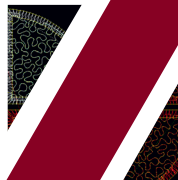
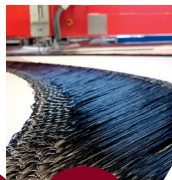
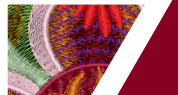
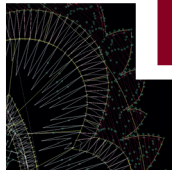
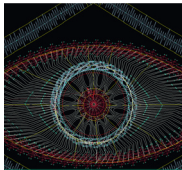
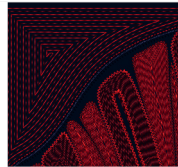
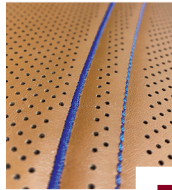
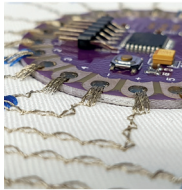




ZSK STICKMASCHINEN



NEWS



EPCWIN

DRAWING • EDITING • DIGITIZING

INTRODUCTION

Welcome to the new EPCwin Version 7.0

With this version many new functions are available to you. And of course, thanks to your feedback, the software has been continuously improved.

Many improvements await you that will make your day-to-day work easier. You won't want to miss many functions after a short time.

This is followed by a description of the individual points with which you can understand the new features in detail and optimally set your system for further use.

Important note about the hardware requirements:

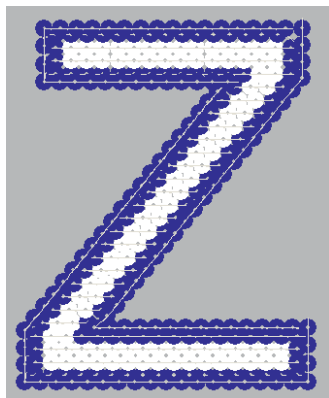
A current Windows PC is sufficient to use the EPCwin. (E.g. Intel i5 or AMD Ryzen processor, 8 GB RAM, simple graphics card, hard disk or SSD). However, we recommend a monitor with at least 24 „and FullHD resolution with 1920 * 1080 (16: 9).

A resolution of 1920 * 1200 (16:10) would be better, or a 27 „monitor with WHQD resolution 2560 * 1440.

The EPCwin 7.x is not designed for“ 4k „monitors. In order to be able to work with these monitors, the Windows scaling usually has to be increased. This in turn means that some dialogs and the EPCwin assistant area are not displayed correctly.

NEW DIGITIZING PROGRAMS

Program 16: Sequins on an area



This new program combines the area filling program 14 with the program 35 (spreading sequins on a line).

The contours are entered in the known manner. In addition to the outer contour, a stitch position must be defined. This can also be curvy. With further stitch positions you influence the course of the rows to each other.

After entering the stitch position (s) you have the option of defining areas in which no sequins are to be placed ([F2] hole) or sequins of the other band are to be set ([F3] other tape).

Area parameters in the parameter set control the sequence of the series during the calculation.

Parameter area

☒ Yes
Absolute distance

mm
Space

Overlap

☒
Sequence horizontal

☐
Sequence vertical

The row spacing can be set in two different ways. If „Absolute distance“ is active, the distance (in millimeters) can be defined. Set to “No”, an overlap in % (refers to half the diameter of the set sequin size) can be defined.

Two further parameters determine the horizontal and vertical running order of the sequins:

Horizontal run sequence:

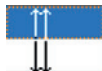


All rows are processed from left to right.

The rows are processed alternately.

All rows are processed from right to left.

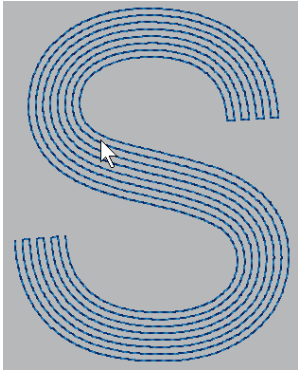
Vertical run sequence:



The rows are processed from bottom to top.

