

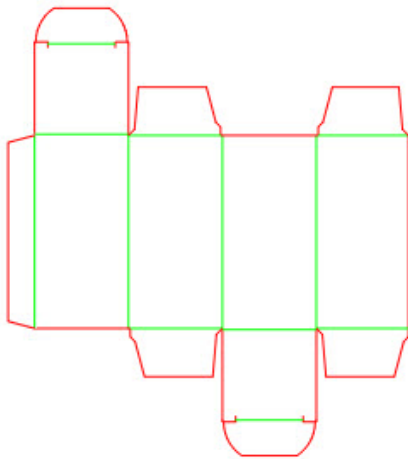
Creating Cutting Die

Task

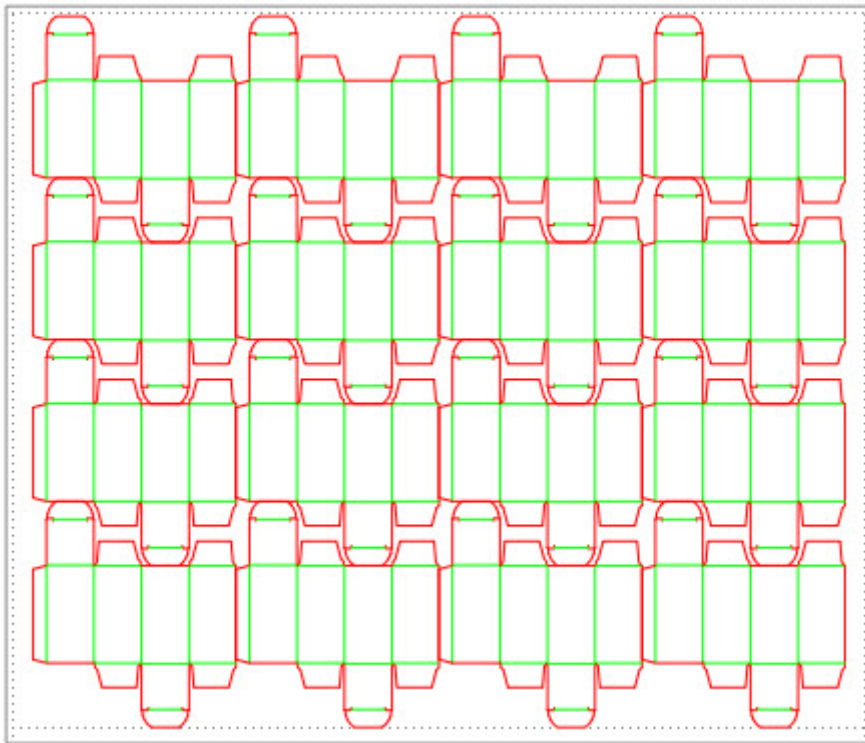
In this exercise, we will open a design and then place the components necessary for the creation of a cutting die: stripping knives, dieboard, chase holes and compensating rules.

NOTE: This is the first part of a two-part exercise project for creating a die. After the bridges drawing has been created, in the second part of the exercise we will create stripping tools: a male and female dies, and a front stripper.

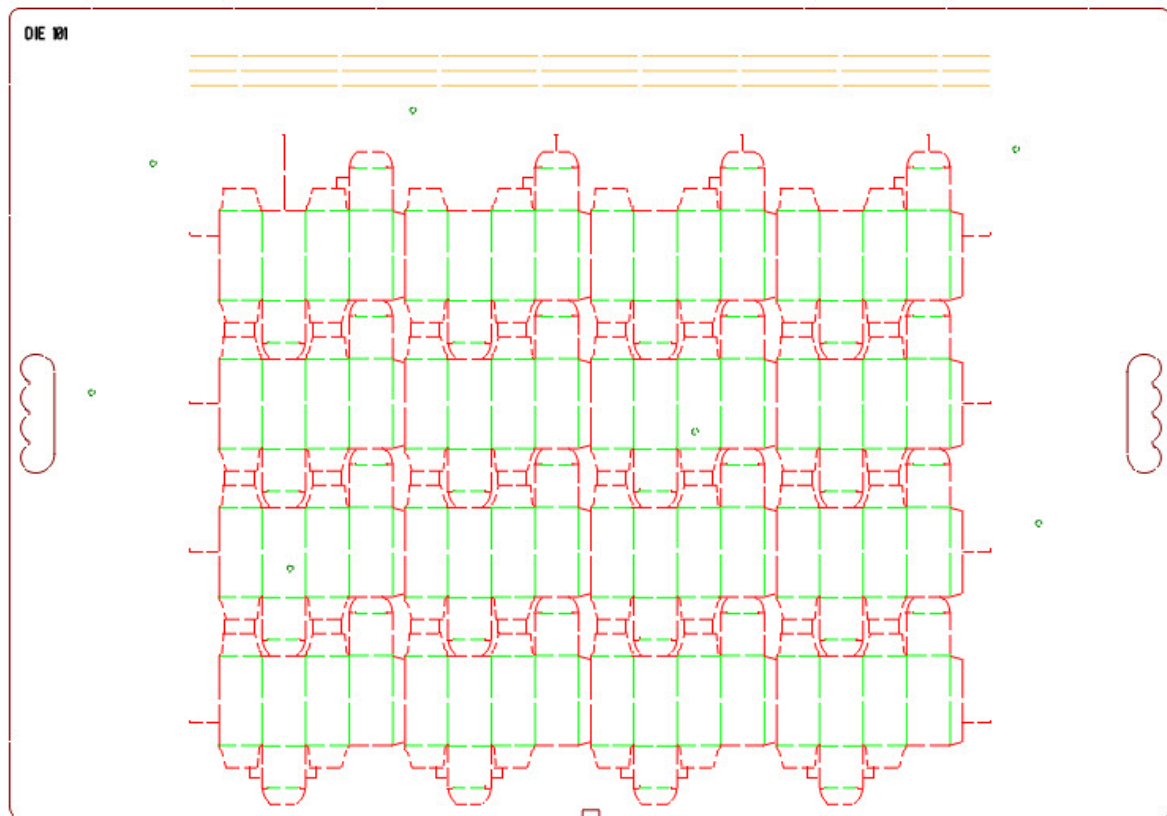
1up



Layout

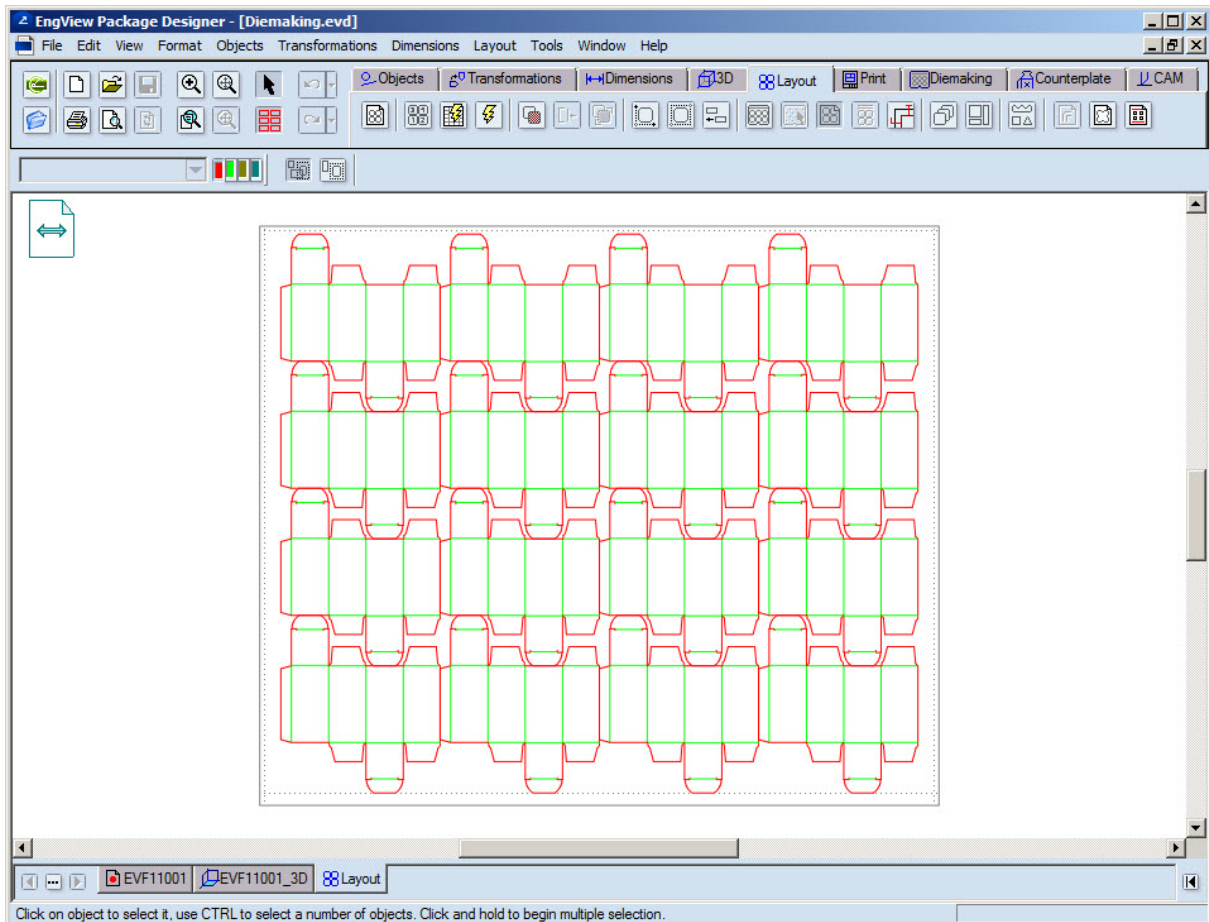


Cutting die



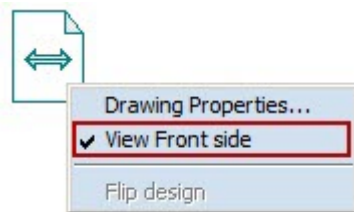
Exercise description

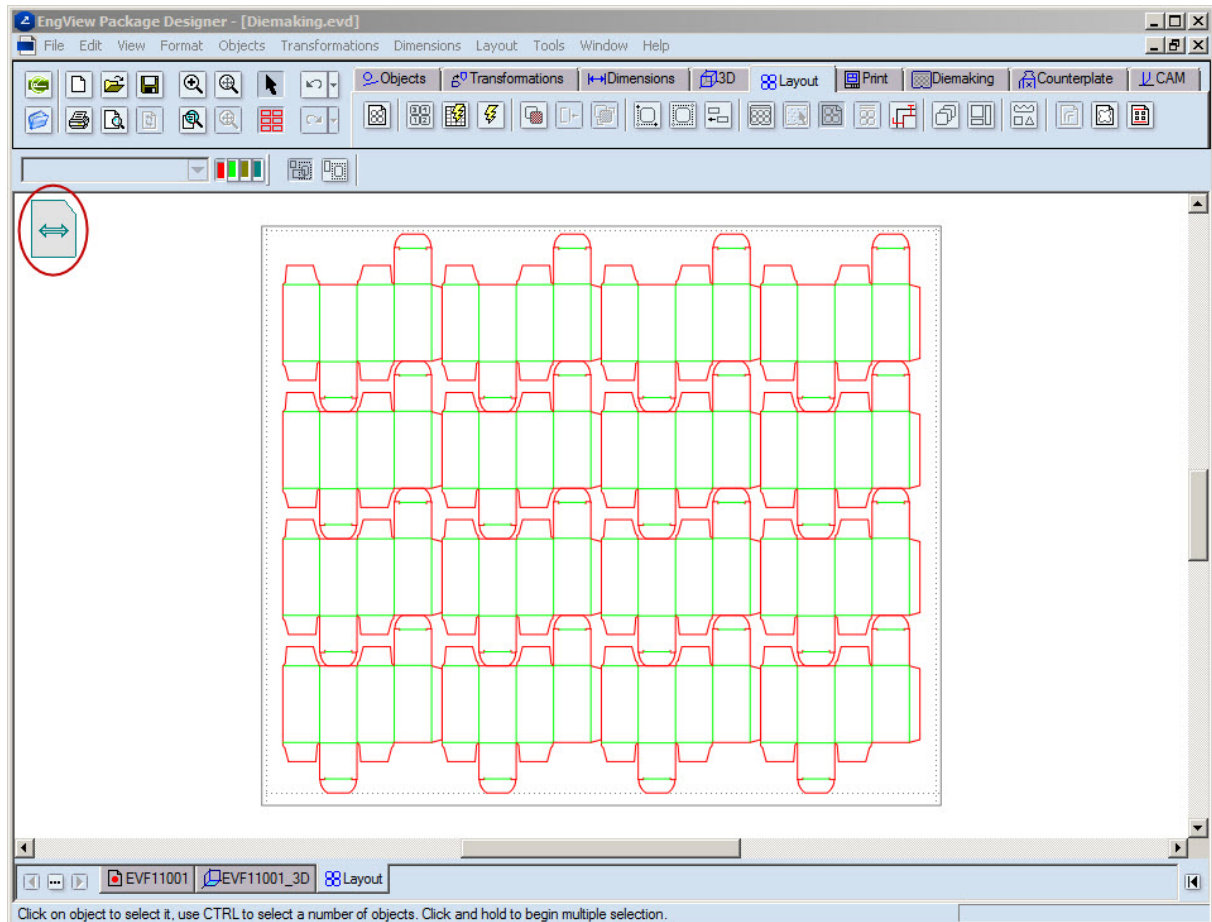
We start by opening the Diemaking Exercise.evd file, in which we have a predefined layout. To access the file, go to C:\EngViewWork5\EngView Samples.



