



## 26.9.12 Editors - Properties Editor - Modifiers Properties Tab - Grease Pencil - Deform Modifiers

### Table of content

Detailed table of content.....	1
Deform modifiers.....	4
Armature.....	4
Hook.....	6
Lattice.....	8
Noise.....	9
Offset.....	12
Smooth.....	13
Thickness.....	15

### Detailed table of content

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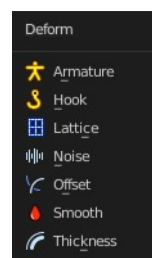
Detailed table of content.....	1
Deform modifiers.....	4
Armature.....	4
Object.....	4
Vertex Group.....	4
Invert.....	5
Bind to.....	5
Vertex Groups.....	5
Bone Envelopes.....	5
Hook.....	6
Object.....	6
Vertex Group.....	6
Invert.....	6
Strength.....	6
Reset.....	6
Recenter.....	6
Select.....	6
Assign.....	6
Falloff.....	7
Type.....	7
Radius.....	7
Uniform Falloff.....	7
Influence.....	7
Layer.....	7
Invert.....	7
Pass.....	7
Invert.....	7
Material.....	7
Invert.....	7

Pass.....	7
Invert.....	7
Lattice.....	8
Object.....	8
Vertex Group.....	8
Invert.....	8
Strength.....	8
Influence.....	8
Layer.....	8
Invert.....	8
Pass.....	8
Invert.....	8
Material.....	8
Invert.....	9
Pass.....	9
Invert.....	9
Noise.....	9
Position.....	9
Strength.....	9
Thickness.....	9
UV.....	9
Noise Scale.....	9
Noise Offset.....	9
Noise Seed.....	9
Randomize.....	9
Step.....	9
Influence.....	10
Layer.....	10
Invert.....	10
Pass.....	10
Invert.....	10
Material.....	10
Invert.....	10
Pass.....	10
Invert.....	10
Vertex Group.....	10
Invert.....	10
Custom Curve.....	10
Navigation elements.....	10
Zoom in and out.....	11
Tools.....	11
Reset View.....	11
Vector Handle.....	11
Auto Handle.....	11
Auto Clamped Handle.....	11
Extend Horizontal.....	11
Extend Vertical.....	11
Reset Curve.....	11
Use Clipping.....	11
Delete Points.....	11
Curve window.....	11
X / Y.....	12
Offset.....	12

Location X, Y, Z.....	12
Rotation X, Y, Z.....	12
Scale X, Y, Z.....	12
Randomize.....	12
Offset.....	12
Rotation.....	12
Scale.....	12
Influence.....	12
Layer.....	12
Invert.....	12
Pass.....	12
Invert.....	12
Material.....	13
Invert.....	13
Pass.....	13
Invert.....	13
Vertex Group.....	13
Invert.....	13
Smooth.....	13
Mode.....	13
Position.....	13
Strength.....	13
Thickness.....	13
UV.....	13
Factor.....	13
Repeat.....	14
Influence.....	14
Layer.....	14
Invert.....	14
Pass.....	14
Invert.....	14
Material.....	14
Invert.....	14
Pass.....	14
Invert.....	14
Vertex Group.....	14
Invert.....	14
Custom Curve.....	14
Navigation elements.....	15
Zoom in and out.....	15
Thickness.....	15
Uniform Thickness.....	15
Thickness Factor.....	15
Weighted.....	15
Influence.....	15
Layer.....	15
Invert.....	15
Pass.....	15
Invert.....	15
Material.....	15
Invert.....	15
Pass.....	16
Invert.....	16

Vertex Group.....	16
Invert.....	16
Custom Curve.....	16
Navigation elements.....	16
Zoom in and out.....	16
Tools.....	16
Reset View.....	16
Vector Handle.....	16
Auto Handle.....	16
Auto Clamped Handle.....	16
Extend Horizontal.....	16
Extend Vertical.....	17
Reset Curve.....	17
Use Clipping.....	17
Delete Points.....	17
Curve window.....	17
X / Y.....	17

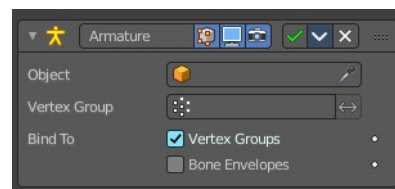
## Deform modifiers



### Armature

An armature system allows to deform objects accurately by posing bones. The Armature modifier contains the armature settings at the mesh end.