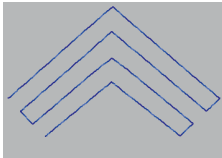
The rows are processed from top to bottom.

Program 11: Curvy filling



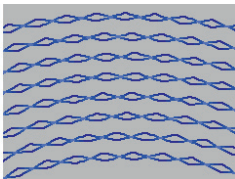
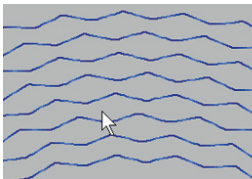
The previous curvy filling program was improved with a simplified contour input. So far, contours and stitch positions were defined with the input of pairs. The contour course could not be controlled well. The new input form is much easier to use. You enter both contours one after the other (see Prg.1 standard enter mode). The second contour can also be a parallel to the first. The two outer contours are followed by the caps, which you can use to check the lateral closure of the surface. If the ends are to be finished smoothly, you can skip the entry with [Return].

Subsequently, running lines are calculated, which align from the first outer contour to the second. The number of running lines results from the mean distance between the two outer contours and the set stitch distance.



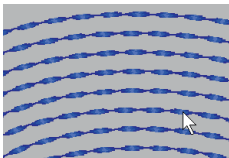
Corresponding corners in the outer contours are transferred to the running lines.

As with program 20, a running line can be followed up to five times. There are individual stitch variants for each path:



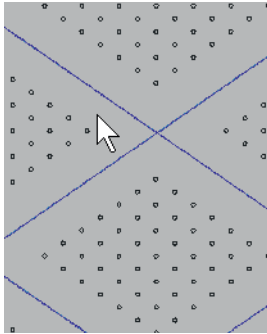
Wrap: The lock stitches can be provided with a wrap or double wrap.

A stitch offset by half or a third ensures that the stitches do not lie on top of one another on the forward run and return path.



Bean stitch: If the stitch repetition is greater than one, the bean stitch can be switched on. With the bean stitch width and stitch shortening, you control the shape of the bean.

CREATION OF DESIGNS FOR OPS II (ZEPL)



The OPS II system from ZSK was developed to handle perforated materials e.g. to embroider leather used in car seats, motor homes, boats and airplanes. The perforation holes are arranged in groups. Seams or satin stitch borders are then embroidered between the groups of holes. Tolerances, shrinkage, or linear stretching make these materials unsuitable for sewing the entire design in one go. The seams would no longer lie exactly between the groups of holes in the embroidery process. The OPS II calculates corrections that lead to an exact embroidery result.

To do this, the overall design is divided into individual sections. At least two reference points are defined for each section. This data is then exported and loaded into the OPSII control on the machine. Before a section is sewn, a camera mounted on the machine is used to compare the current position of the reference points with the target positions. The calculated deviation is corrected in the next section of the embroidery.

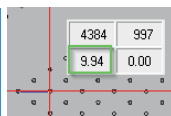
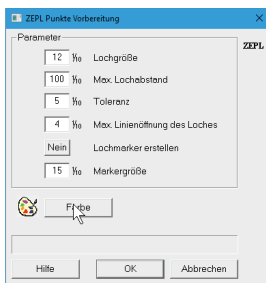
The EPCwin provides the functions for this to create a data record for this process.

Preparation



Normally the perforation pattern is in a vector format, e.g. dxf. After the import, set the OPS II / ZEPL to „Yes“ in the design head.

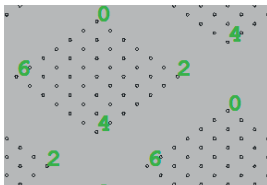
1. Recognize groups of holes



Measure the diameter of a hole and the maximum distance between two holes. Now you mark all groups of holes and call up the „ZEPL point preparation“ function in the block tools.

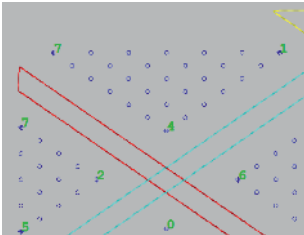
Set the hole size and maximum hole spacing. Depending on the DXF file, it can happen that the holes are not closed. With the parameter „Max. Line opening of the hole“ you can correct this error. Crosses can be placed in the center of all holes in the same pass. The size and color of the cross can also be adjusted. The action is carried out with OK. In a group of holes, certain holes are marked that can be recognized with the OPSII control.

