



7.2.3 Editors - 3D Viewport - Tool Shelf - Mesh - Sculpt Mode

Table of content

Tool Shelf - Mesh - Sculpt Mode.....	4
Transform and Annotate tools.....	4
Brush cursor.....	4
Brushes settings.....	4
Hotkeys.....	5
Symmetry.....	5
Draw.....	5
Draw Sharp.....	5
Clay.....	5
Clay Strips.....	5
Clay Thumb.....	5
Layer.....	6
Inflate.....	6
Blob.....	6
Crease.....	6
Smooth.....	6
Flatten.....	6
Fill.....	6
Scrape.....	6
Multiplane Scrape.....	6
Pinch.....	6
Grab.....	7
Elastic Deform.....	7
Snake Hook.....	7
Thumb.....	7
Pose.....	7
Nudge.....	7
Rotate.....	7
Slide Relax.....	7
Boundary.....	7
Cloth.....	8
Simplify.....	8
Mask.....	8
Draw Face Sets.....	8
Multires Displacement Eraser.....	8
Multires Displacement Smear.....	9
Paint.....	9
Smear.....	9
Mask selection tools group.....	9
Box Mask, Lasso Mask and Line Mask.....	9
Active Tool setting.....	9
Front Faces only.....	9
Limit to Segment.....	9
Box Hide.....	9
Box / Lasso Faceset tools group.....	10
Box Face Sets.....	10
Tool Settings.....	10

Front faces only.....	10
Lasso Face Sets.....	10
Tool Settings.....	10
Front faces only.....	10
Box Trim / Lasso Trim tools group.....	10
Box Trim.....	10
Tool Settings.....	10
Solver.....	11
Trim Mode.....	11
Shape Orientation.....	11
Extrude Mode.....	11
Use Cursor Depth.....	11
Lasso Trim.....	11
Tool Settings.....	11
Trim Mode.....	11
Shape Orientation.....	11
Extrude Mode.....	11
Use Cursor Depth.....	11
Line Project.....	11
Tool Settings.....	12
Mesh Filter.....	12
Usage.....	12
Adjust Last Operator Filter Mesh.....	12
Strength.....	12
Repeat.....	12
Orientation.....	12
Deform Axis.....	12
Tool Settings.....	12
Filter Type.....	13
Smooth.....	13
Scale.....	13
Inflate.....	13
Sphere.....	13
Random.....	13
Relax.....	13
Relax Face Sets.....	13
Surface Smooth.....	13
Shape preservation.....	13
Per Vertex Displacement.....	13
Sharpen.....	13
Smooth Ratio.....	13
Intensity Details.....	13
Curvature Smooth Iterations.....	13
Strength.....	13
Deform Axis.....	14
Cloth Filter.....	14
Tool Settings.....	14
Filter Type.....	14
Strength.....	14
Force Axis.....	14
Orientation.....	14
Cloth Mass.....	14
Cloth Damping.....	14

Use Face Sets.....	14
Use Collisions.....	15
Color Filter.....	15
Tool Settings.....	15
Filter Type.....	15
Strength.....	15
Edit Face Sets.....	15
Tool Settings.....	15
Mode.....	15
Modify Hidden.....	15
Mask by Color.....	15
Tool Settings.....	15
Threshold.....	16
Contiguous.....	16
Invert.....	16
Preserve Previous Mask.....	16

Tool Shelf - Mesh - Sculpt Mode

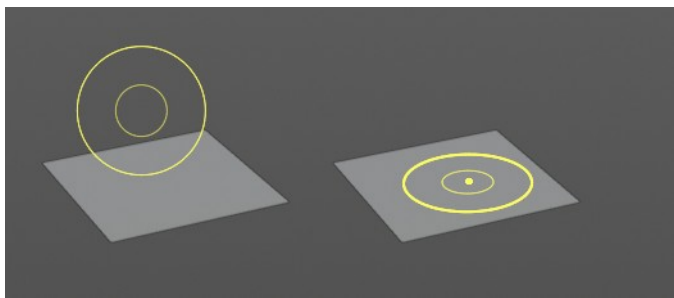
In Sculpt mode with a mesh object you will find mainly brushes in the tool shelf.