This modifier gets created automatically when you parent a grease pencil to an armature.



### Object

The name of the armature object used by this modifier.

### Vertex Group

A vertex group of the object, which weights will be used to determine the influence of this modifier's results when mixing it with the results from other Armature ones.

This is only of use when having at least two of these modifiers on the same object, with Multi Modifier activated.

## ***Invert***

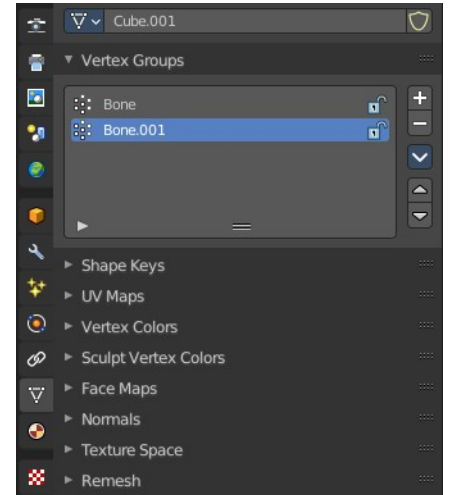
Inverts the influence set by the vertex group.

## **Bind to**

### ***Vertex Groups***

Meshes and lattices only. Use Vertex groups for deforming the mesh. A bone named “forearm”, will only affect the vertices in the “forearm” vertex group. The influence of one bone on a given vertex is controlled by the weight of this vertex in the relevant group.

The vertex groups are located in the Object Data Properties in the Properties editor.

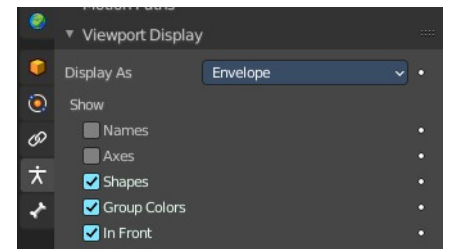


### ***Bone Envelopes***

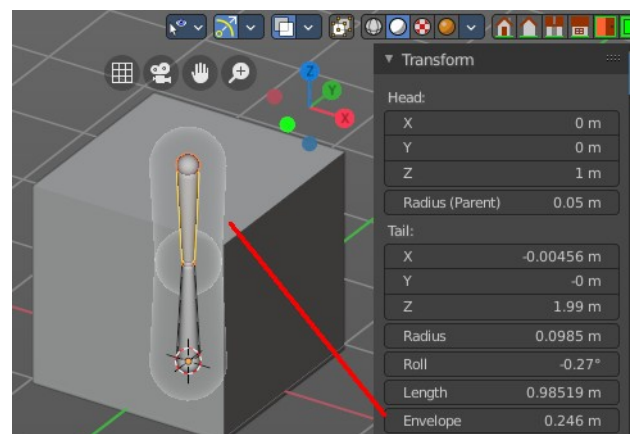
Use the Bone envelopes to deform vertices or control points near them, defined by each bone’s envelope radius and distance.

When envelopes are disabled, Blender uses the set of existing vertex group names to determine which bones influences what mesh part.

Bone envelopes display can be turned on in the Viewport Display panel in the Object Data properties tab in the Properties Editor. Display as ...



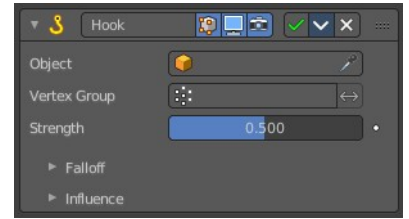
And can be adjusted in the Transform panel in the sidebar of the 3D View, in Edit mode.



## Hook

The Hook modifier is used to deform a mesh, curve or lattice by another object. When you move this hook object, then it pulls vertices or control points with it.

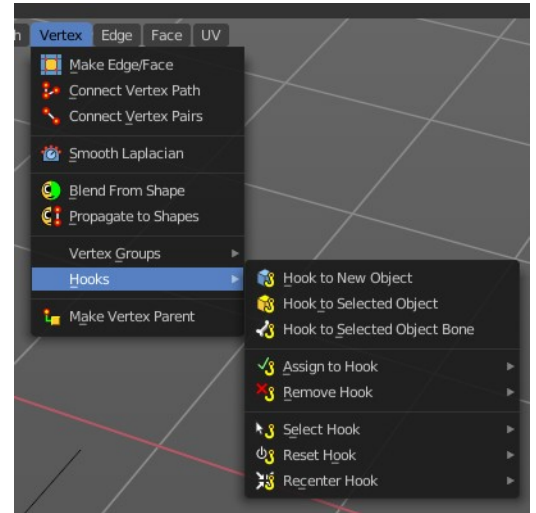
Assigning the hook object to specific vertices of the target object is done in Edit mode. The modifier shows a set of buttons then.