There are 16 different types, numbered 0-15.



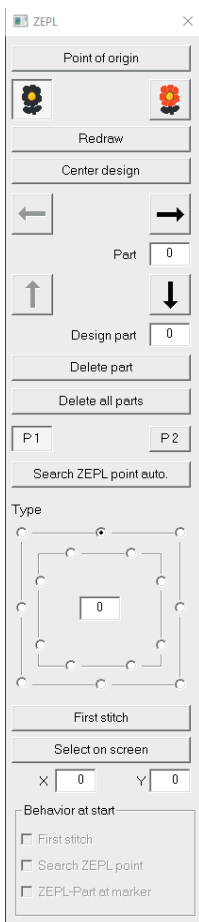
2. Digitize sections

The next step is to digitize the ZEPL sections.



You start with a stitch (no jump stitch) at the first reference point (red arrow) followed by a block marker. Now digitize the actual stitches of this section with the EPCwin digitizing functions. In our example it is the light blue quilting line. At the end of the section there is usually a thread cut. Repeat this sequence until all sections have been created

3. Define ZEPL parts



Use the block selection Marker [3] [5] to mark the first section. The function ZEPL-Parts [0] can be found in Block tools [4]. The following dialog appears.

P1/P2: Here you can switch between reference point 1 and 2 in the display.

Search ZEPL-point auto.: The reference points are automatically assigned to the section. The reference point is searched which is closest to the start or end point of the section. For this feature it is necessary that the preparation of the ZEPL points has been carried out beforehand.

Type: Here you set the type of reference point. (The type list is in the next section.)

First stitch: The first stitch of the section is also the first reference point (P1).

Select on screen: You define the reference point graphically in the design.

Behavior at start

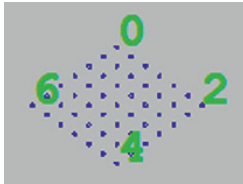
First stitch: When the dialog is called up, the first stitch of the section is always automatically set as reference point 1.

Search ZEPL point: When this dialog is called, both reference points are automatically searched for and the reference point types are selected.

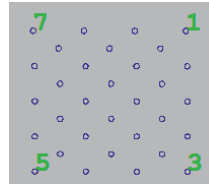
ZEPL-Part at marker: If a marker is set while punching, a section is automatically created. This includes all stitches between 2nd last and the last placed marker. The definition dialog is called. There you can make the remaining entries.

Description of the reference point types

Type 0 – 7

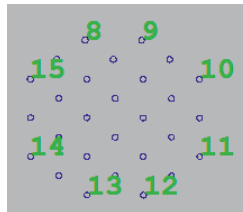


- 0: top center
- 2: middle right
- 4: lower middle
- 6: middle left



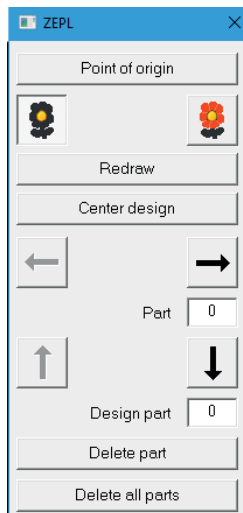
- 1: Top right
- 3: Bottom right
- 5: Bottom left
- 7: Top left

Type 8 – 15



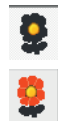
- 8: upper left edge;
- 9: upper right edge
- 10: upper right edge;
- 11: lower right edge
- 12: lower right edge;
- 13: lower left edge
- 14: lower left edge;
- 15: upper left edge

ZEPL-Part-Editor



You call the ZEPL Part Editor in the Global Editor.

Point of origin: The first stitch of a ZEPL design must always be in the coordinate zero point. This is necessary so that the embroidery machine can find the reference points in the embroidery process. Both coordinate systems (EPCwin and machine) are thus synchronized. With this function you can move the pattern to the zero point.