The layout that we will use

The material used in this project is folding carton. The project will be die-cut from the front side. (Normally this is the printed side.) This makes it necessary for the die project to be mirrored. That is why in the layout drawing we will switch the point of view. (This is done to make working on the project as natural as possible — that is, we will be looking at the die's front side.) To do this, on the icon in the upper left corner, right-click, and then make sure that View front side is unchecked (pictured). NOTE: If the icon is not visible, on the **Tools** menu, click **Options**, and then, in the **View** tab, select the **Front/Rear side marker** check box.




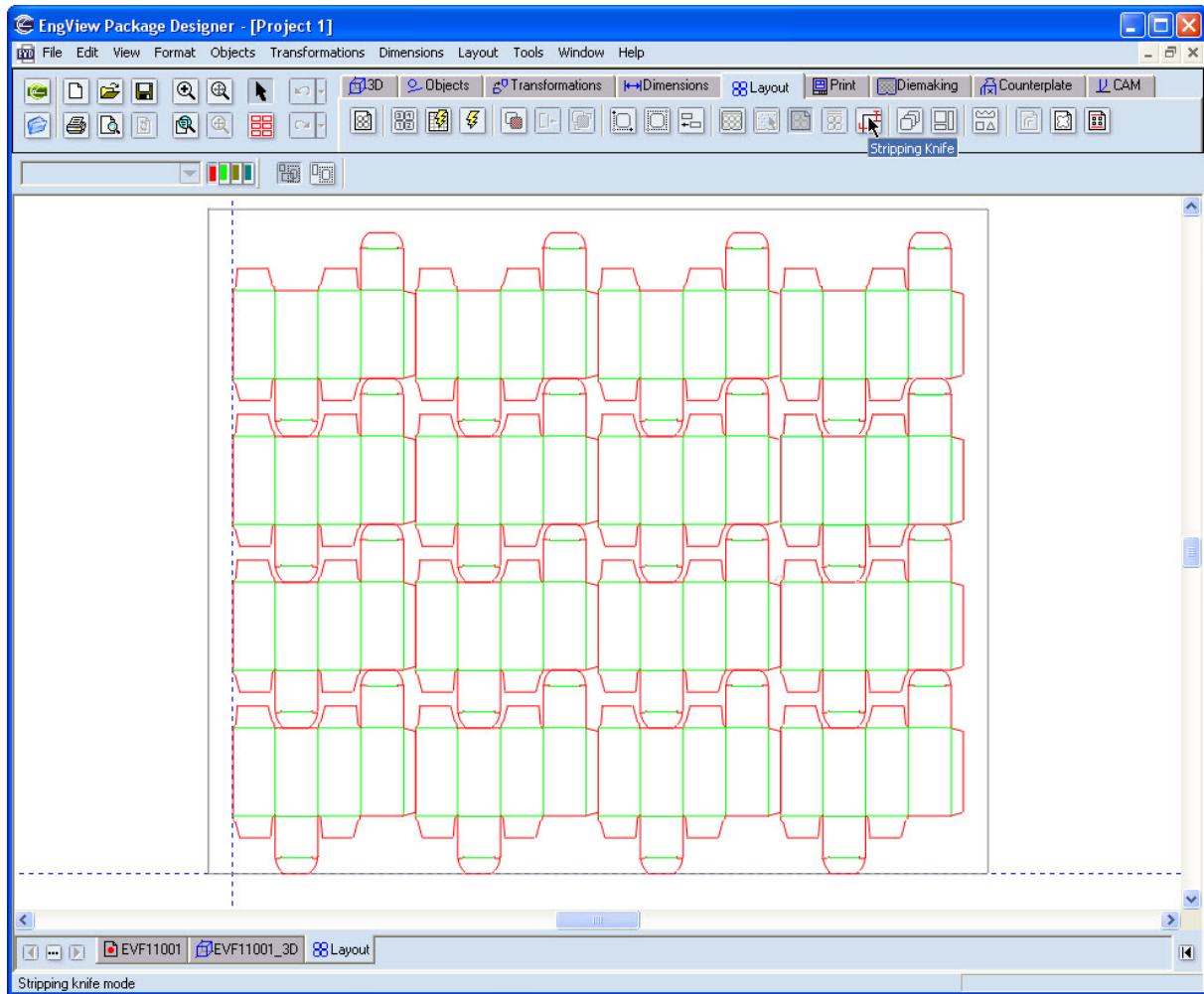


The rear side of the layout


Placing stripping knives

After a layout has been created, we must place stripping knives. We shall place horizontal and vertical stripping knives (these are positioned between the upper row of 1ups and the upper border).


1. On the Layout toolbar, click **Stripping Knife** .

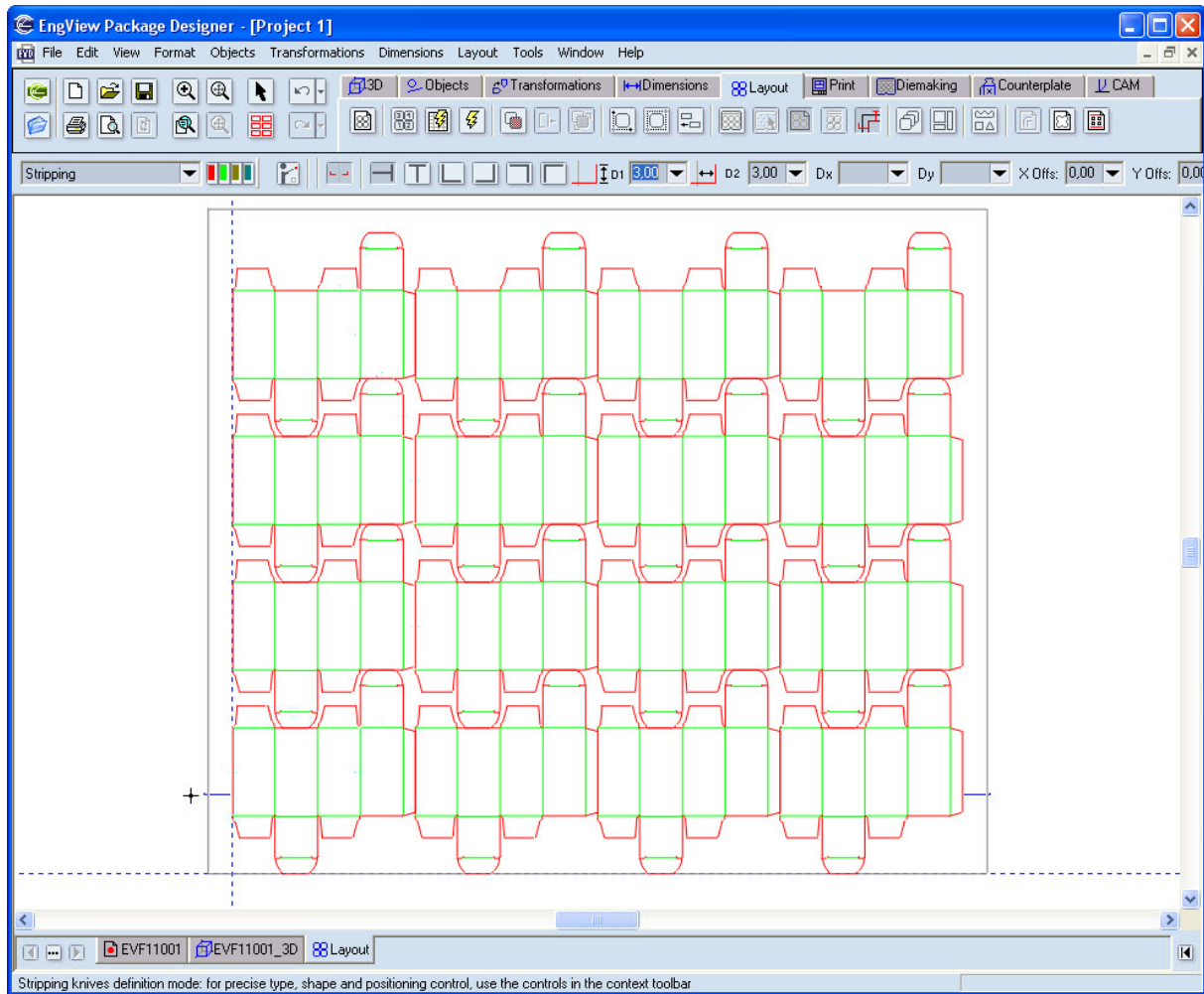


A contextual edit bar appears above the graphical area which contains the functions of the stripping knife placement.


2. To place horizontal stripping knives, in the contextual edit bar click the **Horizontal Strip Knife** .

3. Position the mouse pointer against the lowest row of 1ups.

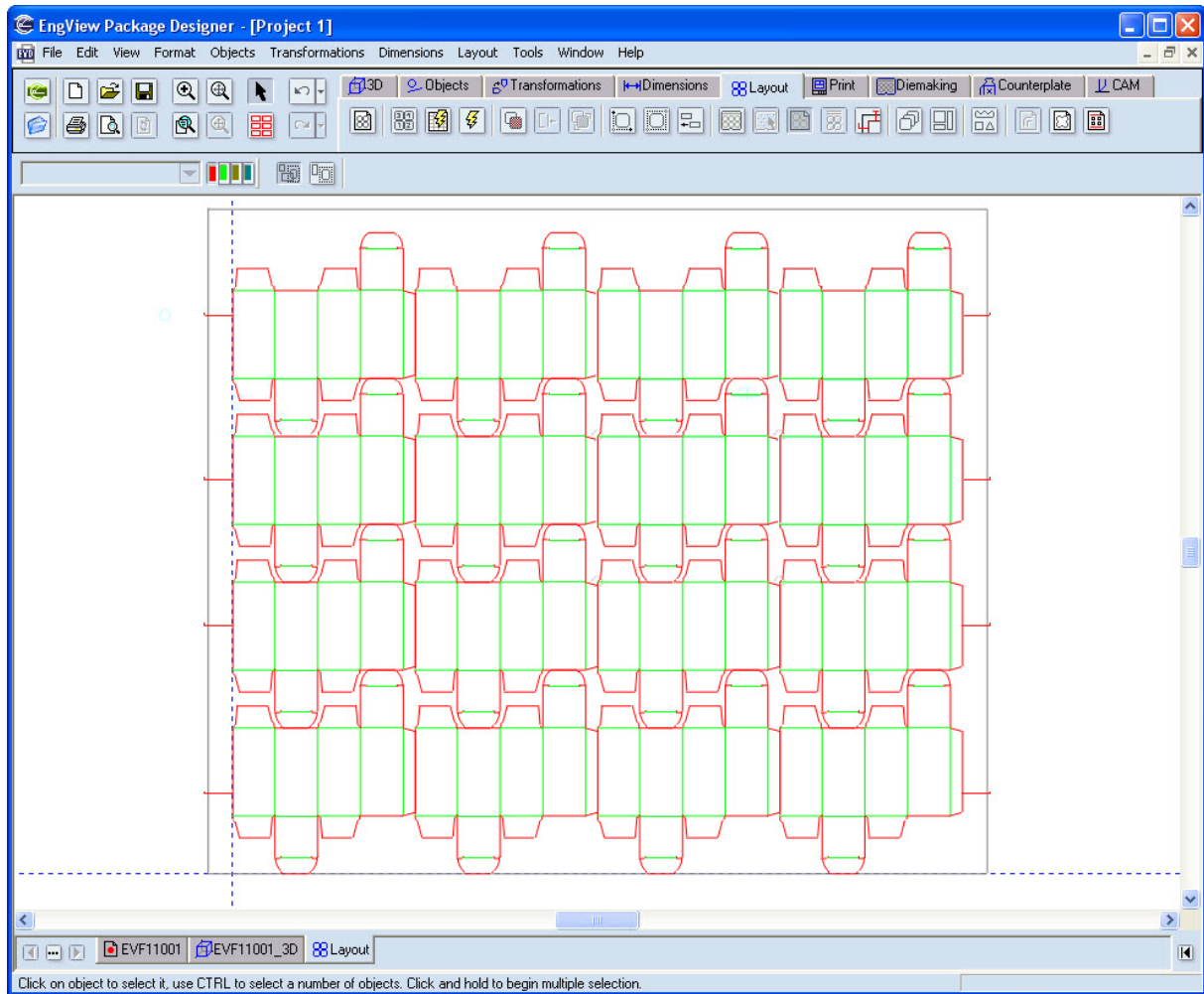
NOTE: This positioning of the first pair of stripping knives will mark the front stripper. Because of the front stripper's special role in the die, the stripping knives that mark it are positioned differently. That's why, make sure the **Repeat Changes** button —  — is *not* pressed in. This will prevent the placement of the stripping knives further up the sheet.