This modifier is automatically created when you add a Hook from the Hooks menu in the Edge menu in edit mode.

Some settings just exists in Edit mode.

Warning! The Hook Modifier stores vertex indices from the original mesh to determine what to affect. Modifiers that generate geometry, like Subdivision Surface, should always be put after the Hook modifier in the stack. Otherwise, the generated geometry can't be affected by the hook's influence.



## Object

The name of the object to hook vertices to.

## Vertex Group

Allows you to define the influence per vertex.

## Invert

Inverts the influence of the selected vertex group.

## Strength

Adjust this hooks influence on the vertices.

## Reset

In Edit mode. Recalculate and clear the offset transform of the hook.

## Recenter

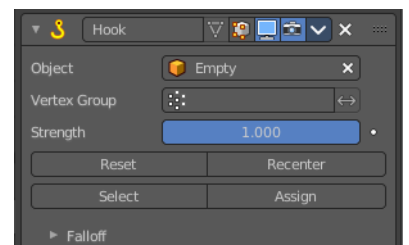
In Edit mode. Set the hook center to the 3D cursor position.

## Select

In Edit mode. Select the vertices affected by this hook.

## Assign

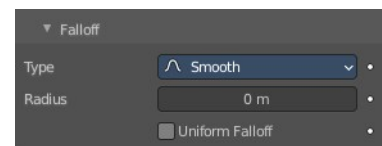
In Edit mode. Assigns selected vertices to this hook.



## Falloff

### Type

This can be used to adjust the kind of influence curve that the hook has on the mesh. You can also define a custom curve to get a much higher level of control.



### Radius

The size of the hooks influence.

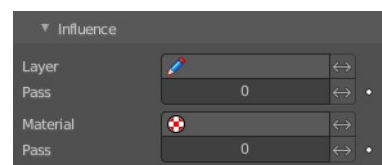
### Uniform Falloff

Compensate non uniform scale, and use a uniform falloff.

## Influence

### Layer

Restricts the effect only to one layer or to any layers that share the same pass index. Click to pick the layer that you want to use.



### Invert

Inverts the influence.

### Pass

The layer pass index.

### Invert

Inverts the influence.

### Material

Restricts the effect only to material that share the same material or pass index. Click to pick the material that you want to use.

### Invert

Inverts the influence.

### Pass

The material pass index.

### Invert

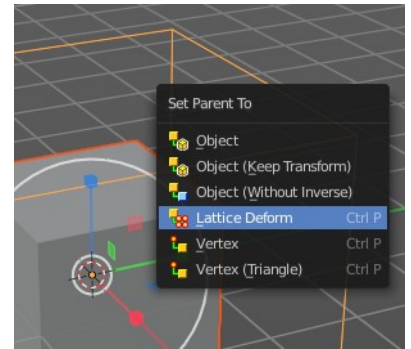
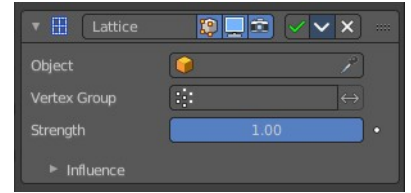
Inverts the influence.

## Lattice

The Lattice modifier deforms the base object by the shape of a Lattice object. It can be used at meshes, curves, surfaces, text, lattices and even particles.

A Lattice modifier with valid settings can be added by selecting the object, holding down shift, select the target lattice object, and then choose Lattice Deform in the Parent menu.

Note! When you want to use a lattice to deform particles, then you need to place the Lattice modifier after the Particle System modifier.



## Object

The Lattice object that deforms the base object.

## Vertex Group

Limit the modifier's effect to a vertex group of the base mesh.

## Invert

Inverts the influence of the selected vertex group.

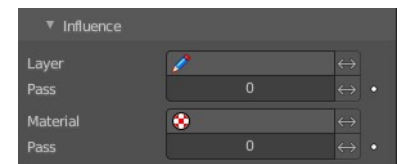
## Strength

A factor to control blending between original and deformed vertex positions.