Only the current ZEPL part is shown in color



All parts up to the current one are shown in color.

Use the left / right arrows to scroll through the parts.
Use the up / down arrows to change the processing sequence in the embroidery process.

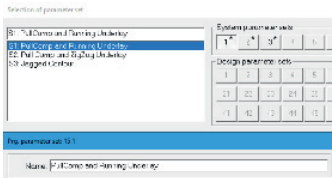
Design part: The assigned sample part is displayed here.

Delete part: This removes the current part from the process list. The assigned pattern part is not deleted.

Delete all parts: All parts are removed from the process list.

MORE NEW FUNCTIONS IN PUNCH MODE

- **1000 stitch directions per satin stitch object:** With version 7, up to 1000 stitch directions can be entered or automatically calculated in a satin stitch object. So far there have been 250.
This applies to programs 1- 6 and also for objects with a center line
- **Program 1-6:** Change in the reference data input: When you have entered the two outer contours and you are in the stitch direction input, you can trigger the automatic stitch direction generation with [Return]. The prerequisite is that you have not yet entered a stitch direction.
- **Program 20:** New parameter „Irregular stitch length“:
If irregular is activated, another stitch length parameter „Minimum stitch length“ is available. The stitch length within an object now varies between the minimum and maximum stitch length.
- **Parameter sets with names, preview in parameter sets:**



You can now assign a name to each parameter set. These names are displayed in a list at the top left and can also be selected there directly

- **Stitch distance in parameter sets:**



In programs 1-6, and 11/14/15, the stitch distance can now alternatively be

defined in the parameter set. So far, the stitch distance was always set individually in each object.

- **Program 14/15:** The type of edge for area underlays can now be set. The following edge types (Fig 01) are available.
- **Program 14:** The stitch distance can now be up to 650 1/10 mm.

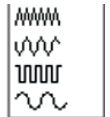
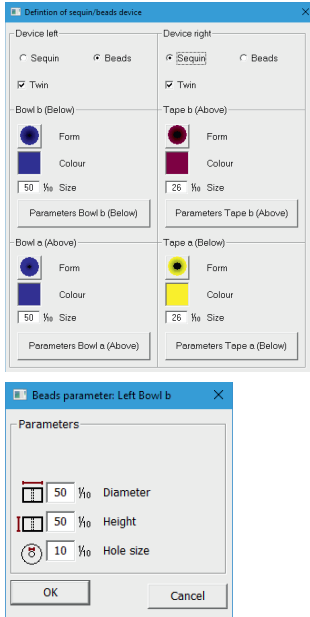


Fig: 01

- **Enter contours:** The grid mode can be switched on or off with the shortcut buttons [4] [5]. [4] [6] switches the line limitation on or off.
- **Point limit of contours:** From now on, one contour can have up to 4000 support points.

BEADS SUPPORT

Definition of the bead size in the design head:



The dialog “Definition Sequin / Bead Device” now offers the option of defining the sequin or bead device mounted on the left or right side of the embroidery head. In the example it is a (twin) bead device on the left and a (twin) sequin device on the right. While sequins are referred to as different ribbons, beads are kept in two separate bowls of the facility. If you want to set beads from the upper bowl when punching, you must select „Bead A” for punching, and „Bead B” for beads from the lower bowl.

Up to now only round pearls can be processed. You set the other parameters of the bead in an extended dialog.

Setting of beads in manual digitizing:

Beads are set with a double click. The EPC automatically sets the respective fixed embroidery stitches. The corresponding special function 51 (left device) or 50 (right device) must be set beforehand. With [F9] you can select bead A or B or the way in which a bead behaves when embroidered. At the point where you double-click, the machine stitches in. There are three different ways to fix beads:



The bead stays with the hole facing up.



The bead tilts to the side in running direction.



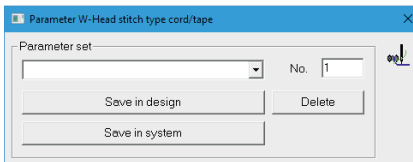
The bead tilts upwards across the direction of travel.