Transform and Annotate tools

The transform and annotate tools at the end of the list are explained in the chapter 7.1.1 Editors - 3D View - Tool Shelf - Object Mode. We won't cover this tools again here.

Brush cursor

When you activate one of the brushes then the mouse cursor turns into a brush cursor. This cursor represents the size of the current brush. It aligns to the surface under the mouse. When you start to draw then the brush cursor will disappear except for one little yellow dot in the center.

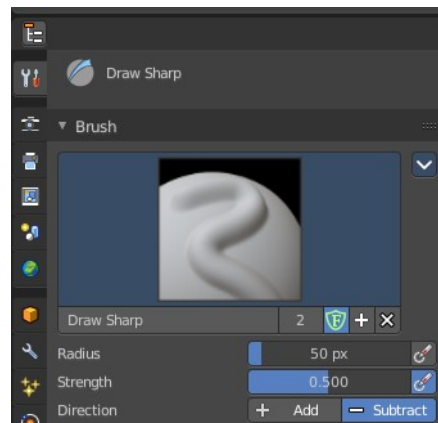
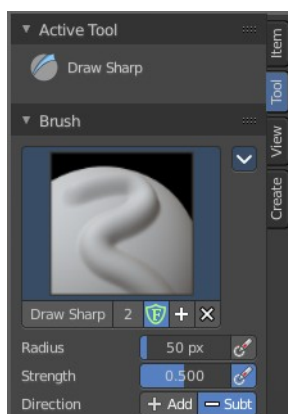
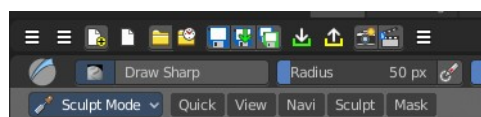


Brushes settings

The different brushes settings can be found in the sidebar in the tools tab. Or in the properties editor in the Active Tool and Workspace settings tab. Or above the header area.

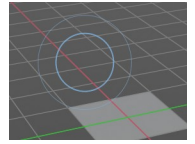
The different brushes settings in the Active Tool and Workspace settings are explained in the chapter 25.1 Editors - Properties Editor - Tools Tab.

We won't cover this chapters again, but just explain what the different brushes does.

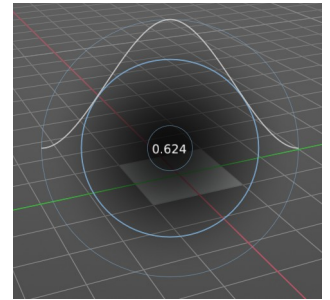


Hotkeys

Pressing **X** allows you to change the brush size onscreen. Drag the mouse to increase or decrease the size. Left click applies the new size, right click cancels the resizing.

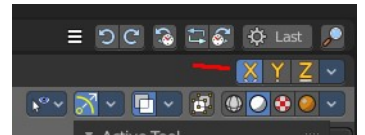


Pressing **C** allows you to change the strength of the brush. Drag the mouse to increase or decrease the size. Left click applies the new size, right click cancels the resizing.



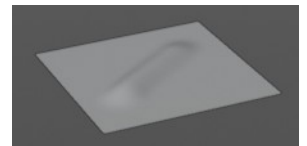
Symmetry

Note that the sculpting mode starts with Symmetry in X axis on. You can turn this off up right in the header.



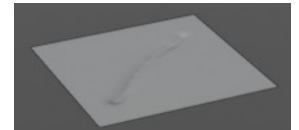
Draw

Draws a stroke.