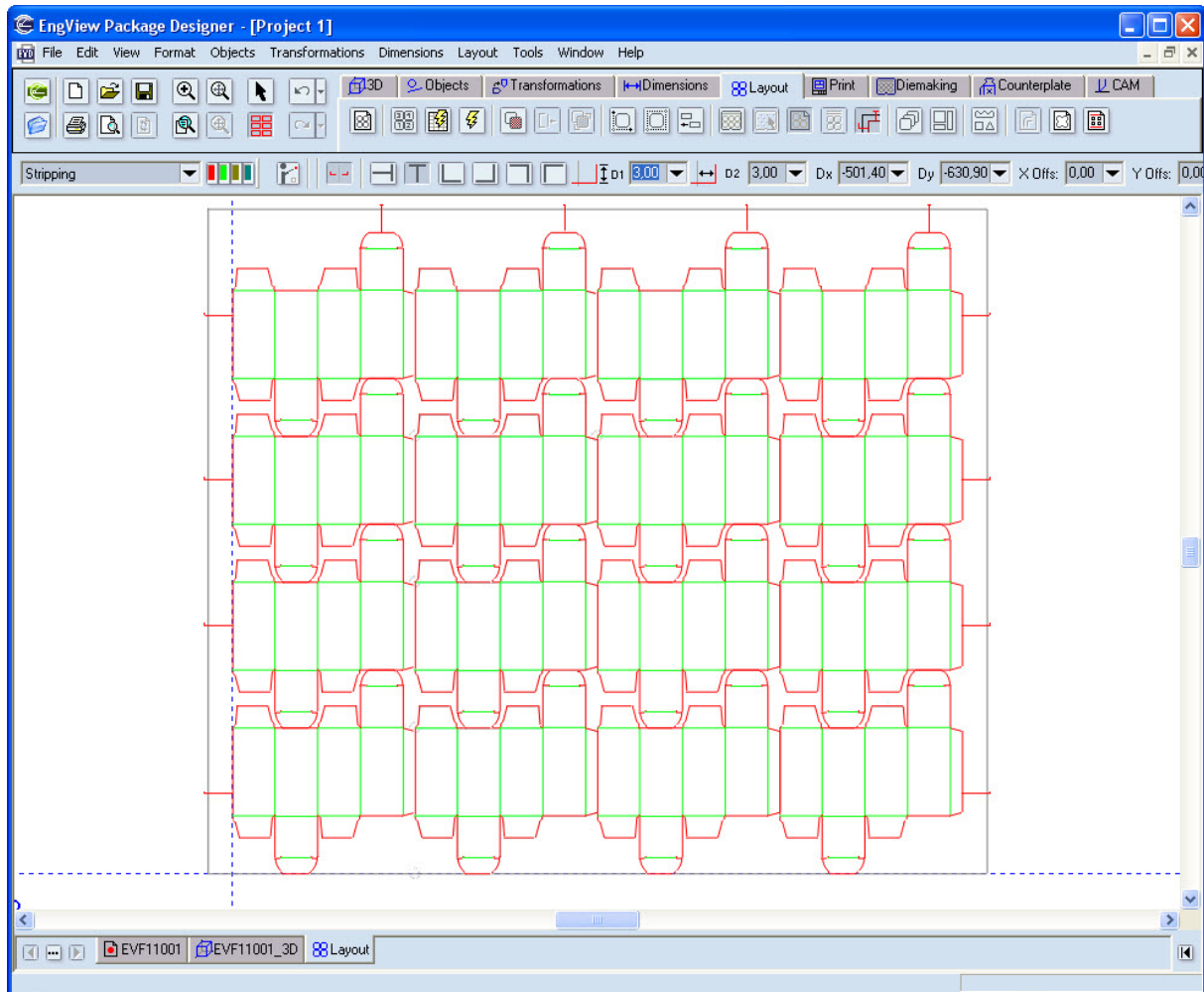
4. Placing the rest of the horizontal stripping knives. Now the rest of the horizontal stripping knives will be placed. To ensure uniformity of positioning alongside the layout's vertical side, ensure that the

Repeat Changes button —  — is pressed in.

NOTE: Notice that the Repeat Changes functionality placed stripping knives also to the lowest row of 1ups, to which we had added stripping knives earlier. To remove the doubling of the stripping knives there, turn off the Repeat Changes functionality, and delete the unnecessary knives.



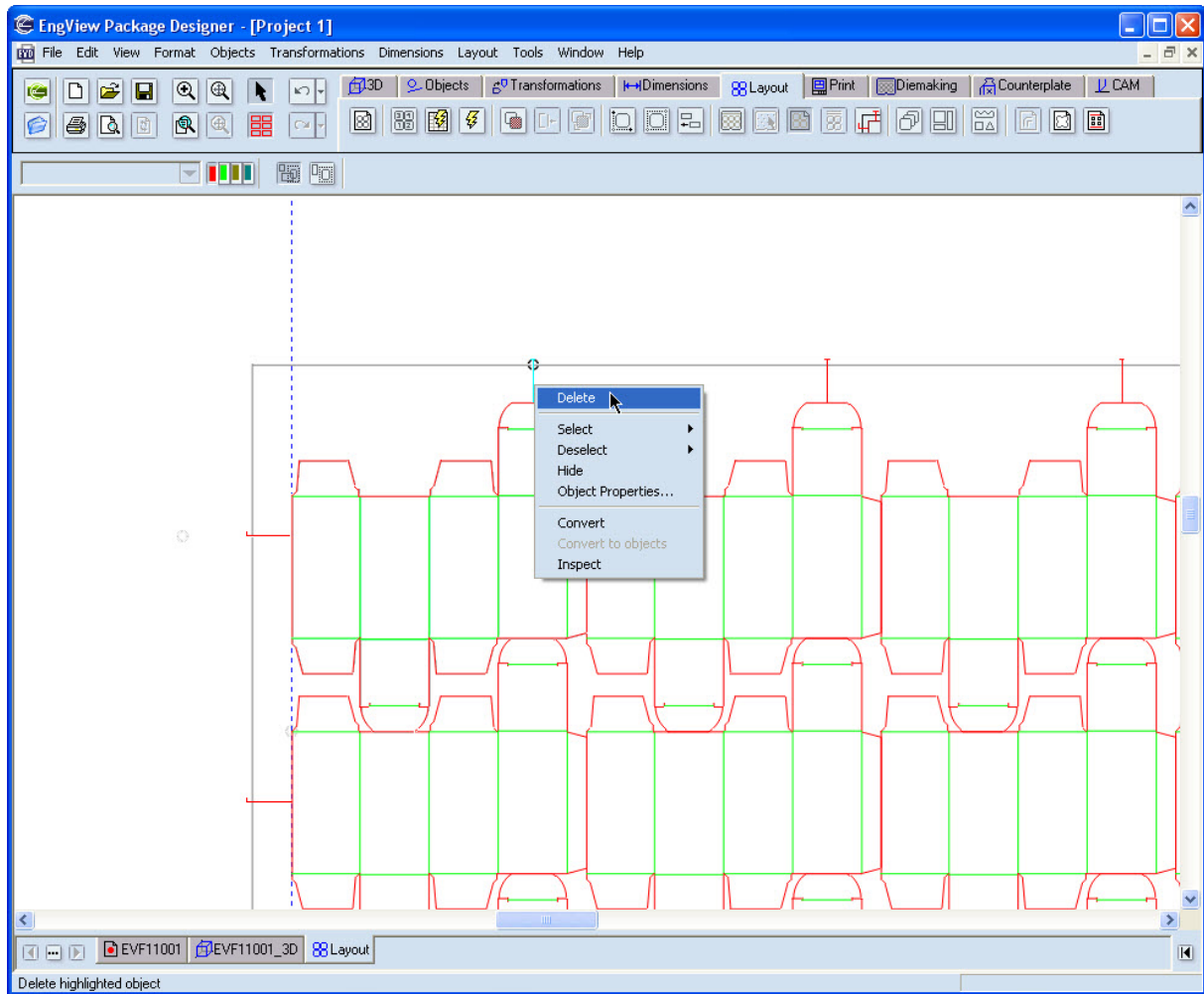
5. Now we will place the vertical stripping knives in the upper section of the layout. On the contextual edit bar click **Vertical stripping knife** , and start placing vertical stripping knives one by one (pictured).