## Influence

### Layer

Restricts the effect only to one layer or to any layers that share the same pass index. Click to pick the layer that you want to use.



### Invert

Inverts the influence.

### Pass

The layer pass index.

### Invert

Inverts the influence.

### Material

Restricts the effect only to material that share the same material or pass index. Click to pick the material that you want to use.



## **Invert**

Inverts the influence.

## **Pass**

The material pass index.

## **Invert**

Inverts the influence.

---

## **Noise**

The Noise Modifier adds noise to make the grease pencil line unstable and noisy.

### **Position**

Strength of the noise effect over the point location.

### **Strength**

Strength of the noise effect over the point strength (opacity).

### **Thickness**

Strength of the noise effect over the point thickness.

### **UV**

Strength of the noise effect over the point UV rotation.

### **Noise Scale**

Control the noise frequency scale.

### **Noise Offset**

Offset the noise along the stroke.

### **Noise Seed**

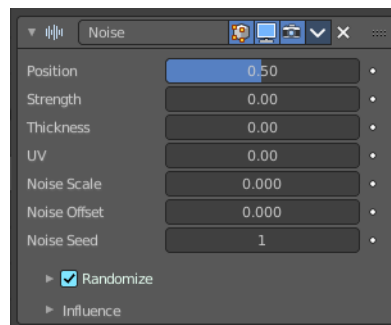
Add a random seed.

### **Randomize**

Use a random value over time.

### **Step**

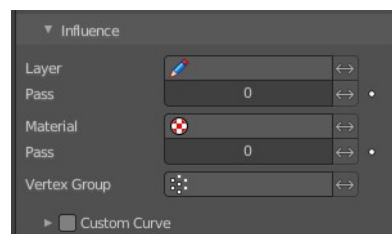
Number of frames before using a new random value.



## Influence

### **Layer**

Restricts the effect only to one layer or to any layers that share the same pass index. Click to pick the layer that you want to use.



### **Invert**

Inverts the influence.

### **Pass**

The layer pass index.

### **Invert**

Inverts the influence.

### **Material**

Restricts the effect only to material that share the same material or pass index. Click to pick the material that you want to use.

### **Invert**

Inverts the influence.

### **Pass**

The material pass index.

### **Invert**

Inverts the influence.

### **Vertex Group**

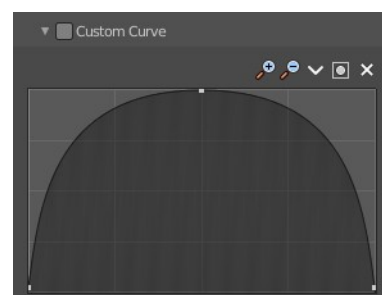
Limit the influence to a vertex group.

### **Invert**

Inverts the influence.

### **Custom Curve**

Use a custom curve to define the noise along the strokes.



### **Navigation elements**

The navigation elements at the top are described from left to right.

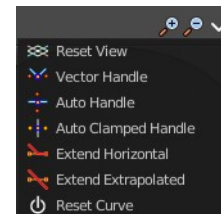


## ***Zoom in and out***

The two buttons with the magnifying glass at it zooms in and out in the curve window.

## **Tools**

Tools is a menu where you can find some curve related tools.



### **Reset View**

Resets the curve windows zoom.

### **Vector Handle**

Set handle type to Vector.

### **Auto Handle**

Set handle type to Auto.

### **Auto Clamped Handle**

Set handle type to Auto Clamped.

### **Extend Horizontal**

Extend the curve points horizontal before the first curve point and after the last curve point.

### **Extend Vertical**

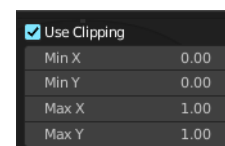
Extend the curve points vertical before the first curve point and after the last curve point.

### **Reset Curve**

Resets the curve to the initial shape.

## ***Use Clipping***

Clipping options. Set up clipping for the stroke.



## ***Delete Points***

Deletes selected curve points.

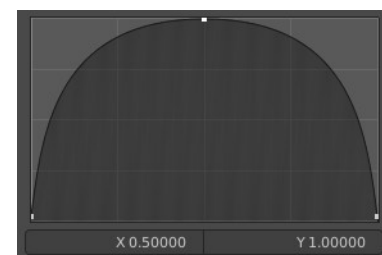
## ***Curve window***

Tweak and adjust the falloff curve by clicking at a curve point and dragging it around.