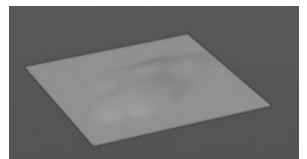
Draw Sharp

Draws a negative stroke. In the Brush panel you will see that the direction is set to subtract instead of add. But you can also set it to add. This brush is a bit sharper than the Draw brush.



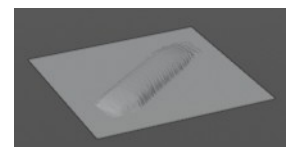
Clay

Draws a stroke. The pencil reacts different than with draw. It's more like sculpting, not so much like drawing, and deforms the surface also more in a sculpting style. The brush has a pretty weak effect in its default settings.



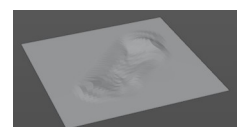
Clay Strips

Draws little strips on top of each other.



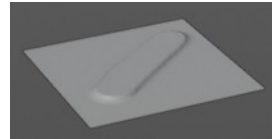
Clay Thumb

Draws like you would use the thumb.



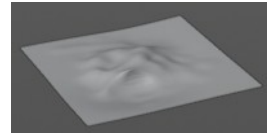
Layer

Adds a layer stroke with a predefined height. This height can be adjusted with the height slider in the Brushes panel.



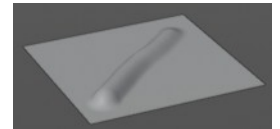
Inflate

Inflates or deflates existing strokes. See Inflate/Deflate setting in the Brush panel.



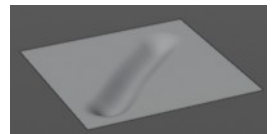
Blob

Reacts pretty similar to Draw. It draws a stroke.



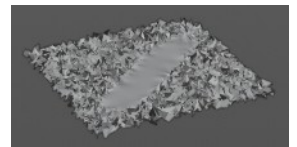
Crease

Draws a negative stroke.



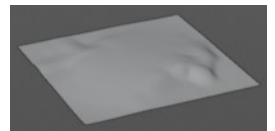
Smooth

Smoothens the surface.



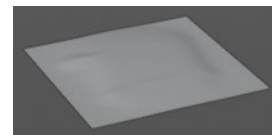
Flatten

Flattens the surface.



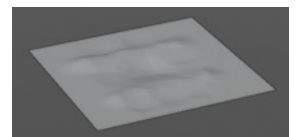
Fill

Tries to fill the valley between two hill strokes. Hard to see in the shot. And the default values have a very weak influence.



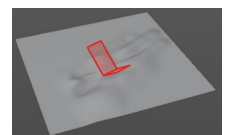
Scrape

As the name says. With this brush you can scrape.



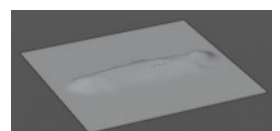
Multiplane Scrape

As the name says. With this brush you can scrape. But this brush takes different surface angles into account.



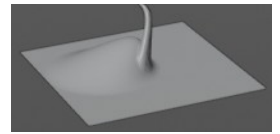
Pinch

Pinches existing strokes. Hard to see in the shot. What happens is that the stroke at the top becomes much sharper.



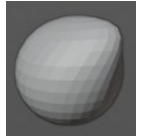
Grab

Allows you to grab a portion of the sculpt mesh and drag it around.



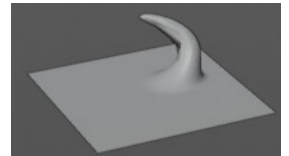
Elastic Deform

Allows you to grab a portion of the sculpt mesh and drag it around. This brush tries to preserve the volume of closed meshes. So it's best used at a closed geometry.



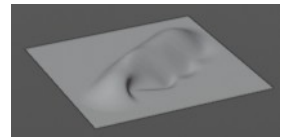
Snake Hook

Allows you to grab a portion of the sculpt mesh and drag it around. The tool reacts a bit different than the Grab tool.