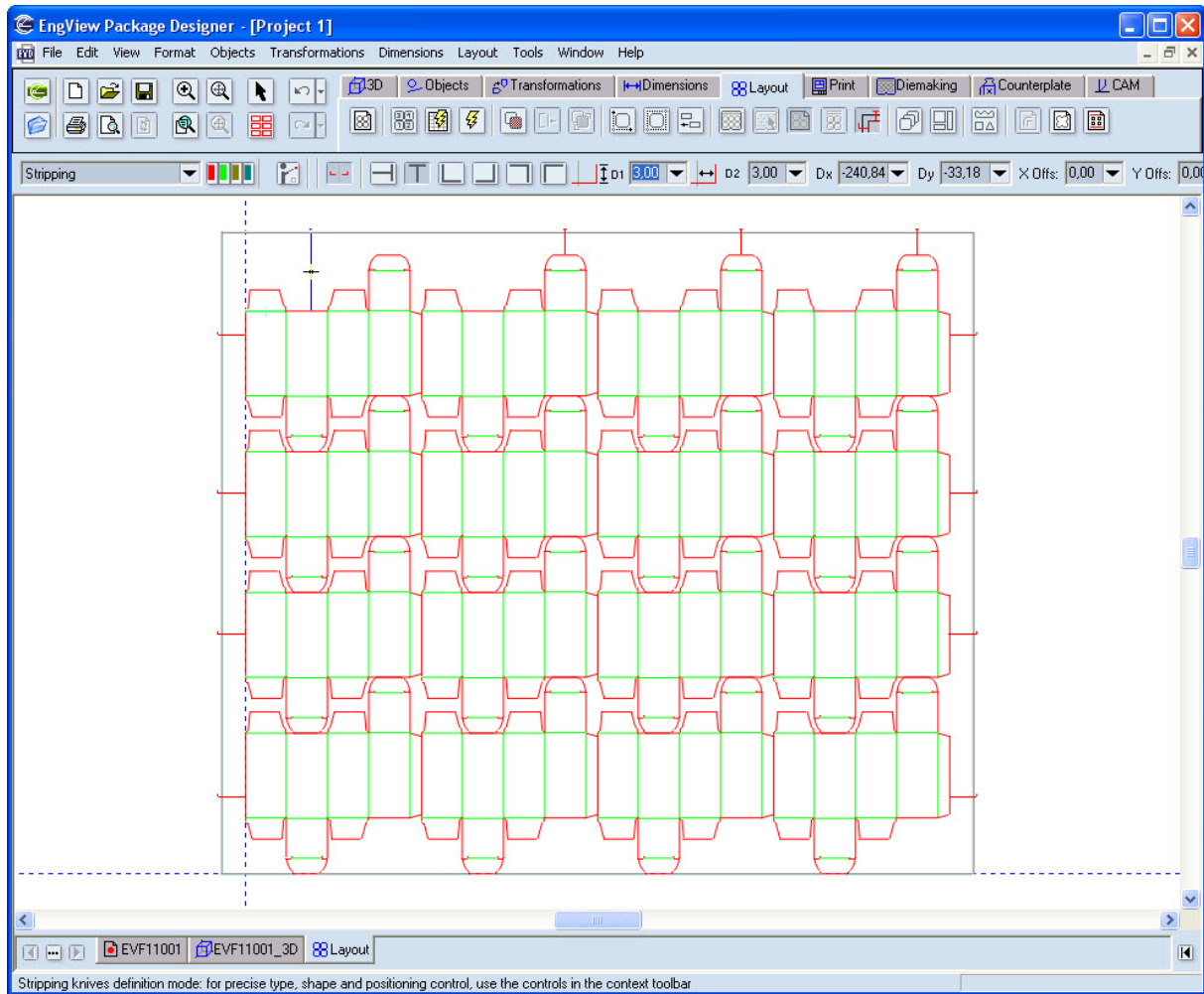



Editing the stripping knives


We will show how the stripping knives, can be edited — that is, they can be moved or deleted.


1. To delete the leftmost vertical stripping knife, right-click it, and then click **Delete**.

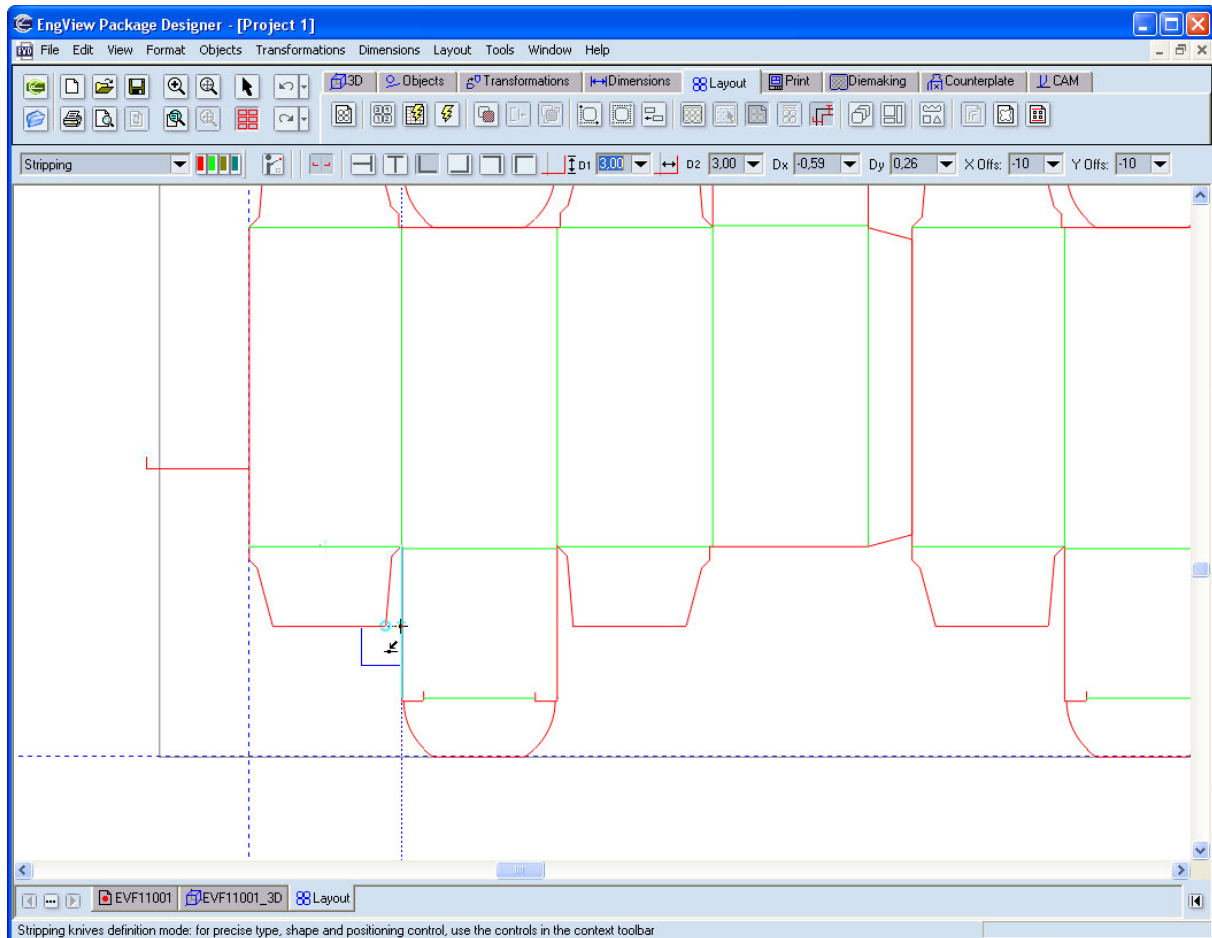




2. Place an angular stripping knife to the left of the deleted knife (pictured), click **Vertical stripping knife** .

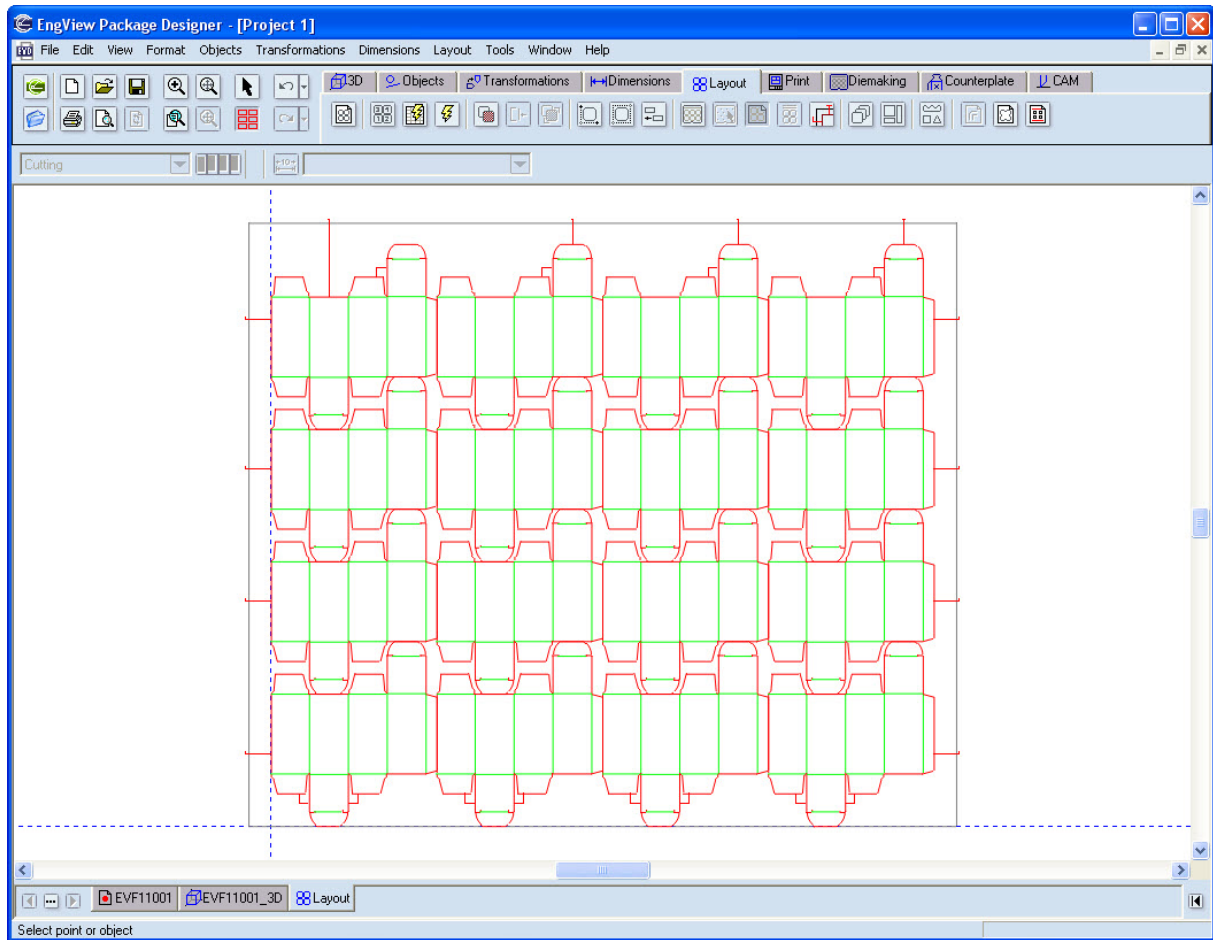
3. Now we will place stripping knives at selected angles inside the layout. On the contextual edit bar, click the **Bottom Left stripping knife** .


NOTE: To ensure identical shape and position of the stripping knives across the identical 1ups, ensure that the **Repeat Changes** button —  — is pressed in. Additionally, you can set fixed offsets for the stripping knives, which will ensure precision of the knife's size. In the contextual edit bar enter corresponding values in the **X Offs** and **Y Offs** fields, and then use the relative point functionality (pictured). For details about how to use the functionality, consult the help system at **Drafting | Working With Geometric Objects | Drawing Geometric Objects | Setting relative point**.

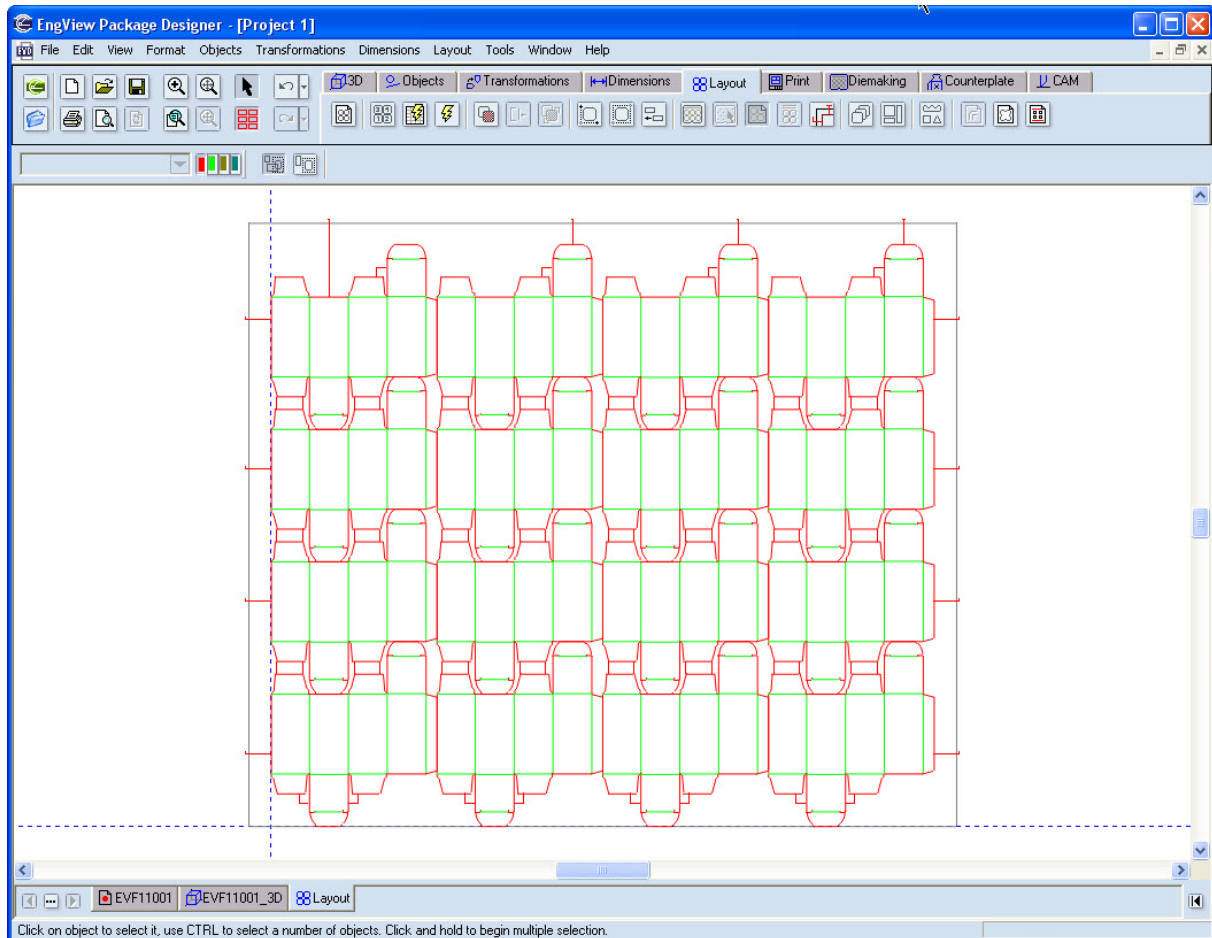


Positioning angular stripping knives.

