

How to use the Complex Area Tool

The Complex Area tool utilizes Uniform and Creative Patterns as the fill mode for the objects created. This digitizing tool is utilized for closed and/or oddly shaped objects that would otherwise have to be created employing other tool types using many sections.

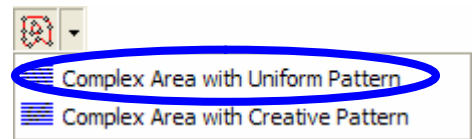
While the more advanced levels of the software offer other types such as Cross Stitches, Flexible Fills and Wallpaper Textures, we will mainly discuss on this article Uniform Patterns and Creative Patterns, their settings and stitch alterations that can be made in the Properties box, also known as the Object Inspector

Note: Uniform Patterns are also known as regular fills, while Creative Patterns are known as textured fills

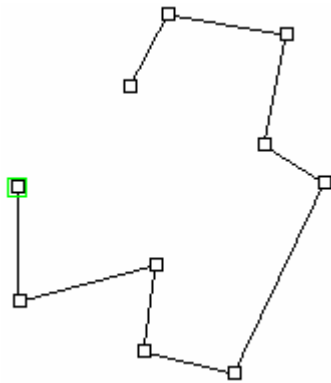
The Complex Area tool is unique in the sense that holes can be added to open up a section so that there are not layers upon layers of stitches. Like other tools, areas are created using mouse clicks and mouse movements completely enveloping the shape so that the stitches fill in the digitized object.

CREATION PHASE

Click the down arrow to the right of the Complex Area Tool icon and select Complex Area with Uniform Pattern.



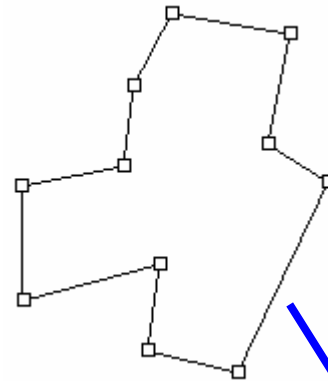
CREATE OBJECT



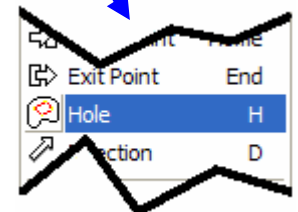
Click all the way back to the first node to close the object.



ADD HOLE to CLOSED OBJECT

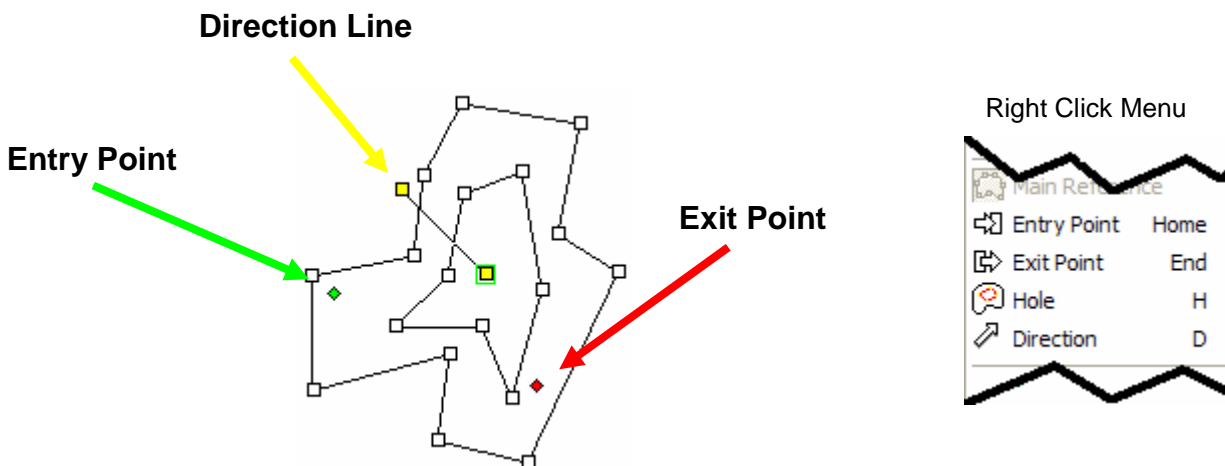


Right click on grid area and left click Hole.



Following the same procedure as for the object above, click inside the closed object to create the hole.