Double click adds a new point.

Holding down ctrl activates temporary snapping.

Holding down shift enables slower movement, which allows more accurate setting.



## X / Y

The position of the currently selected curve point.

## Offset

The Offset Modifier changes the strokes location, rotation or scale, starting from the object origin.

### Location X, Y, Z

Sets strokes location offset from its object origin.

### Rotation X, Y, Z

Sets strokes rotation.

### Scale X, Y, Z

Sets strokes scale.

## Randomize

### Offset

Randomize the offset in x y and z axis.

### Rotation

Randomize the rotation in x y and z angle.

### Scale

Randomize the size in x y and z axis.

## Influence

### Layer

Restricts the effect only to one layer or to any layers that share the same pass index. Click to pick the layer that you want to use.

### Invert

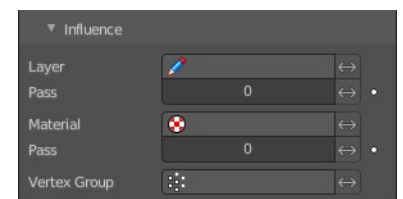
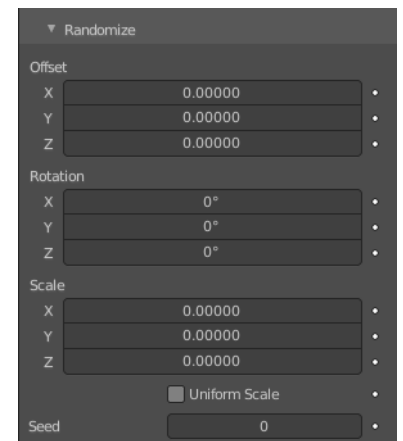
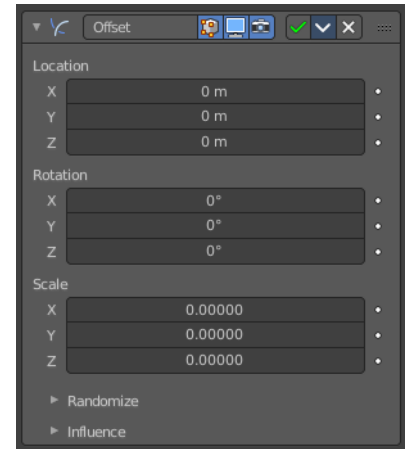
Inverts the influence.

### Pass

The layer pass index.

### Invert

Inverts the influence.



## ***Material***

Restricts the effect only to material that share the same material or pass index. Click to pick the material that you want to use.

## **Invert**

Inverts the influence.

## ***Pass***

The material pass index.

## **Invert**

Inverts the influence.

## ***Vertex Group***

Limit the influence to a vertex group.

## **Invert**

Inverts the influence.

---

## **Smooth**

The Smooth modifier smoothens a stroke.

## **Mode**

What elements to affect.

## ***Position***

Affects the position of the point.

## ***Strength***

Affects the color strength of the point

## ***Thickness***

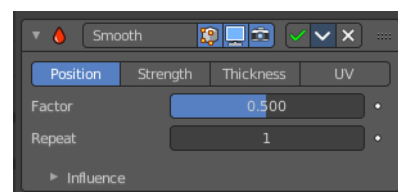
Affects the thickness of the point.

## ***UV***

Affects the uv rotation factor of the point.

## **Factor**

The smoothing amount. Higher values will increase the effect. Values outside expected range (above 1.0 or below 0.0) will distort the mesh.



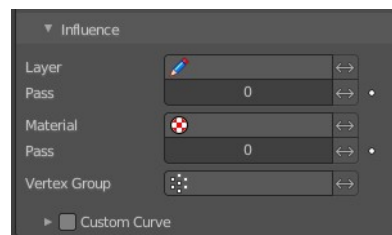
## Repeat

The number of smoothing iterations.

## Influence

### Layer

Restricts the effect only to one layer or to any layers that share the same pass index. Click to pick the layer that you want to use.



### Invert

Inverts the influence.

### Pass

The layer pass index.

### Invert

Inverts the influence.

### Material

Restricts the effect only to material that share the same material or pass index. Click to pick the material that you want to use.

### Invert

Inverts the influence.

### Pass

The material pass index.

### Invert

Inverts the influence.