4. On the contextual edit bar, click **Bottom Right stripping knife** , and place stripping knives symmetrically to the ones placed in step 3.



5. Place vertical stripping knives in the spaces between the 1ups, click **Vertical stripping knife** 



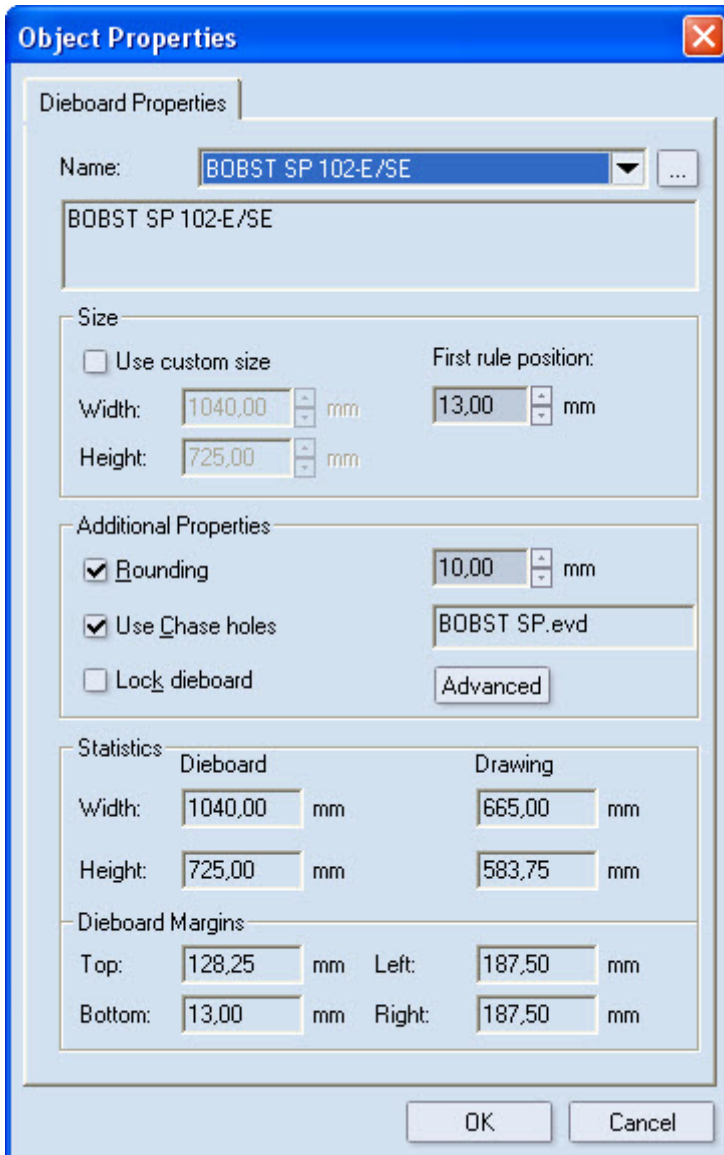
All necessary stripping knives are now placed.

Selecting Dieboard

The next step in the die design is the selection of a dieboard.

1. On the Layout toolbar, click **Dieboard** .

The **Dieboard** dialog box appears.



Object Properties

Dieboard Properties

Name: ...

Size

☐ Use custom size

First rule position:

Width: mm

Height: mm

Additional Properties

☒ Rounding mm

☒ Use Chase holes

☐ Lock dieboard

Statistics

	Dieboard	Drawing
Width:	<input type="text" value="1040,00"/> mm	<input type="text" value="665,00"/> mm
Height:	<input type="text" value="725,00"/> mm	<input type="text" value="583,75"/> mm

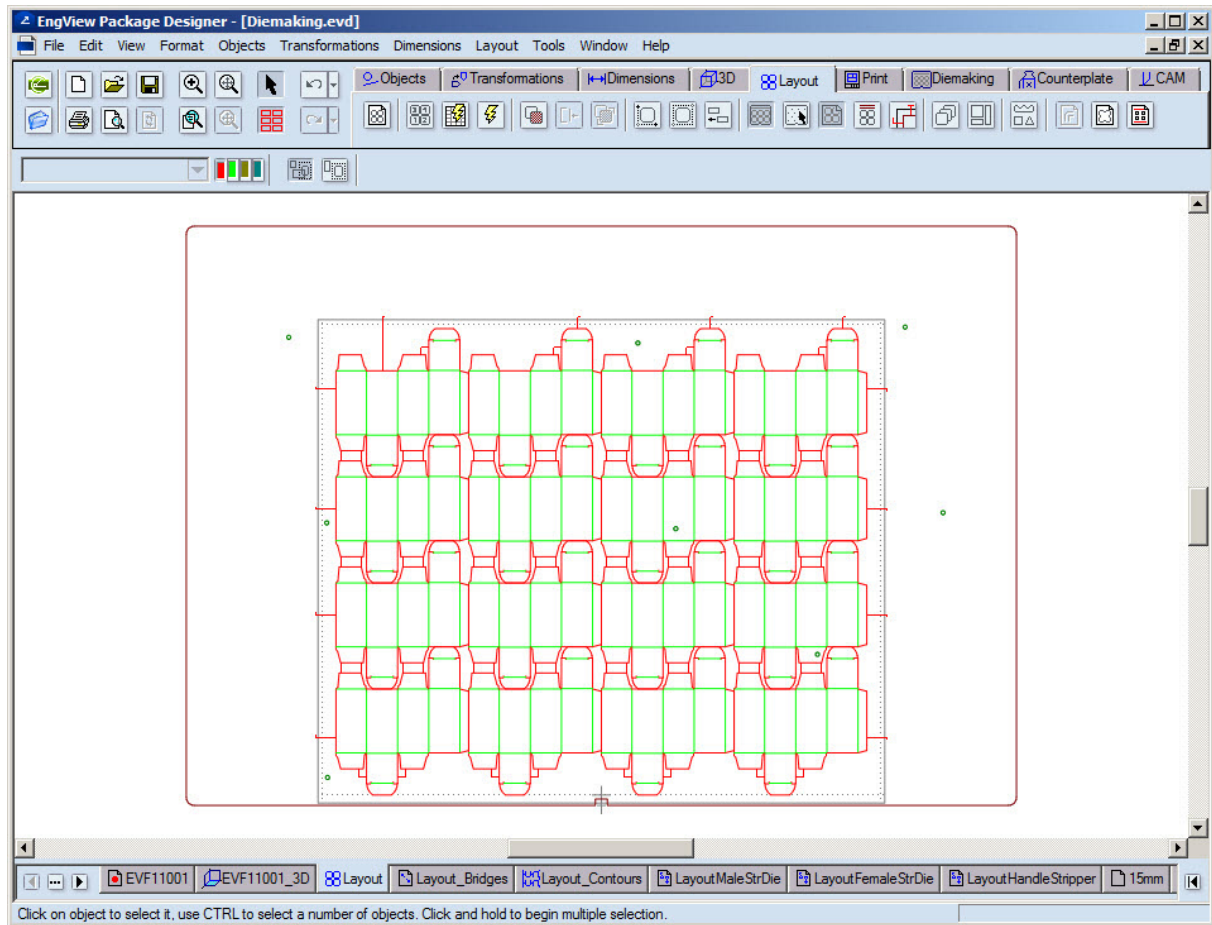
Dieboard Margins

Top:	<input type="text" value="128,25"/> mm	Left:	<input type="text" value="187,50"/> mm
Bottom:	<input type="text" value="13,00"/> mm	Right:	<input type="text" value="187,50"/> mm

2. In **Name**, select the dieboard that you need, and then click **OK**.

The dieboard appears in the graphical area and is marked in the Dieboard style.

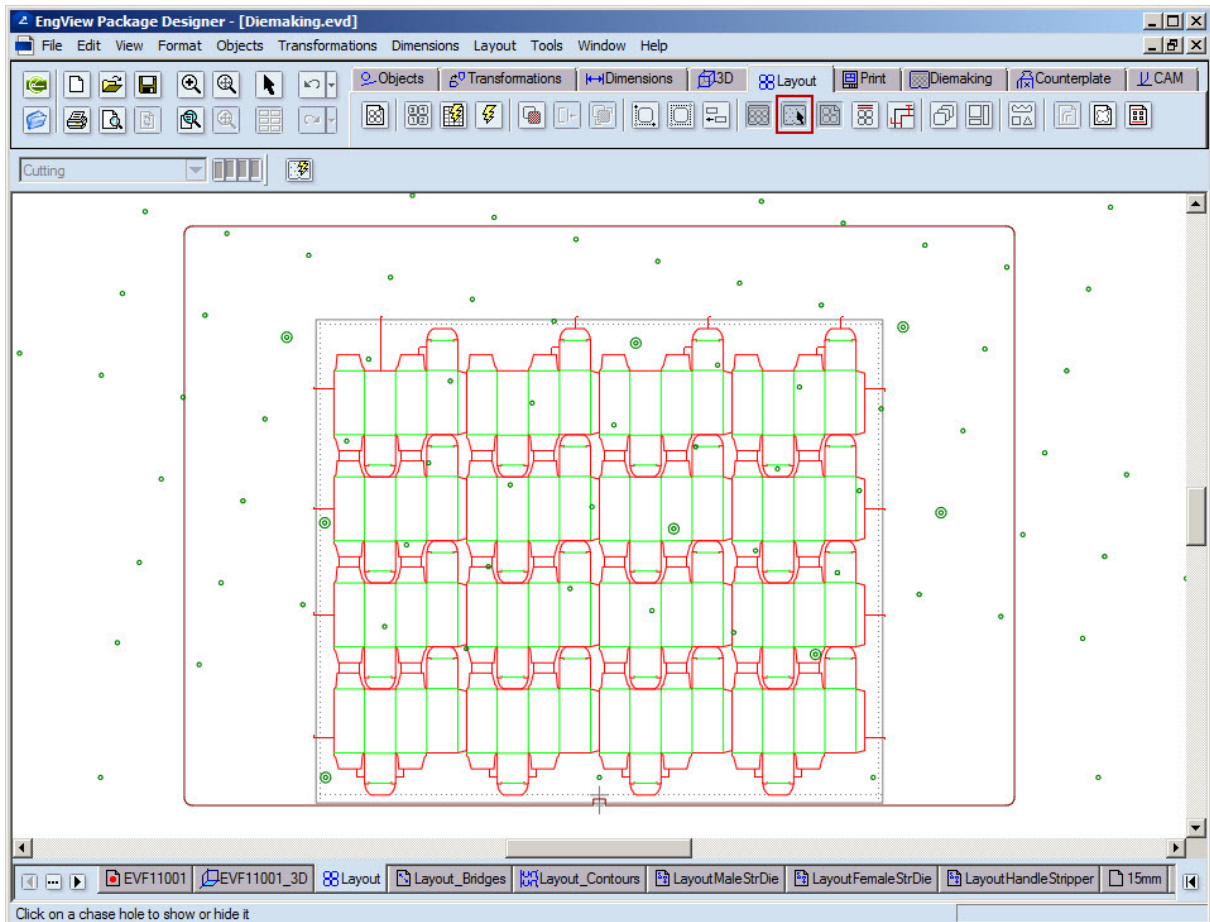
By default eight chase holes appear.