In programs 35 „Sequin on line” and program 16 „Sequin on an area”, you can switch between sequin and bead mode in the parameter set.

PARAMETER SETS FOR W-HEAD UND K-HEAD

For the W head and K head, parameters for the respective head and the embroidery type can now also be changed within the embroidery process.

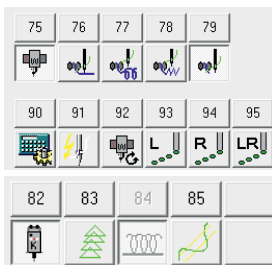
Parameter sets can be created and edited both in the design head as well as in the special function dialog. In the design head you first select a machine with a W or K head. Now you have to define the start head type, then the start embroidery type. If you tick the box next to “Set machine parameters” you can edit the parameter sets.



In addition to the parameter set No., you can also assign a name. Click **Save in the design** to save the set in the design. **Save in the system** stores this record in the system parameter records. **Delete** removes it there again.

Parameter sets can also be taken from a TC file. This is e.g. practical when the embroidery settings are determined empirically on the embroidery machine. After the values have been determined, save the data on the machine as a TC file. You select this file in EPCwin when you click on **Adopt from TC file**.

While digitizing, you can then switch to a different head or embroidery setting in the embroidery process:



First select the desired header type. **SF 75** switches to W head, **SF 82** to K head.

Embroidery types for the W head are:

76: ribbon; **77:** coil; **78:** zigzag and **79:** embroidery.

The types of embroidery for the K head are:

83: Chain; **84:** moss and **85:** winding (only on older machines with CS head).

With SF 90 you switch to the corresponding parameter set for the current embroidery type. You can now select the desired parameter set from the name list or enter the number of the parameter set.

The following special functions are new or have been sorted differently in the dialog:

91: Wire monitor: In the case of wire laying units, the machine checks whether the needle has touched the deposited wire and stops the embroidery process.

92: Turn off manually. This special function triggers a manual unscrewing process for the W head. You have to specify whether you want to turn with or against the clock.

93-95: A hole punch device can be attached to special machines. These punches are triggered with these special functions. A distinction can be made between one-sided (left / right) or both sides.

NEW FUNCTION IN EDIT MODE

- **Program 20 cut lines:**

An object 20 can now be divided into two individual objects. First select the object by clicking the point in the contour where the object is to be separated. With [F7] the object is divided at this point. Two separate objects are created. It is necessary that the object only consists of one main line without any sublines.

- **New shortcut key „E“ in the object editor:**

The end point can be directly selected by pressing the “E” key. With the next click you determine the new position.

- **Fast parameter value change:**

Parameter values in dialogs can now be changed with the mouse wheel. First select the parameter that you want to change. A notch with the mouse wheel downwards decreases the value by 1, a notch upwards increases it by 1. If the [CTRL] key is pressed at the same time, the parameter is changed in steps of 5. For numbers with a comma, pressing [Shift] at the same time changes the value in 0.1 steps.

- **New short cut options:**

There are now shortcut keys in the dialogs for “Dissolve object”, “Stitch position parameters” and “Insert elements in object”.

- **Dissolve in program 20:**

If a filling object (satin stitch or quilting area) is converted into program 20, corners are now built into the quilting line contour for reverse stitches. These corners are precisely approached in the calculation.

- **Converting curves into corners (drawing lines):**

You can now convert curve points into corner points and vice versa in the block tools. The selected points can also be deleted.

- **Connect lines:**

It often occurs that when importing DXF files, the contours consist of nothing but short individual pieces. These can now be automatically linked in EPCwin to a single line. To do this, select all line segments, e.g. with the rectangle selection. In the block tools [F4] you will find the new function „Connect lines“.

- **Snap:**

Stitches can now be snapped to grid lines in the editor.

