DesignWorks- CrystalWork Skillbuilder

Crystal Shapes & Fills

The following exercise will cover the basics of filling and editing a Crystal shape. For detailed CrystalWork software instructions, review the Design Works manual. Select *Help> Help Topics*. Select the *Index* tab and in the *Search* box, enter:

- Shapes
- Crystals

Select the keyword; then click on *Display* to find more information in the manual. Select the topic you want to explore on the right-hand side.
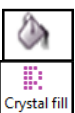
Open the Design Works Software

- Double click on the DesignWorks icon to open the software and select *Next* in the *New Design* dialog box or if the software is open, select *File> New*.
- From the *Fabric* dialog box, select *Next*.
- From the *Artwork Source* dialog box, place a radio dot in *New Graphic*.
- From the *Hoop* drop down menu, select BERNINA Mega Hoop 400x150, #48. Click *Finish*.
- Select the *View* menu and make sure the following items are checked: Stitches, Overlapping Crystals, Hoop, and Status Bar.

Create a Shape:

- Select *Create Ellipse.*
- Click on the design area, drag the cursor to the right and down. Right click to set the circle, deselect the tool, and select the object.
- In *Tool Options,* make sure *Proportional* is not checked*.*
- Change the *Height* and *Width* to 65mm.

Add Crystal Fill

- While circle is selected, in *Object Properties,* select the *Fill* tab.
- Click on *Crystal Fill*.
- Select *Create Rectangle Array.*

- In the *Tool Options,* edit the array*:*
  - Horizontal copies: 3
  - Vertical copies: 2
  - Horizontal spacing: 8
  - Vertical spacing: 8
- Click *Apply Rectangular Array.*

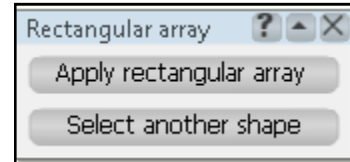*The default Crystal Fill is Shape Fit. A variety of fill options and editing functions are available within the CrystalWork module.*
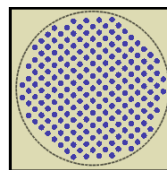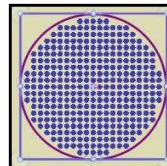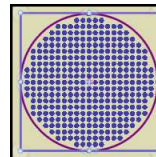
Editing the Fill

Circle #1: Rectangle Fill

The circles will be referred to by number as shown in the illustration for the remainder of the exercise.

- Select Circle #1.
- In *Object Properties, the Fill Tab* should still be selected*.*
- Select crystal Size 10 and the color, Cobalt Blue.
- From the *Fill* drop down menu, select **Rectangle**.
- Change the spacing of the crystals:
  - *H. Spacing* to 3
  - *V. Spacing* to 5
  - Press *Enter* or click on the design screen*.*
- Change the angle of the rows:
  - *Start Angle* to 45
  - *Slant Angle* to 45
  - Press *Enter.*

Rectangle fill *creates horizontal and vertical rows of evenly spaced crystals.*

The distance between the horizontal and/or vertical rows of crystals may be altered by changing the values in the H. Spacing or V. Spacing box.

Take care when adjusting spacing and angles of fill stitches to avoid positioning crystals too close together.

Start Angle *specifies the angle of the horizontal rows;* **Slant Angle** *specifies the angle of the vertical rows.*

Experiment with various settings to see how they impact the fill.

Select from the range of colors available for the Crystal brand that will be used to complete the design to "audition" color options.

Circle #2: Circular Fill
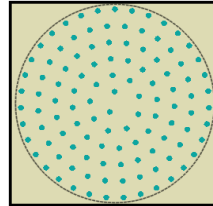
- Select Circle #2.
- In *Object Properties,* select crystal Size 10 and the color, Cobalt Blue.
- From the *Fill* drop down menu, select **Circular.**
- Adjust the spacing between the rows by changing the *H. Spacing Value* to 5 mm.

Circular fill *creates evenly spaced concentric rows of crystals.*

- Make these additional adjustments:
  - *Start Angle* to 45
  - *Steps* to 4
  - Make sure the *Offset* box is checked.
  - Enter 5 in the box.
  - Change to –5.
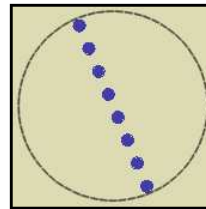 - Uncheck the *Offset* box.

Circle #3: Contour Fill

- Select Circle #3.
- In *Object Properties*, select crystal Size 6 and select *Color/Shape* Blue Zircon.
- From the *Fill* drop down menu, select **Contour.**
- *Make these adjustments:*
  - *H. Spacing: 4 mm*
  - *V. Spacing: 4 mm*

Note the less structured placement of the crystals using Contour fill.
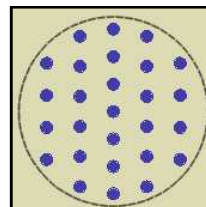
Circle #4: Single Line

- Select Circle #4.
- In *Object Properties,* select crystal Size 10 and select Montana for the color.
- From the *Fill* drop down menu, select **Single Line.**
- Change the *Horizontal Spacing* to 2.

Note this is not an effective option for a fill.