Setting chase holes


We can set our own chase holes, depending on our project's needs.

1. Click **Chase Holes** 

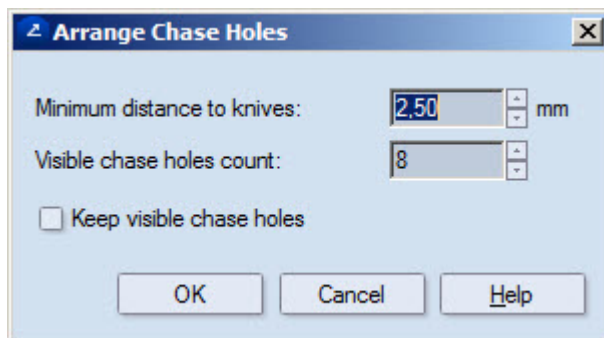


A contextual edit bar appears above the graphical area, and a grid of the potential chase holes. Notice the difference in the appearance of the active chase holes (double circles) and the potential chase holes (single circles).

2. Consider your situation:

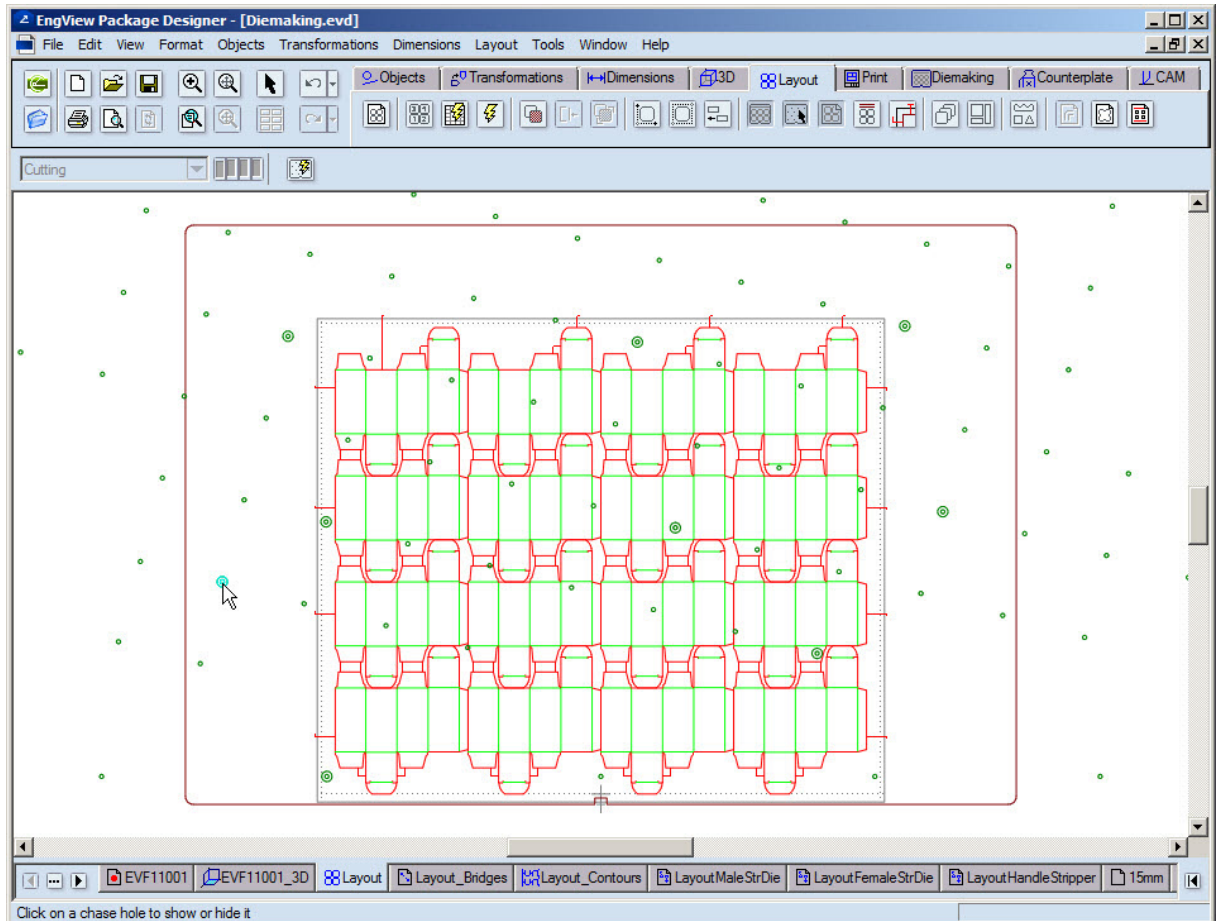
- To use the automatic setting of chase holes, on the contextual edit bar, click **Arrange Chase Holes** .

The **Arrange Chase Holes** dialog box appears.



Edit the settings as you need them to be, and then click **OK**.

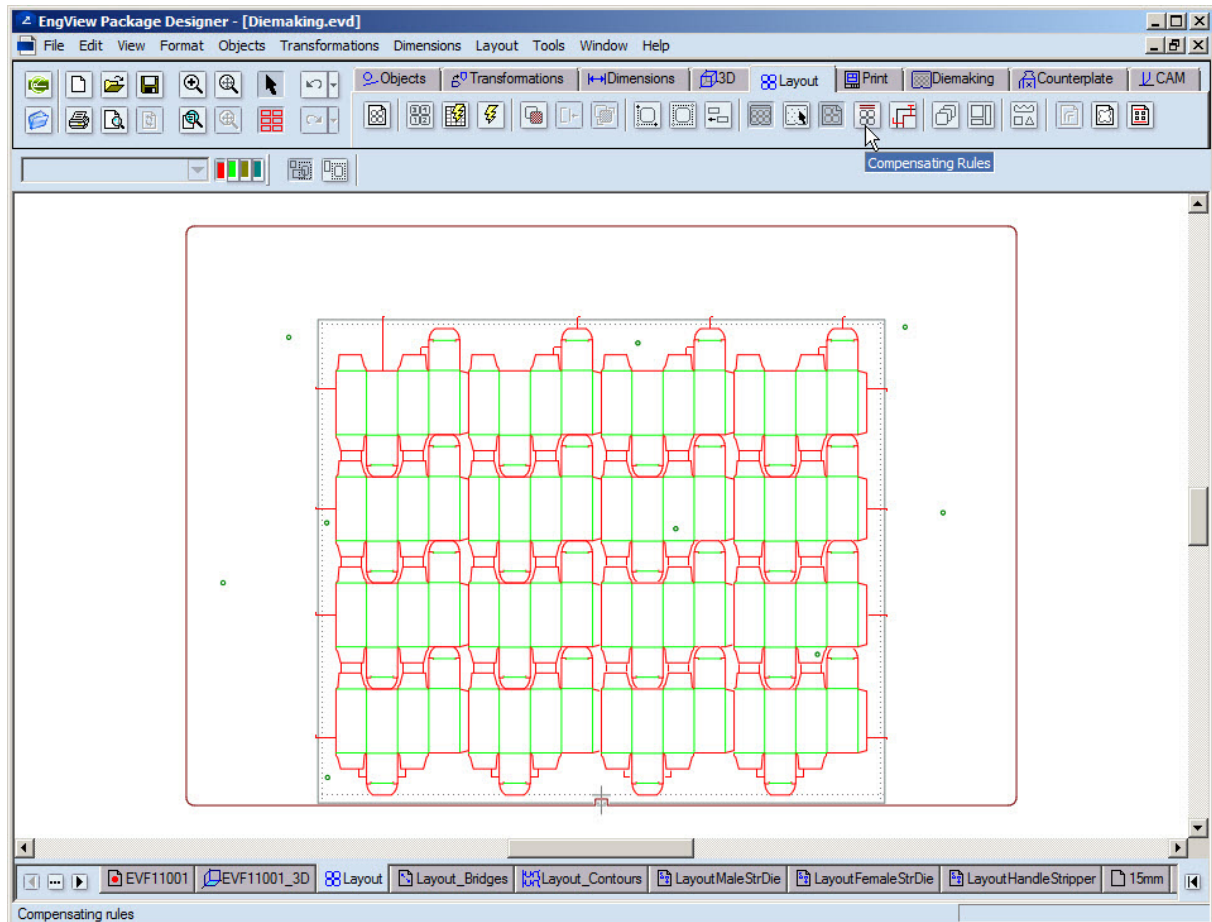
- To set the chase holes manually, in the grid of chase holes, click a potential chase hole (pictured). It changes its appearance to a double circle. Use this to set as many chase holes as you need.



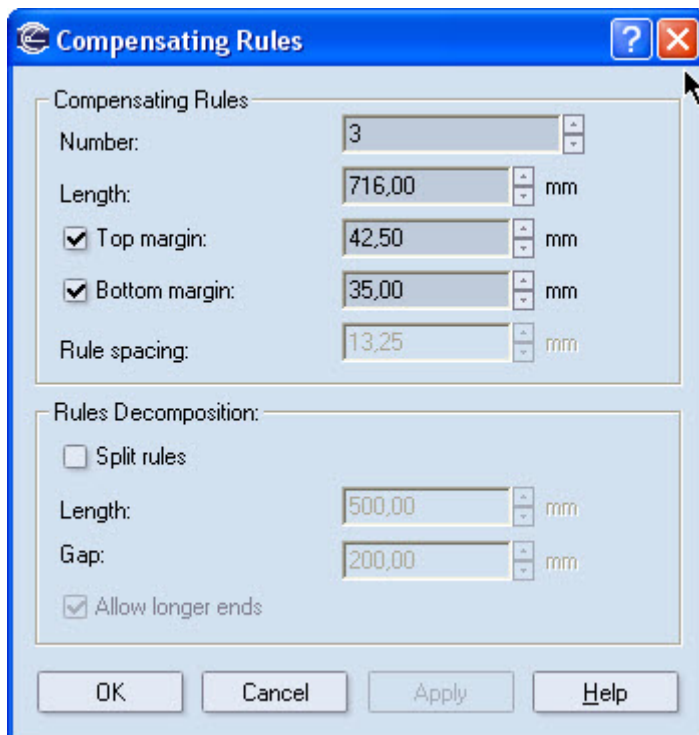
Placing compensating rules

Next we will place compensating rules. The program calculates the number of compensating rules automatically.

- On the Layout toolbar, click **Compensating Rules** .



