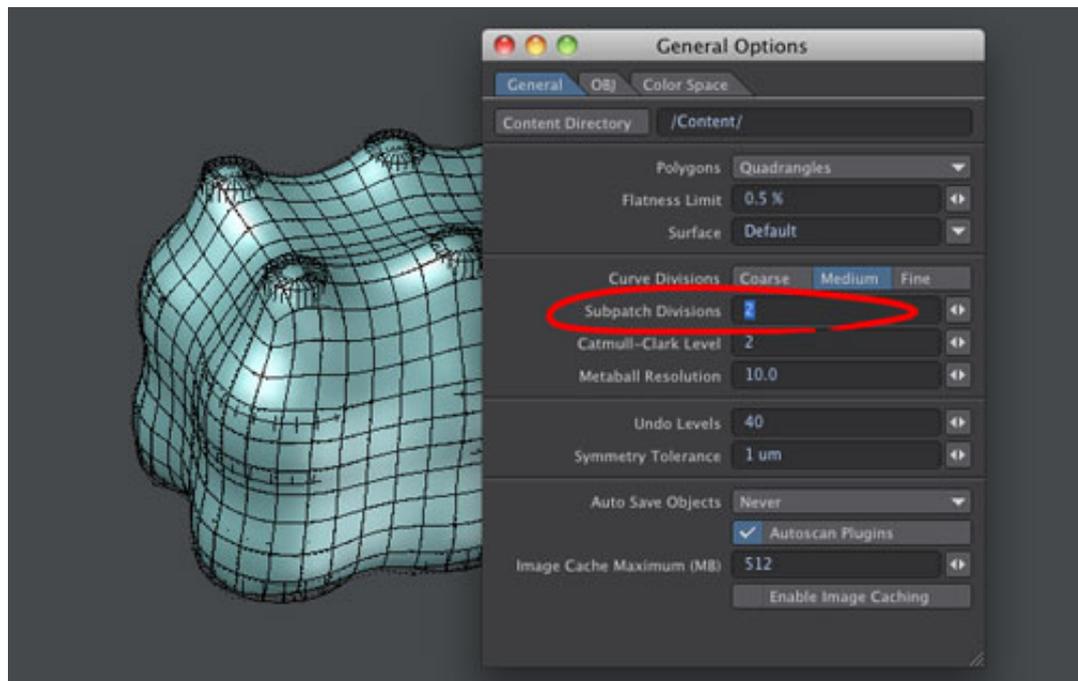
We've loaded the "Bottles.lwo" file found in the content. The box-shaped wrapping film SubPatch object has appeared in the first layer, and the six-pack bottles object in the second layer. That does not look like bottles? To be exact, this is a Low-poly dummy bottles object, not an actual object. The cloth simulation is performed while you are dragging your mouse with the Heat Shrink Plus tool active. In this kind of simulation, an object with a higher number of polygons is slower to complete processing as it takes more computational time. Therefore, it is desirable to start the shrink wrapping process with the simplest possible object with low polygon count. With the film object in the foreground, and with the bottles object in the background, we'll select the Heat shrink Plus tool to make a perfect shrink wrapped pack of bottles.



First, we've chosen **Wrap** from the **Type** pop-up menu, set **Offset** to **4 mm**, and roughly fit the film to the bottles by dragging the mouse because a large air gap between the film and the contents may cause a self-collision of the film.



Next, to make the film object more detailed, we've opened the General Options Panel by choosing Edit > General Options (default keyboard shortcut o), and made sure the **SubPatch Divisions** setting is appropriate, usually a setting of **2** or **3**. Then we've increased the number of polygons with the **Freeze** command (default keyboard shortcut Ctrl + D), and activated SubPatch mode by pressing the TAB key.



Now let's keep dragging until you are satisfied with the result. If the shrink wrapped film is too tight and if you don't want such a result, you can relax the film by slowly dragging or by repeating clicking without dragging. Pressing the spacebar will accept the current result and exit the tool. Finally, we should replace the dummy bottles object with the actual one to complete our work.