### Vertex Group

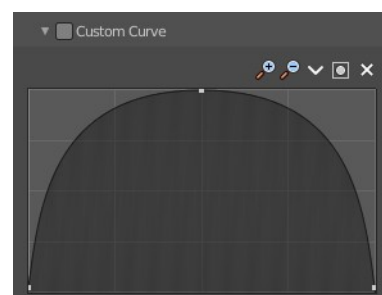
Limit the influence to a vertex group.

### Invert

Inverts the influence.

### Custom Curve

Use a custom curve to define the noise along the strokes.



## Navigation elements

The navigation elements at the top are described from left to right.



### ***Zoom in and out***

The two buttons with the magnifying glass at it zooms in and out in the curve window.

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## Thickness

The Thickness Modifier change the stroke points thickness.

### **Uniform Thickness**

When enabled, makes the thickness equal for the entire strokes.

### **Thickness Factor**

Value to add or subtract to the actual points thickness.

### ***Weighted***

Use weight to modulate effect.

### **Influence**

#### ***Layer***

Restricts the effect only to one layer or to any layers that share the same pass index. Click to pick the layer that you want to use.

#### **Invert**

Inverts the influence.

#### ***Pass***

The layer pass index.

#### **Invert**

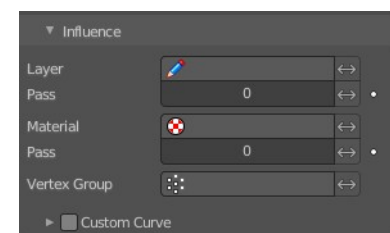
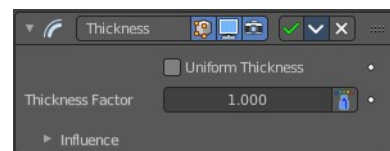
Inverts the influence.

#### ***Material***

Restricts the effect only to material that share the same material or pass index. Click to pick the material that you want to use.

#### **Invert**

Inverts the influence.



## **Pass**

The material pass index.

## **Invert**

Inverts the influence.

## **Vertex Group**

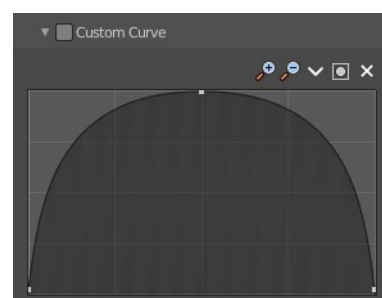
Limit the influence to a vertex group.

## **Invert**

Inverts the influence.

## **Custom Curve**

Use a custom curve to define the noise along the strokes.



## **Navigation elements**

The navigation elements at the top are described from left to right.

## **Zoom in and out**

The two buttons with the magnifying glass at it zooms in and out in the curve window.



## **Tools**

Tools is a menu where you can find some curve related tools.

### **Reset View**

Resets the curve windows zoom.

### **Vector Handle**

Set handle type to Vector.

### **Auto Handle**

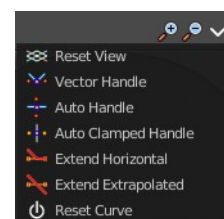
Set handle type to Auto.

### **Auto Clamped Handle**

Set handle type to Auto Clamped.

### **Extend Horizontal**

Extend the curve points horizontal before the first curve point and after the last curve point.





## **Extend Vertical**

Extend the curve points vertical before the first curve point and after the last curve point.

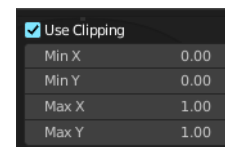
## **Reset Curve**

Resets the curve to the initial shape.

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## **Use Clipping**

Clipping options. Set up clipping for the stroke.



## **Delete Points**

Deletes selected curve points.

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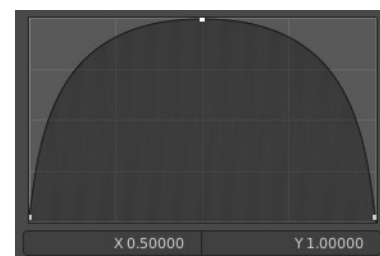
## **Curve window**

Tweak and adjust the falloff curve by clicking at a curve point and dragging it around.

Double click adds a new point.

Holding down ctrl activates temporary snapping.

Holding down shift enables slower movement, which allows more accurate setting.



## **X / Y**

The position of the currently selected curve point.