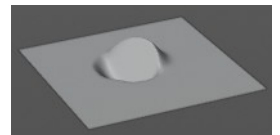
Thumb

Allows you to pull geometry around than you would press your thumb into the clay.



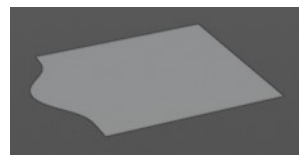
Pose

Allows you to pose the geometry under the brush by rotating it freely.



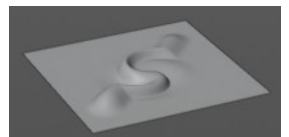
Nudge

Nudges the geometry. Drag it sideways.



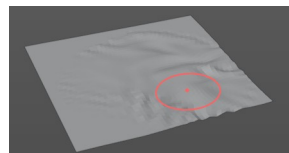
Rotate

Rotates the geometry under the brush, aligned with the brush alignment.



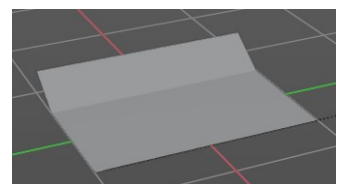
Slide Relax

Allows you to relax the surface in drag direction by dragging with the mouse over it.



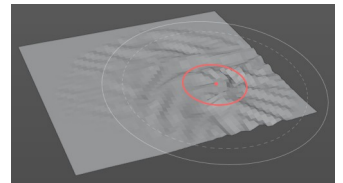
Boundary

Allows to deform the boundary geometry in various modes.



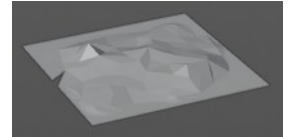
Cloth

The cloth brush allows you to crumple the surface like it would be a piece of cloth.



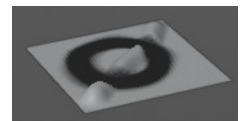
Simplify

Has no effect on quad geometry. This tool is of interest for Dyntopo sculpting. It simplifies the geometry, using the less dense areas as reference.



Mask

Allows you to mask out specific parts of the mesh by painting it black. Black means no sculpt stroke possible in this area.

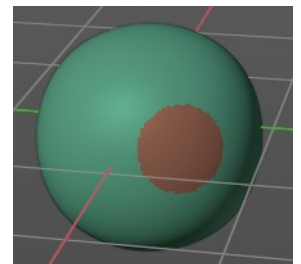


In the Brush panel you can negate the effect. And remove the mask by repainting over it with Direction set to Subtract.

The mask menu in the header provides you with further functionality like clear and invert the mask.

Draw Face Sets

Allows you to draw so called faces set areas. It is some kind of a permanent mask. Every drawn face set gets a random color assigned. This face sets can then be manipulated with the Mesh Filter tool. Or you can use them to hide the parts away that you don't want to sculpt at the moment.

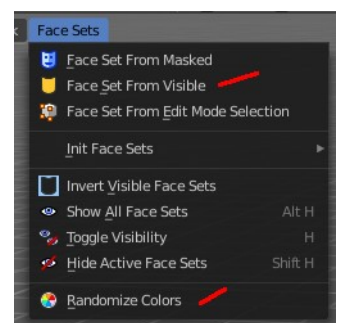


Holding Shift will relax or smooth the edges of the Face Sets.

Holding Ctrl will continue drawing the same Face Set as the one under the cursor.

Once you have painted Face Sets, the Face Set beneath your mouse pointer can be hidden by pressing the H hotkey.

Hotkey Shift H hides all Face Sets but the one under your mouse pointer. See also the Face Sets menu.



To reset all face sets choose Face Sets from Visible in the Face Sets menu, followed by Randomize Color. This should clear all colors.

Multires Displacement Eraser

Deletes the displacement information of the Multires Modifier. And resets the mesh to the subdivision limit surface.