ADD DIRECTION LINE, and ENTRY / EXIT POINTS



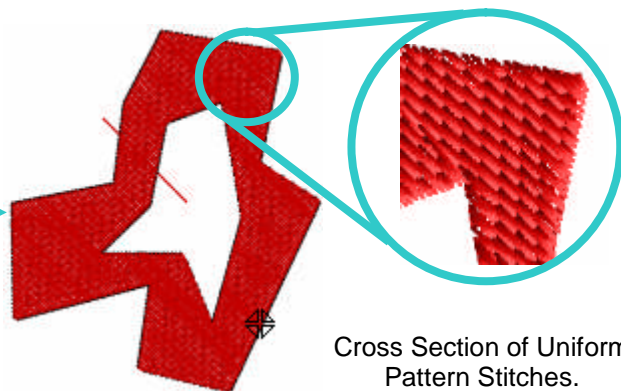
Let's add Entry and Exit Points and a Direction Line to our object.

1. Once again, RIGHT click on the design area and select ENTRY Point (Green), then click on the object where you want to place it.
2. Next, RIGHT click on the screen once again and select EXIT Point (Red), then left click on the object to place the exit point.
3. Right click on the grid area and select Direction. Left click for the anchor point of the Direction line then move across the object and left click to form the opposite side.

Note: When adding Entry and Exit Points, be sure to take in consideration subsequent objects. To create a closest point connection, place the Entry point of the next object close to the Exit Point of the previous object.

GENERATE SECTION



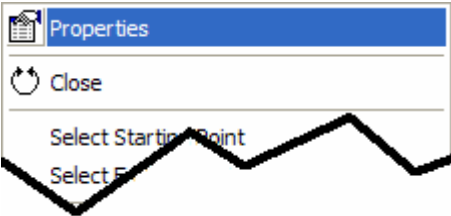
Once the Entry Point, Exit Point and Direction Line have been added to the object, you can generate the section by clicking the Lightning Bolt. Depending on the density of the section, it will fill in with stitches and look like the illustration on the right.



Cross Section of Uniform Pattern Stitches.

EDIT PHASE

Let's edit the section to adjust the sewing properties, including Density and Underlay for the intended material.

Click the Edit Section Icon 	AND	Click the section, then click the Object Inspector Icon 	OR	Right click on the design area and select Properties from the fly out menu. 
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OBJECT INSPECTOR (Properties)

In the Object Inspector (Properties), notice the functions available when different icons are clicked. We will discuss the different Stitch Function Headings where changes can be made to our created object. Notice that we have two different Object Inspector views---the Advanced Fill Properties mode and the Quick View mode.

Object Inspector: Complex Area

Object Inspector

Size & Order

Main


- Fill Mode: Uniform Pattern
- Color: 1
- Name: up-40-02-00-40-00
- Density: 4.50 lines/mm
- Spacing: 0.22 mm
- Edge Bordering: No

Adjustment & Compensation

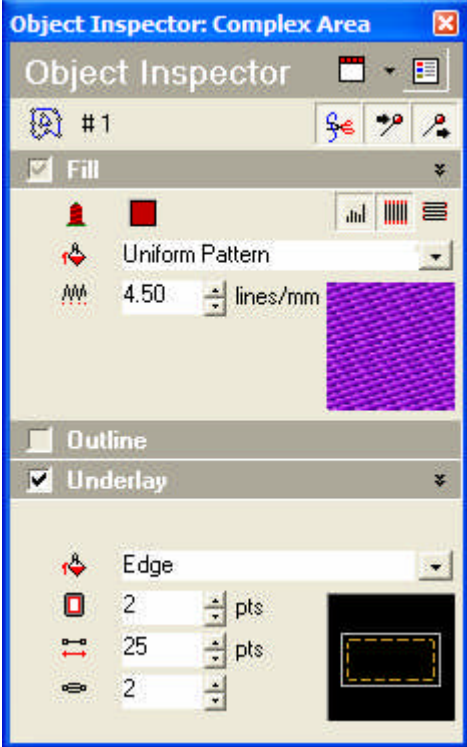
Stitch Effects

Connections & Functions

Tool Bar



Quick View

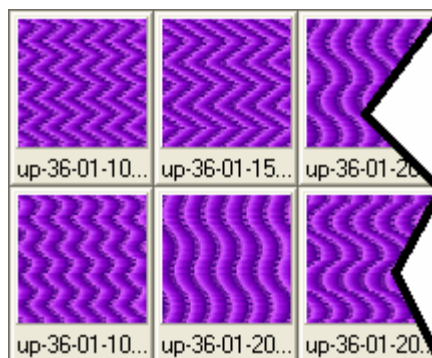


Hint: Clicking the icons at the top of the Object Inspector offers an At-A-Glance view such as the Toolbar and the Properties Quick View. Using the quick version, most of the commonly tools are at your fingertips, and settings can be changed quickly.