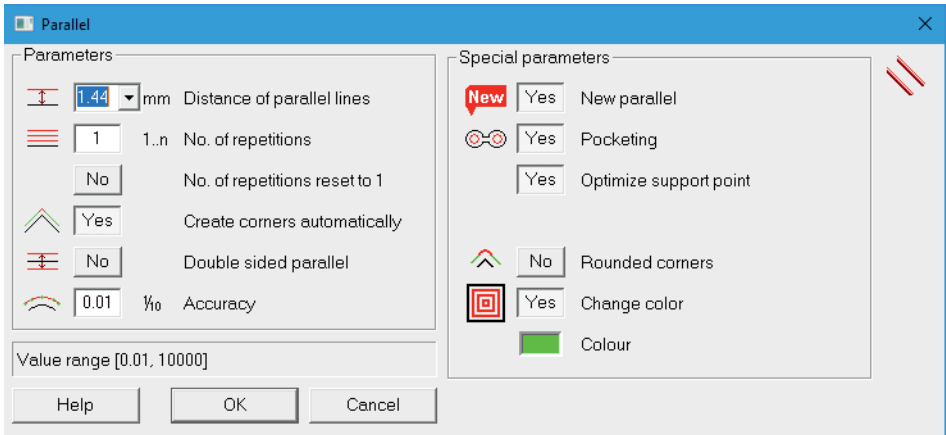
- **Undo:**

The undo function now works for the following actions:
Cut drawing lines; Replace contour; Dissolve object; Block copy

NEW DRAWING PROGRAMS

New parallel algorithm

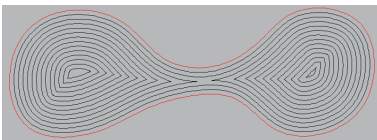
A new parallel algorithm was developed for EPCwin7. After you have selected a drawing line in the editor, select the parallel function with [F9]. With [F11] you switch to the parallel dialog.



Basically, you can switch between the old and the new calculation function. Activate the new algorithm with the button „New parallel“.

Further special parameters are then available to you:

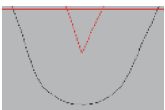
Pocketing:



Areas can separate when calculating the parallel lines. The next parallel level is then forming new individual parallels from these separated areas.

Optimize support points: Redundant support points are removed after the calculation.

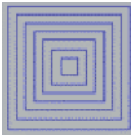
Rounded corners:



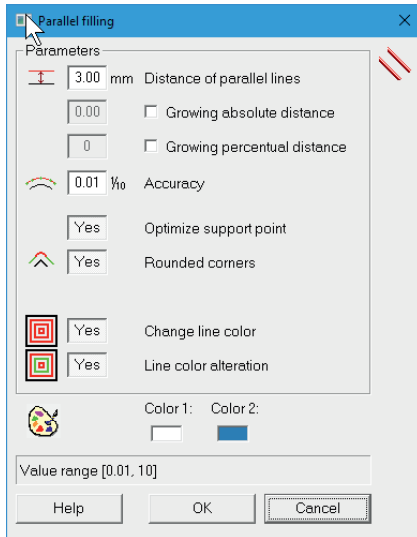
With this function, the corners of the parallels are not connected to a corner but round. The radius results from half the distance between the opening between the parallel partial lines.

Change the color of the parallel: You can color the parallel differently. You set the color in the separate color field.

Parallel filling program 4



This new automatic program within the EPCwin's drawing functionality fills an area with parallel lines. This area can also contain holes. The contours of the holes then influence the course of the parallel lines. The parameters for this automatic system are found in the new F11 dialog:



Parallel distance: The distance between the parallel lines is set here.

Growing absolute distance: Here you can specify with the absolute growth value how the distance from one line to the next should increase or decrease.

Growing percentual distance: Here you can set the percentage change in the distance value from level to level.

Accuracy: This value indicates how exactly the distance between the parallels between two support points should be maintained. The smaller the value, the more support points are inserted.

Optimize support points: Redundant support points are removed from the parallels.

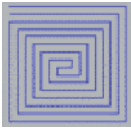
Rounded corners: With this function, the corners of the parallels are not connected to a corner but round. The radius results from half the distance of the opening between the parallel partial lines.

Change line color: The parallel lines of the filling are created in the set color. Otherwise the color of the outer contour is inherited.

