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Shrinkwrap Modifier

The *Shrinkwrap* modifier allows an object to “shrink” to the surface of another object. It moves each vertex of the object being modified to the closest position on the surface of the given mesh (using one of the four methods available).

It can be applied to meshes, lattices, curves, surfaces and texts.

See also

[Shrinkwrap Constraint](#).

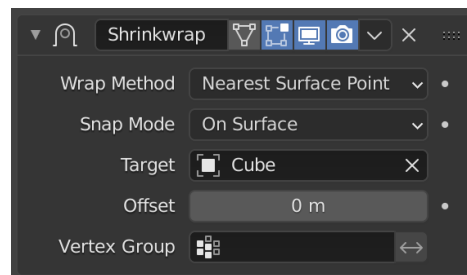
Options

Wrap Method

This selector specifies the method to be used to determine the nearest point on the target’s surface for each vertex of the modified object. Some options will add some extra, specific controls to the panel. See [Wrap Methods](#) for an explanation of each method.

Snap Mode

Most modes support an additional setting to control how the vertex is moved to the target point selected by the methods described above. Some of the choices only differ if *Offset* is not zero.



The Shrinkwrap modifier in Nearest Surface Point mode.

On Surface

The vertex is always moved. The offset is applied along the projection line connecting the original vertex and selected target point towards the original position.

Outside Surface

Like *On Surface*, but the offset is always applied towards the outside of the target.

Above Surface

Like *On Surface*, but the offset is applied along the smooth normal of the target.

Inside

The vertex is not moved if it is already inside the target. Offset shrinks the allowed volume towards the inside along the projection line.

Outside

The vertex is not moved if it is already outside the target. Offset expands the exclusion volume towards the outside along the projection line.

Note

The *Inside* and *Outside* options can be used for very crude collision detection. The inside vs outside determination is done based on the target normal and is not always stable near 90 degree and sharper angles in the target mesh.

Target

Shrink target, the mesh to shrink to/wrap around.

Offset

The distance that must be kept from the calculated target position.

Vertex Group

The vertex group to control whether and how much each vertex is displaced to its target position. If a vertex is not a member of this group, it is not displaced (same as weight 0).

Wrap Methods

Nearest Surface Point

This will select the nearest point over the surface of the shrunk target.

Project

This will project vertices along a chosen axis until they touch the shrink target. Vertices that never touch the shrink target are left in their original position.

Limit

This is a distance limit between original vertex and surface. If the distance is larger than this limit vertex would not be projected onto the surface.

Subdivision Levels

This applies a (temporary) *Catmull-Clark* subdivision to the modified object's geometry, before computing the wrap.

Axis

Along which local axis of the modified object the projection is done. These options can be combined with each other, yielding a “median axis” of projection. If none are selected, the normal direction is used.

Negative/Positive

This allows you to select the allowed direction(s) of the shrink along the selected axis. If both options are enabled, both ways are evaluated and the closest hit is selected.

Face Cull

Allows you to prevent any projection over the “front side” (respectively the “back side”) of the target's faces. The “side” of a face is determined by its normal (front being the side “from where” the normal “originates”).

Invert Cull

If *Cull Faces* is enabled, and *Negative* direction along axis is allowed, this option can be used to invert the *Front* or *Back* cull choice for the *Negative* direction. This is useful when projecting in both directions.

Auxiliary Target

An additional object to project over.

Nearest Vertex

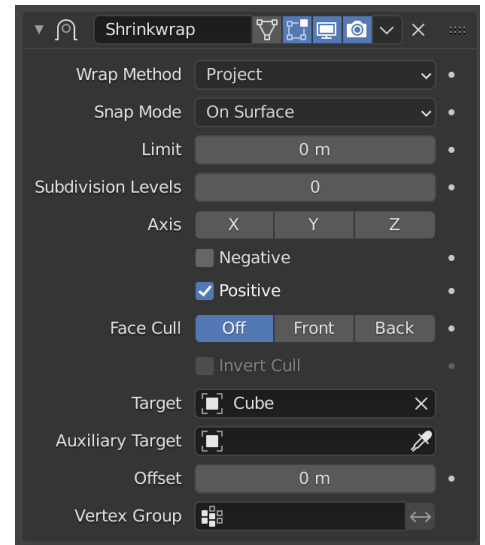
This will snap vertices to the nearest vertex of the shrunk target. It adds no extra options.

This method doesn't support the *Snap Mode* setting.

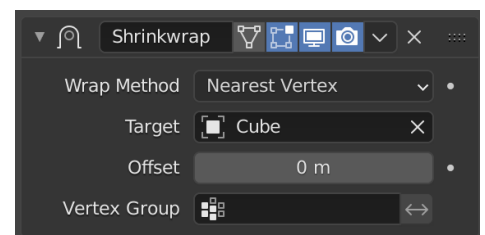
Target Normal Project

This mode is similar to *Nearest Surface Point*, but produces a much smoother projection in return for being significantly slower.

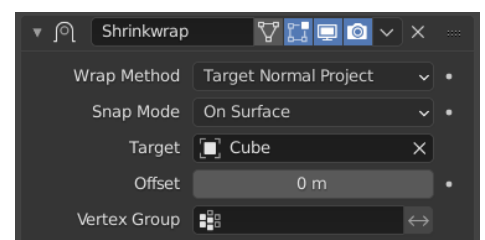
Instead of finding the closest point, it searches for the nearest point that has its interpolated smooth normal pointing towards or away from the original vertex position. Non-manifold boundary edges are specially handled as infinitely thin cylinders that emit normals in all perpendicular directions; ignores flat shading.



Project mode.



Nearest Vertex mode.



Target Normal Project mode.