Circle #5: Shape Fit

- In *Object Properties,* select crystal Size 10 and the color, Sapphire.
- **Shape Fit** should still be the selected fill since it is the default.
- Make these adjustments:
  - *H. Spacing*: 4
  - *Start angle:* 90º
  - *V Spacing*: 6

Notes:

Start Angle *defines the positioning of the rows of crystal in relation to the Step Value.*

Steps *defines the number of crystals set around the center of the circle.*

Offset *refers to the distance the crystals are positioned in relation to the shape's perimeter. A positive value moves the crystals outward, a negative value moves the crystals further inside the shapes perimeter.*

If the offset is unchecked, the crystals will be positioned to fill the shape as defined by the Step and Angle Values.

Contour *positions the crystals following the shape. The designs shape will impact the distance between and layout of the crystals.*
Contour fill is an effective option for complex or organic shapes.

Single line *is used to fill areas with Crystals positioned in a continuous line. Best suited for outlines and simple lettering.*

Horizontal spacing *may be used to fine tune the spacing between the crystals.*

Shape fit *is the default crystal fill, suitable for most shapes. Crystals are positioned according to the object shapes; not confined to a consistent set spacing.*

Adjusting the **H. Spacing** *adjusts the spacing between the horizontal rows of crystals. The V. Spacing alters the spacing between the vertical rows.*

Note that the **start angle** *impacts the visual representation of the H/V spacing*

Circle #6: Line Fit

- In *Object Properties,* select crystal Size 16 and select Dark Indigo.
- From the *Fill* drop down menu, select **Line Fit.**
- Make these adjustments:
  - H. Spacing: 3
  - Check *Offset*; change to –2.5 mm
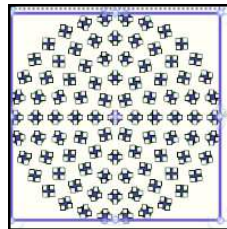
Saving & Exporting

- Click on *Manage Hoop Options*.
- Place a check mark in front of *Center design to hoop and Rotate by 90º.*
- Click *OK.*
- Move the circles within the hoop so they fit within the boundaries. Click on the selection box around the design to move.
- Select *File> Save As*, navigate to the location to save the file and name the file, Crystal Shapes & Fills.
- To export a crystal file, select *File > Export > Crystals to Machine.*

Separate to Crystals

- Detailed adjustments may be made by activating *Separate to Crystals* in the *Object Properties* dialog box*.*
  - If individual crystals must be deleted; then, you must separate the crystals.
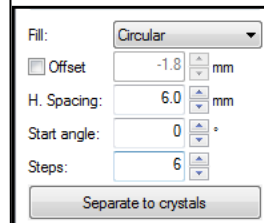 - If you wish to move individual crystals; then you must separate the crystals.
- Select the *Create Ellipse* tool to draw another circle that will fit within the hoop. Hold the *Ctrl* key as you draw to draw a circle; release the mouse before releasing the *Ctrl* key.
- Hit the space bar to select the circle.
- While circle is selected, in *Object Properties,* select the *Fill* tab.
- Click on *Crystal Fill.*
- Select *Circular* for the Fill Type.
- Click on *Separate to crystals*.
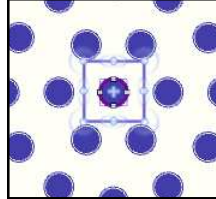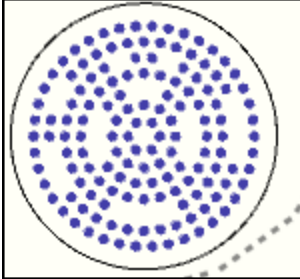- While circle is selected, right click and select *Ungroup.*

Notes:

A combined embroidery and crystal, cut-work and crystal, or paint and crystal will be exported twice. The Export icon can be used to export an embroidery, cut-work, or painted file, but to export the crystal file, you must use the file path, File> Export> Crystals to Machine.

Fill:	Circular ▼
☐ Offset	-1.8 mm
H. Spacing:	6.0 mm
Start angle:	0 °
Steps:	6
Separate to crystals	

Once separated, the object is no longer able to be edited as a unit. This should be the final step in editing. Before separating, save a copy of the file for future editing options; then select File> Save As and keep the same file name, but add –"sep" to the name of the file.

When the object is separated, the crystals within the component of the design are grouped. Right click on the area and select Ungroup. Individual crystals can now be moved.

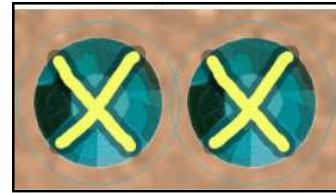- Experiment with placement of individual crystals or deleting crystals.

- Because *View > Overlapping Crystals* was activated earlier, any overlapping crystals can be seen. You may need to zoom in on the circle to see the X's.
  - A yellow X will appear on any crystals that have outlines overlapping. These are best moved so that the template will not tear because the punches are too close together.
  - A red X will appear on any crystals that have crystals overlapping. The crystals must be moved until the X's disappear or the template will have intersecting holes.

The CrystalWork Accessory Tool and compatible BERNINA embroidery machine are needed to execute a completed CrystalWork design.

Crystals outline overlapping

Actual Crystals overlapping

Refer to the CrystalWork tool manual for details regarding the use of the tool.