Use case is to delete parts of the sculpt or to fix reprojection artifacts after applying a Shrinkwrap Modifier.

Multires Displacement Smear

Moves Multires displacement over the surface. This works like smearing a displacement texture. The brush can be used continually without creating topology artifacts.

Paint

Paint over vertex colors. Note that this feature is not supported when you work in Dynatopo.

Smear

Smears painted vertex colors. Note that this feature is not supported when you work in Dynatopo.

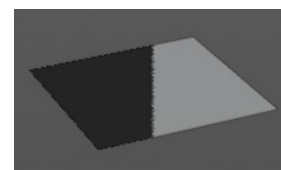
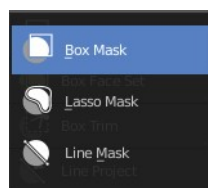
Mask selection tools group

Box Mask, Lasso Mask and Line Mask

Allows you to mask out specific parts of the mesh by selecting mesh parts, and mask them with black. Black means no sculpt stroke possible in this area.

This tools is, different from the mask brush not brushes, but select tools. Box mask and Lasso mask behaves like the general box and lasso select methods. To subtract hold down ctrl. Line mask selects along a line.

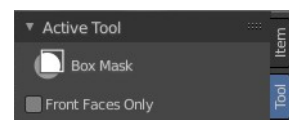
The mask menu in the header provides you with further functionality like clear and invert the mask.



Active Tool setting

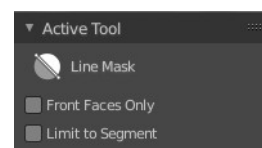
Front Faces only

Affect only the faces that points to the front.



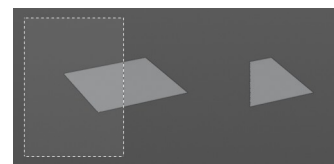
Limit to Segment

Line mask only. Affect only the current segment.



Box Hide

This tool allows you to box select parts of the mesh that gets hidden then. To reveal hidden mesh parts left click anywhere.

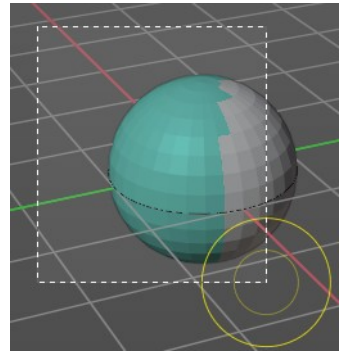


Box / Lasso Faceset tools group

Allows to select faces and apply a face set to it.

Box Face Sets

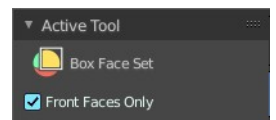
Box select an area of the mesh to apply a face set.



Tool Settings

Front faces only

Only affect the front faces.



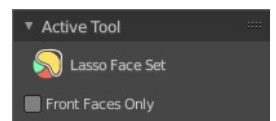
Lasso Face Sets

Lasso select an area of the mesh to apply a face set.

Tool Settings

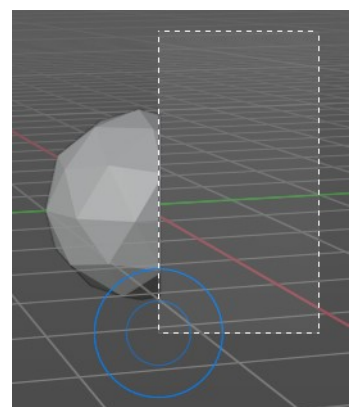
Front faces only

Only affect the front faces.



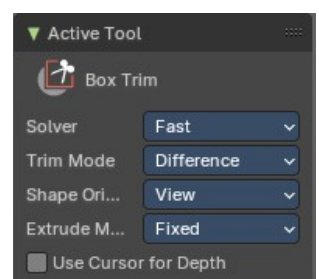
Box Trim / Lasso Trim tools group

Trim the geometry with a rectangle or lasso.