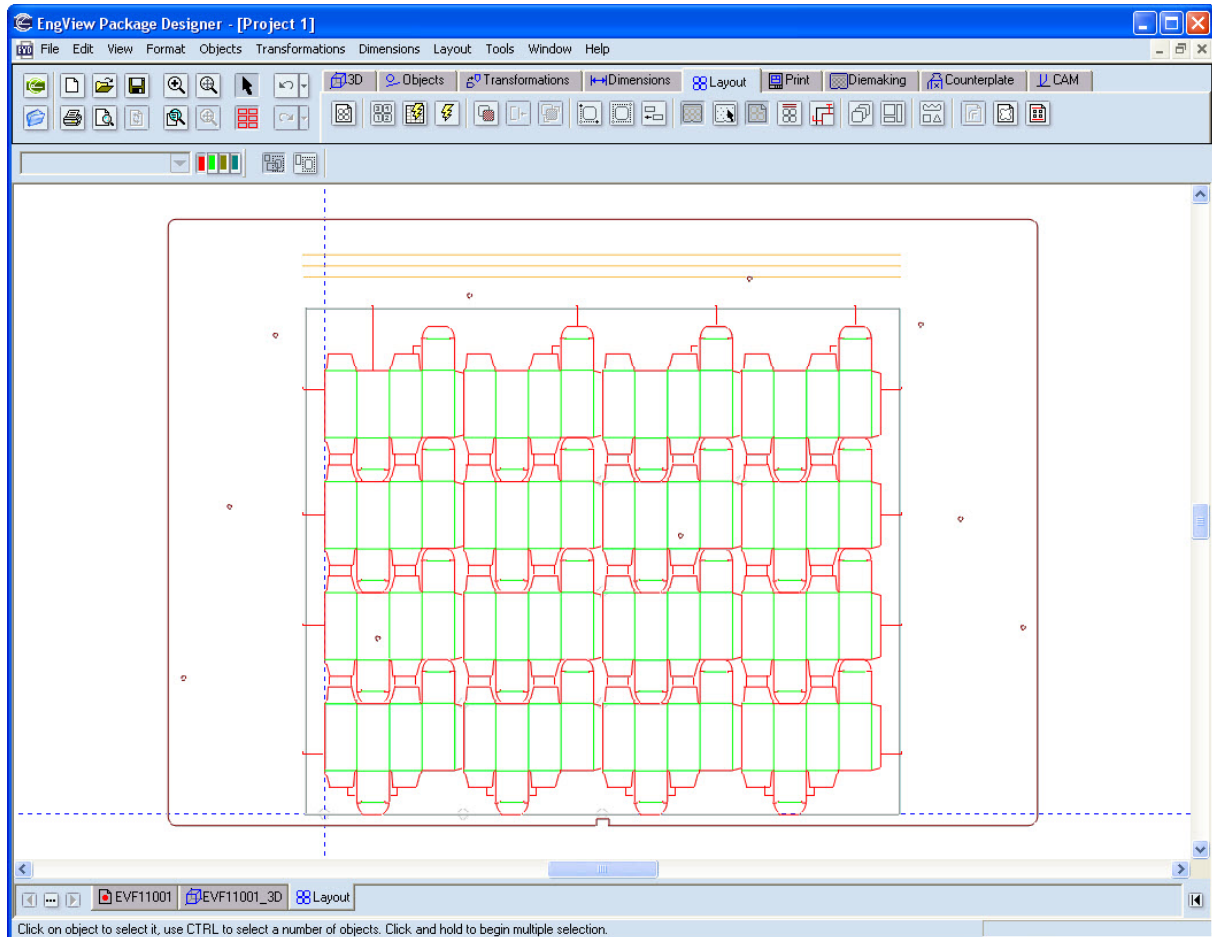
The **Compensating Rules** dialog box appears.



The program computes the number and the positioning of the compensating rules. If we need different positioning of the rules, we can edit the settings accordingly.

2. To adopt the settings, click **OK**.

The compensating rules are placed atop the dieboard and are highlighted in yellow.

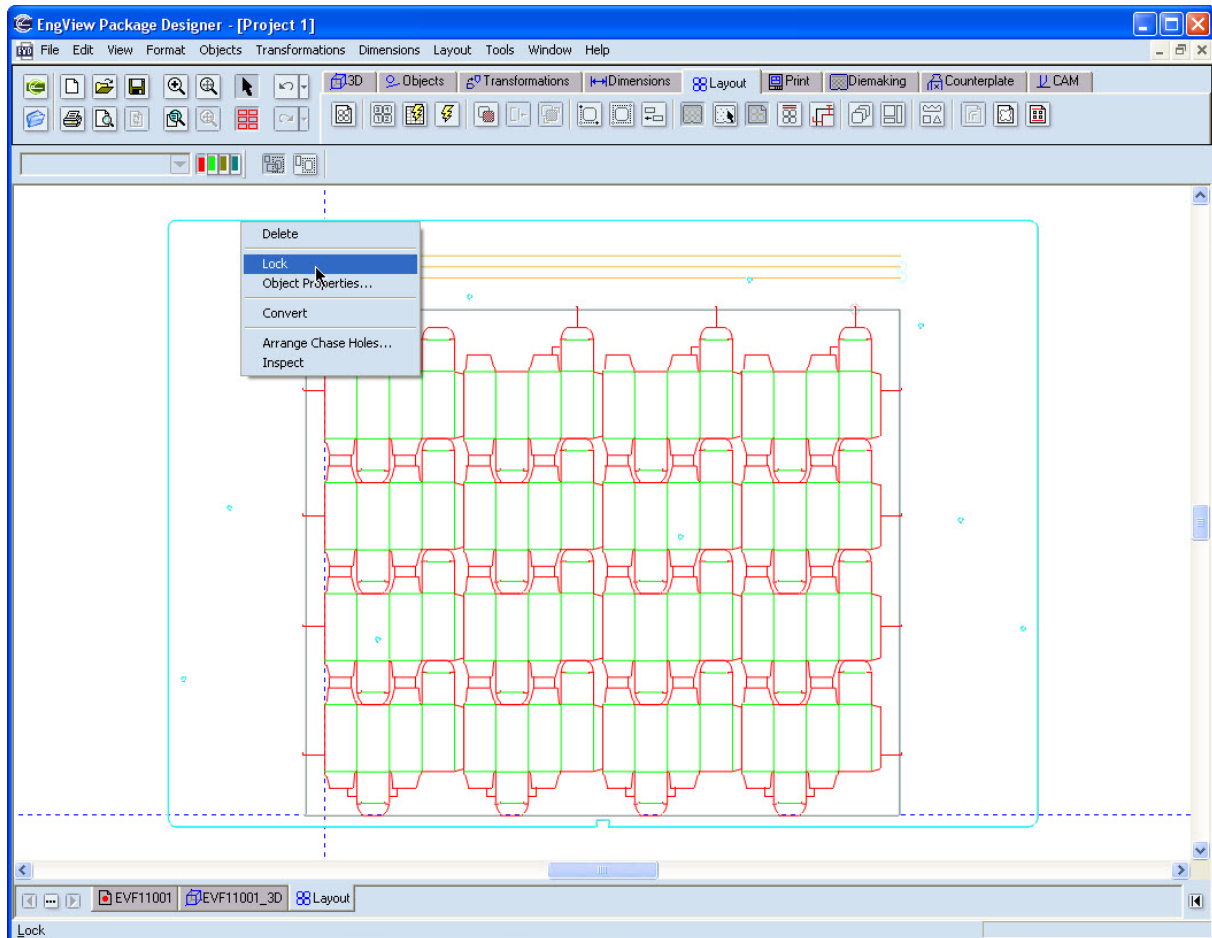


Positioning of the compensating rules

Locking the dieboard and locking the sheet

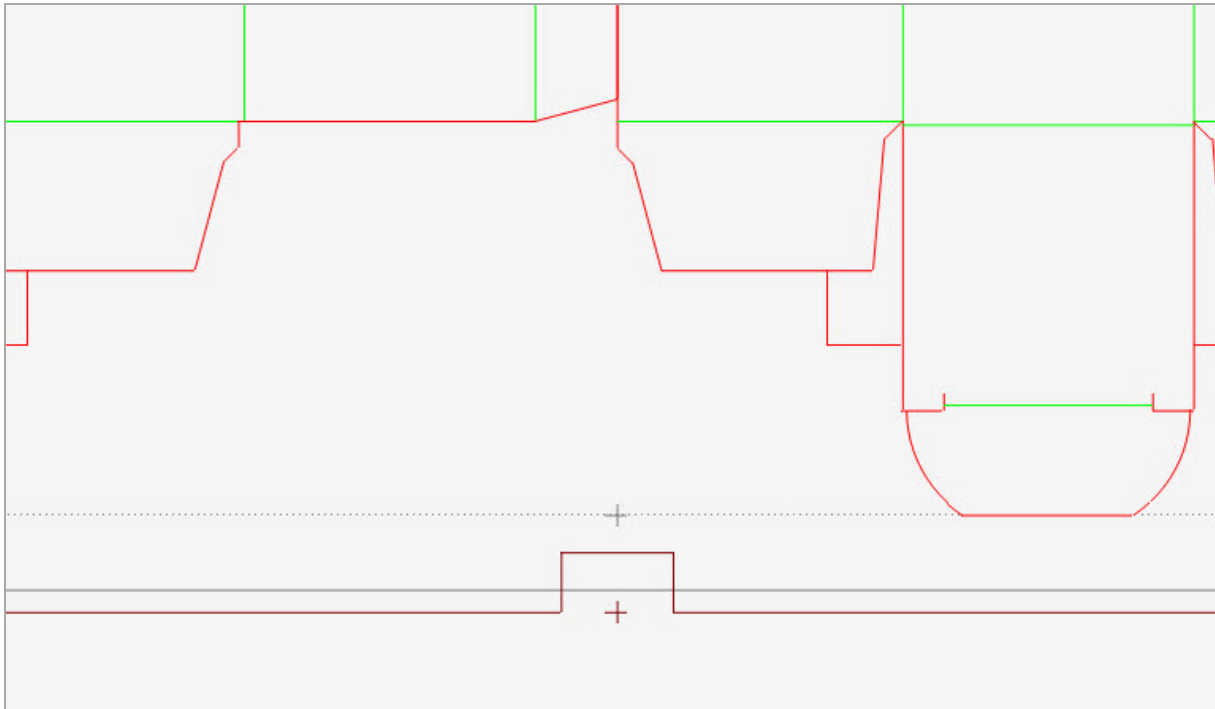
Locking the dieboard and the sheet ensures that the die will stay static during any changes made to the layout or the die.

1. Position the mouse pointer over the outer line of the dieboard, and then right-click. Then on the context menu that appears, click **Lock**.



2. Repeat the procedure on the sheet.


Both the sheet and the dieboard are now locked. This is indicated in the center of the lower part of the dieboard.



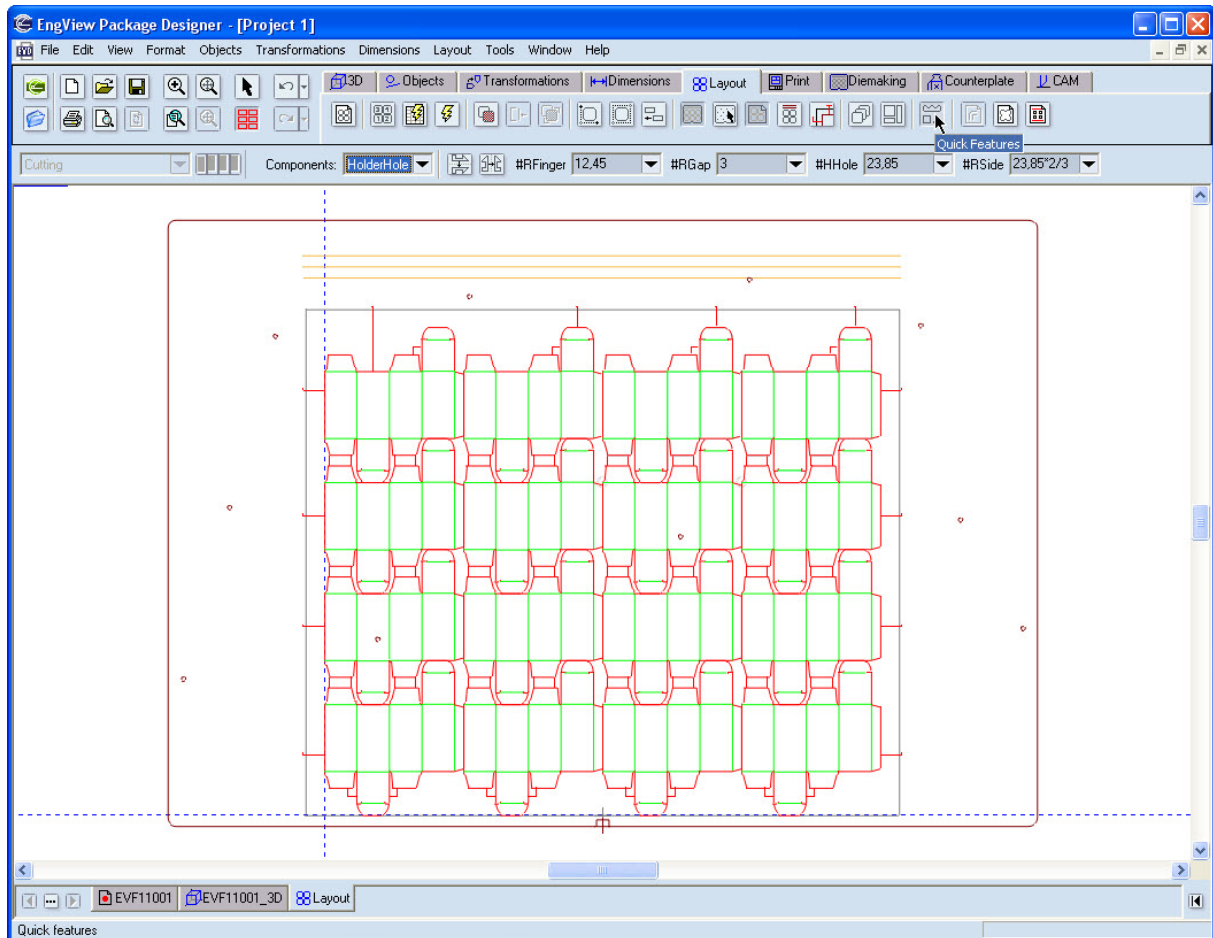
The sheet and the dieboard are locked.