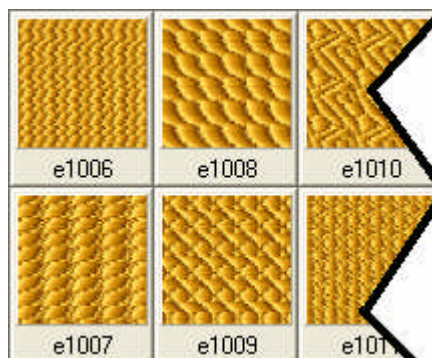
Main - FILL TYPE, COLOR & DENSITY

Fill Mode	Uniform Pattern	→	Stitch Type Selected
Color	1	→	Color of the Current Object
Name	up-40-02-00-40-00	→	Name of the Uniform Pattern Selected
Density	4.50 lines/mm	→	Density of Section Selected (note: 10 pts = 1 mm)
Spacing	0.22 mm	→	Distance between Stitches
Edge Bordering	No	→	Ability to square off row edges or use standard slant finishing

Selecting between Uniform Patterns and Creative Patterns can be accomplished in the Object Inspector by clicking on the Fill Mode box, then selecting from the drop-down menu. To the right are pattern selections from each category. To access these patterns, just click the Pattern Name box, then on the browse button that appears, which opens the Pattern Library. Select the pattern from the list.

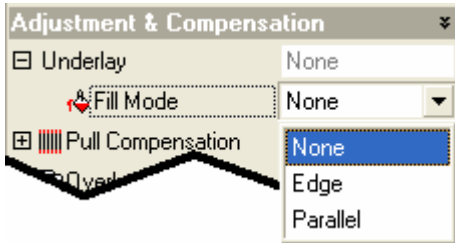


Fill Mode	Uniform Pattern	Uniform Pattern
Color	1	
Name	up-40-02-00-40-00	Creative Pattern
Density	4.50 lines/mm	
Spacing	0.22 mm	
Edge Bordering	No	



Notes about Pattern density...
 The Density parameter used in the sample above is just an example of a value that can be used. Spacing parameter changes automatically when a new number is entered in the Density box, or vice versa. Usually measured in points (10 points = 1mm), Spacing is the distance between rows of stitches, whereas Density is measured in lines/mm, representing the number of rows of thread per mm.

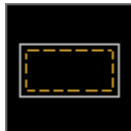
Adjustment & Compensation - UNDERLAY TYPES



You will find the Underlay parameters in the Adjustment & Compensation section of the Object Inspector.
 Below we see some of the different types of underlay available. Each type has its own properties, which can be further edited according to the material type that is being sewn.
 Note: The values in the boxes are representations only (not necessarily recommended for every material or stitch type).

EDGE

Underlay	Edge
Fill Mode	Edge
Margin	2 pts
Stitch Length	25 pts
Passes	2



PARALLEL

Underlay	Parallel
Fill Mode	Parallel
Margin	5 pts
Density	1.25 lines/mm
Spacing	0.80 mm
Max. Stitch Length	35 pts



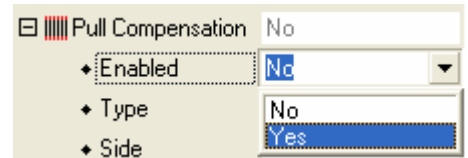
Other Underlay types

- None
- Edge
- Zig-Zag
- Double Zig-Zag
- Parallel
- Edge & Double Zig-Zag
- Edge & Parallel

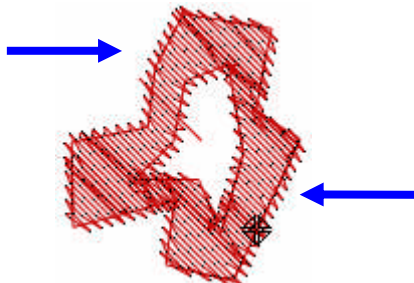
The types of Underlay above are featured in higher levels of software.

Adjustment & Compensation - PULL COMPENSATION

Adding Pull Compensation to a section will make the stitching wider, depending on the value and type of Pull Compensation used. Activate Pull Compensation from the "Enabled" menu.
TIP: Use Pull Comp on fills to help with registration issues, and in general to make objects stand out more.