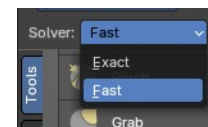
Box Trim

Tool Settings



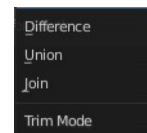
Solver

Use the Exact or Fast solver for the booleans that the tool uses. Exact is best used with non-manifold booleans, and fast is best used with manifold booleans.



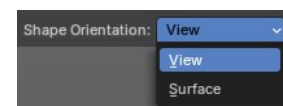
Trim Mode

What trim method to choose. Trim uses a boolean method. You have the choice between difference, union and join.



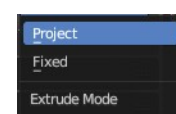
Shape Orientation

Use the orientation of the boolean aligned to the viewport or the surface.



Extrude Mode

How to deal with extrude.

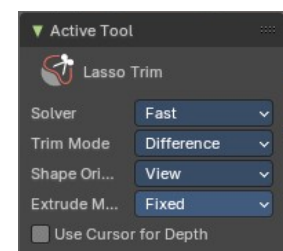


Use Cursor Depth

Use cursor location and radius for the dimensions and position of the trimming shape.

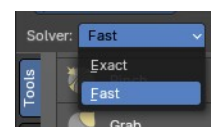
Lasso Trim

Tool Settings



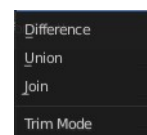
Solver

Use the Exact or Fast solver for the booleans that the tool uses. Exact is best used with non-manifold booleans, and fast is best used with manifold booleans.



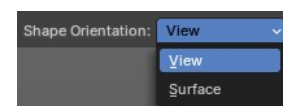
Trim Mode

What trim method to choose. Trim uses a boolean method. You have the choice between difference, union and join.



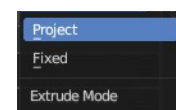
Shape Orientation

Use the orientation of the boolean aligned to the viewport or the surface.



Extrude Mode

How to deal with extrude.

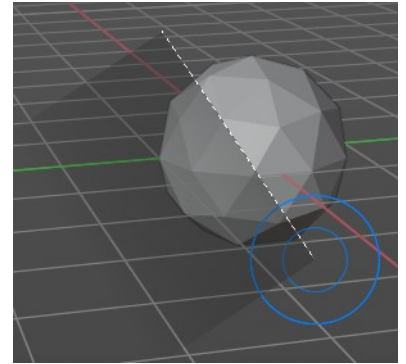


Use Cursor Depth

Use cursor location and radius for the dimensions and position of the trimming shape.

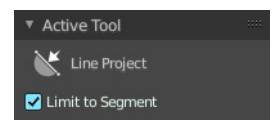
Line Project

Cuts away part of the mesh along a line.



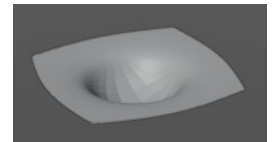
Tool Settings

Apply the action only to the current segment.



Mesh Filter

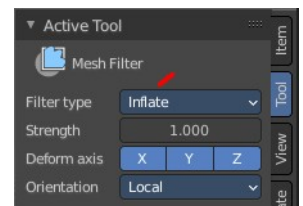
Apply a Mesh Filter Type. Mesh filters are something like deform modifiers.



Usage

Choose the filter type that you want to apply in the Tool Settings panel. Then drag with the mouse to adjust the amount.

To work with Face Sets first tick Use Face Sets in the Active Tool panel. Then hover the mouse over the Face Set that you want to manipulate. Then drag with the mouse to adjust the amount.

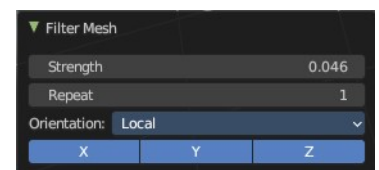


You have to adjust everything beforehand. This tool has no last operator.