Line color alteration: Every second line gets a different color.

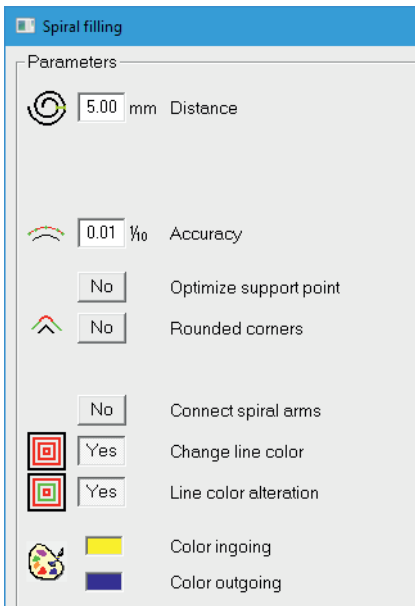
The contours and the parameters of the object can be changed later in the editor.

Spiral filling program 5



This new automatic program within the EPCwin's drawing functionality fills an area with a step spiral. Based on a closed outline, the line continuously runs per level on that of the respective parallels. At a suitable point there is a step to the next but one level. Once this line has reached the last level, it runs back again over the omitted levels.

After entering the outer contour, you can relocate the opening of the line. The line opening determines the starting point of the step spiral. The following parameters can be set under F11:



Distance: Here you set the distance between the levels.

Accuracy: See parallel filling

Optimize support points: See parallel filling

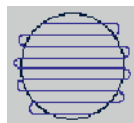
Rounded corners: See parallel filling

Connect spiral arms: If pockets have formed in the preceding parallel calculation, then these pockets result in their own spiral arms, which are then connected to an overall spiral when the option is activated. If this option is switched off, the arms remain separate drawing lines.

Change line color: Here you determine the color of the spiral. If this parameter is switched off, the color of the outer contour is adopted.

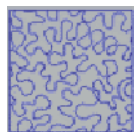
Line color alteration: This option is active when „Connect spiral arms“ is switched off. Then those spiral arms get a different color. This can be set in another field.

Line filling with curved returns



For technical embroidery, fillings are required that fill an area row by row and connect the rows at the edge with a round transition. For this, program 3 can be used. After entering the contour, select the stitch position. Use F7 to set the row spacing.

Maze program 25



The program 25 fills an area with a predefined macro. After entering the contour, you can position the macro over the area. The following operations influence the position, location and size of the macro.

F3: Here you set the size of the macro. The change is made using the cursor keys or the mouse wheel.

F4: Here you can influence the position of the macro. The macro follows the position of the mouse.

F6: With this function you can rotate the macro. To do this, move the mouse up or down.

NEW FEATURES IN THE DESIGN MANAGEMENT

- **Programmable file name for design export:** You can program how the file name is created when exporting a single design or several designs. The following formatting commands are available:
 - % N = design number
 - % D = design name (from the design head)
 - % V = version description (from the design head)You can enter additional characters between these formatting commands. E.G: „% N-% D“. This gives the following name: 12345678.Z00- Design name
- If you call up the design directory again, you can reactivate the filter that was set last with „Filter active“. You don't have to switch to the filter settings as before.
- **Search:** You can now search backwards in the design directory. To do this, also press the [Ctrl] key when clicking the search button.
- With the TC output you can now select „Ignore needle change“. This is very helpful for designs for technical embroidery or for ZEPL projects. Color changes are built into these samples in order to obtain a better overview of the layers or sample parts while digitizing. Previously, these needle changes had to be removed before export. Now you it can stay in the designs.
- The color of the sequin can now be set in the separate sequin parameter dialog in the design head. So far, this was only possible in the higher-level sequin definition dialog.
- **DXF import:** If layers are defined in a DXF file, all lines of a layer are now assigned a color during import. This means that individual layers can be hidden indirectly later using the view dialog.
- **The color table dialogs have been revised:** It is now easier to call different tables and scroll through each color table using the mouse wheel.
Thread selection of manufacturers such as Coats, Anton Robinson and Perfel have been added to the list.



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