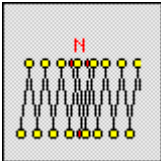
Pull Compensation	Yes
Enabled	Yes
Side	Both
Value	10 pts



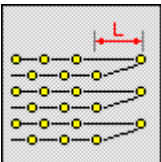
Pull Compensation gives the stitch extra width, based on value entered in the box. The extension from the wireframe stays the same regardless of the stitch width.

Adjustment & Compensation - OVERLAP and UNDER PATH

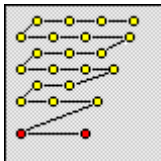
 Overlap	2 line(s)	Rows of stitches to overlap when segments converge (to avoid gaps on the stitching)
 Exclusion Margin	10 pts	Distance from the edge at which no stitch pattern will sew
◆ Avoid on Small Width	10 pts	Ability to avoid a stitch pattern when the width of the object reaches specified value
 Under Path	Yes	Traveling stitches that take place within objects (to generate close point connection)




Overlap is a good function to ensure gaps don't occur when opposite sections of the object meet. This is especially helpful when sewing on woven fabrics sewn on the bias. Generally, 2 lines is a good overlap value to use for most fabrics.

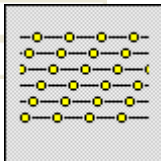


Exclusion Margin is the distance from the edge at which no stitch will be placed. This will help avoid an otherwise irregular edge where tiny stitches would occur. The value placed for this function would create a single stitch to the edge of the object.




This function allows the software to place a stitch no smaller than the value you set, thus avoiding extremely small stitches to be placed when one edge-to-edge stitch is sufficient. Highly recommended for narrow sections of an object when using fill stitches.

 Under Path	Yes
◆ Centered	Yes
◆ Stitch length	20 pts
◆ Edge Distance	10 pts



The Under Path is ALWAYS active. Its main function is "Closest Point Connection" between two sections. Centered Under Path is default, however, it can be on either side depending on the value entered. Usually the Stitch Length of 20 points is good, but there are times when you want the stitch length to be about 10-14 points for extremely small sections such as lettering.

Stitch Effects - RANDOM

Stitch Effects	
 Random	Yes
◆ Enabled	Yes
◆ Side	Side A
◆ Value	50 %

- Side A
- Side B
- Both**



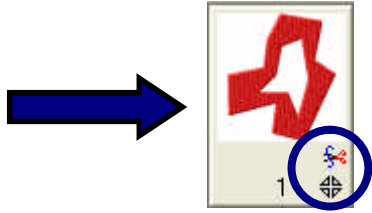
SIDE A SIDE B BOTH

Use Random Stitches to add jagged edges to your objects, using a factor ranging from 0% to 100% on either or both sides of columns. Make sure the Underlay is set to "None" so it is not seen where there are no fill stitches.

Connections & Functions — ENTRY POINT, EXIT POINT, TRIMS

When editing an object to add Lock Stitches, these can be found in the Entry Point and Exit Point menus, under Connections & Functions. Generally, two (2) Lock Stitches at the beginning and four (4) Lock Stitches at the end of an object will ensure a secure tie-off before a trim.

Trims can be added to the section using the “Cut at the End” function, located in the Connections & Functions menu. To view the inserted trim, open the Sequence View; a pair of scissors will appear on the lower right corner of the object icon.



DID YOU KNOW?

- Complex Area with Uniform Pattern
- Complex Area with Creative Pattern
- Complex Area with Special Stitches
- Complex Area with Cross Stitch
- Complex Area with Flexible Fill
- Complex Area with Texture

These Stitch Types are available for Complex Areas in higher levels of Embroidery Office®.

Use **TEXTURE** to apply wallpapers to your digitized objects, or **FLEXIBLE FILLS** to add a rolling hill backdrop to a wildlife scene, or **CROSS STITCHES** for crafts, or **SPECIAL STITCHES** for decorative backgrounds.

SIERRA SAYS...

The Complex Area tool is best utilized for large, open areas or for areas that require a hole.

In higher levels, the addition of an automatic border, which can be separated from the original object, serves a two-fold purpose, making digitizing a bit quicker.

Uniform Patterns are an excellent alternative to satin stitches on the back of a garment where columns wider than 3/8” need a fill pattern instead of wide satin stitches that are more vulnerable to snags.