Adjust Last Operator Filter Mesh

Strength

Filter Strength.

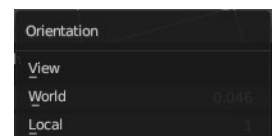


Repeat

How many times to repeat the filter

Orientation

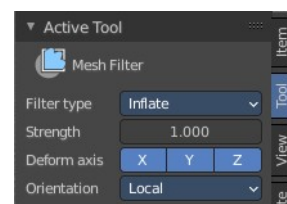
Orientation of the axis to limit the filter displacement.



Deform Axis

Which axis to affect by the deformation.

Tool Settings



Filter Type

Smooth

Smoothens the surface.

Scale

Scales the surface.

Inflate

Inflates the surface.

Sphere

Forms the surface to a sphere.

Random

Randomizes the vertices positions.

Relax

Relaxes the mesh.

Relax Face Sets

Smooth the edges of all face sets.

Surface Smooth

Smooth the surface of the mesh, preserving the volume.



Shape preservation

How much of the original mesh is preserved when smoothing.

Per Vertex Displacement

How much the position of each individual vertex influences the final result.

Sharpen

Sharpen the cavities of the mesh.



Smooth Ratio

How much smoothing is applied to polished surface.

Intensity Details

How much creases and valleys are intensified.

Curvature Smooth Iterations

How smooth the resulting shape is. This feature ignores high frequency details.

Strength

The strength of the effect.

Deform Axis

Limit the effect to single world axis.

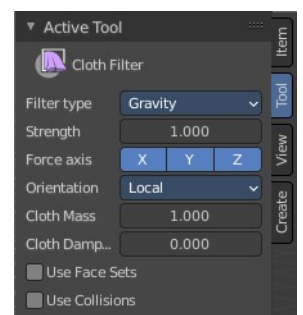
Cloth Filter

Applies a cloth filter type.

Choose the filter type that you want to apply in the Tool Settings panel. Then drag with the mouse to adjust the amount.

You have to adjust everything beforehand. This tool has no last operator.

Tool Settings



Filter Type

The cloth filter type.

Strength

The filter strength.

Force Axis

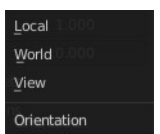
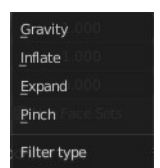
Apply the force in the selected axis.

Orientation

Orientation of the axis to limit the filter force. Local, World or View.

Cloth Mass

Mass of each simulation particle



Cloth Damping

How much the applied forces are propagated through the cloth.

Use Face Sets

Use an existing face set under the mouse for the cloth filter brush.

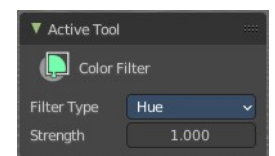
Use Collisions

Collide with other collider objects in the scene.

Color Filter

Applies a filter to modify the current sculpt vertex colors.

Tool Settings



Filter Type

What kind of filter to apply to the vertex colors.

Strength

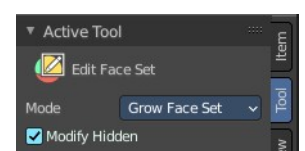
The strength of the filter.



Edit Face Sets

Allows you to grow or shrink the face set under the mouse.

Tool Settings



Mode

Grow or shrink.

Modify Hidden

Affect hidden face sets too.



Mask by Color

Creates a mask from the sculpt vertex colors under the mouse.

Tool Settings

Threshold

How much changes in color affect the mask generation. Or in other words, the threshold after which the color gets count as an equal color to the current vertex color under the mouse to mask this color out.

Contiguous

Only mask out color parts that are connected.

Invert

Invert the generated mask.

Preserve Previous Mask

Add to or subtract from the current color mask.