Adding additional components: holder hole

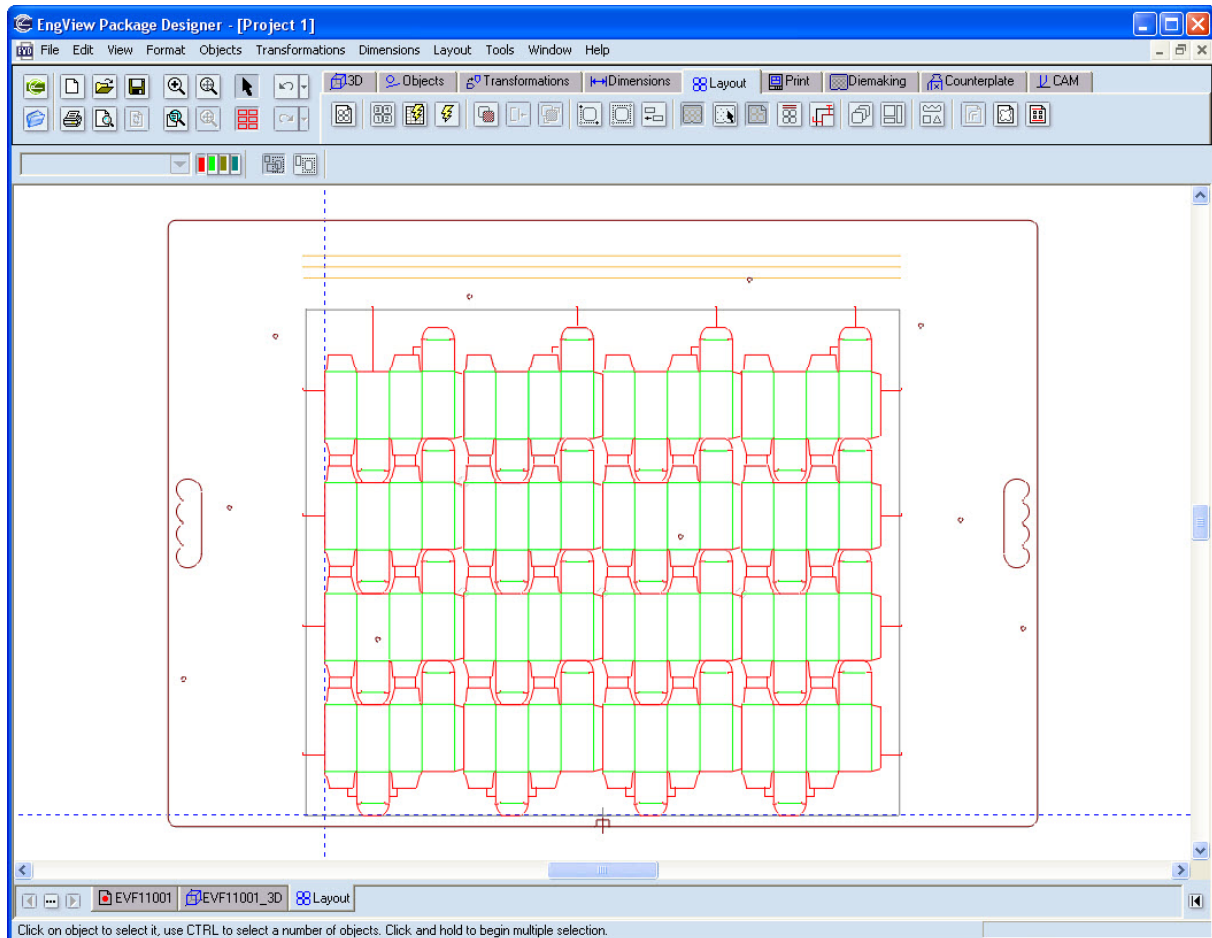
Additional components may be added to the dieboard that include tables, labels, handle holes and so on.

1. On the Layout toolbar, click **Quick Features** .

A contextual edit bar appears above the graphical area, containing the controls of the features.



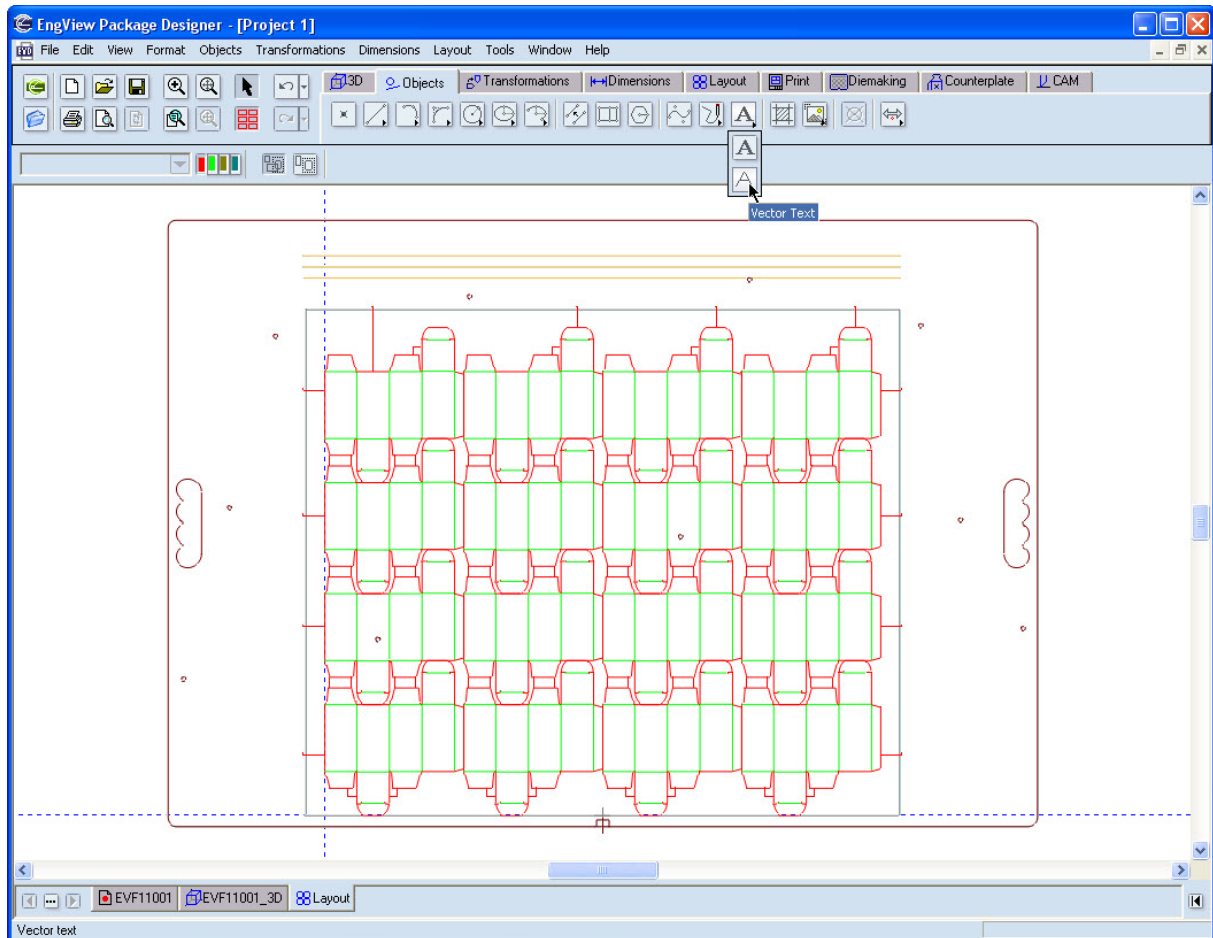
2. In **Components**, click the down arrow, select *Holder Hole*, and position it on either side of the dieboard.



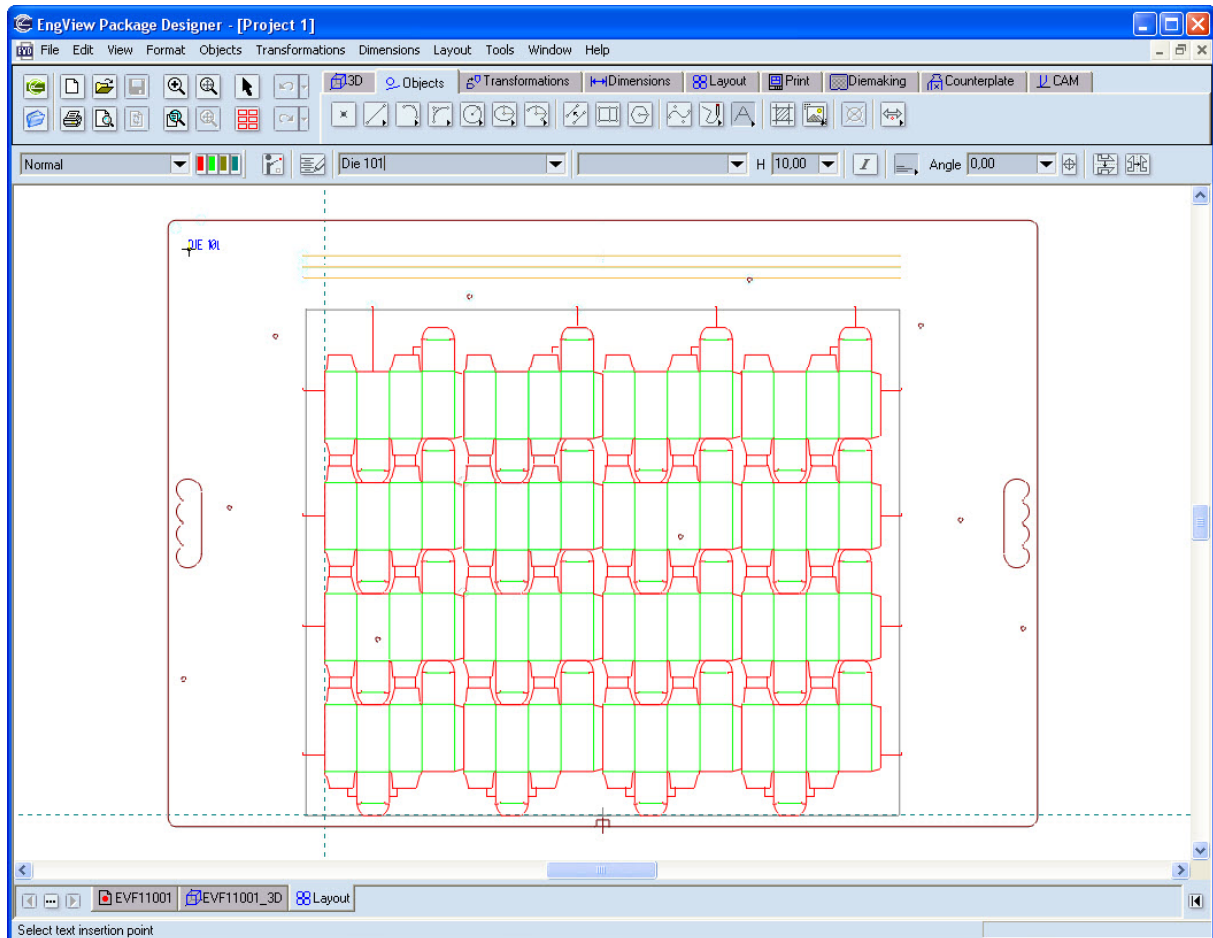
Adding text to the dieboard

We will add a text to identify the dieboard.

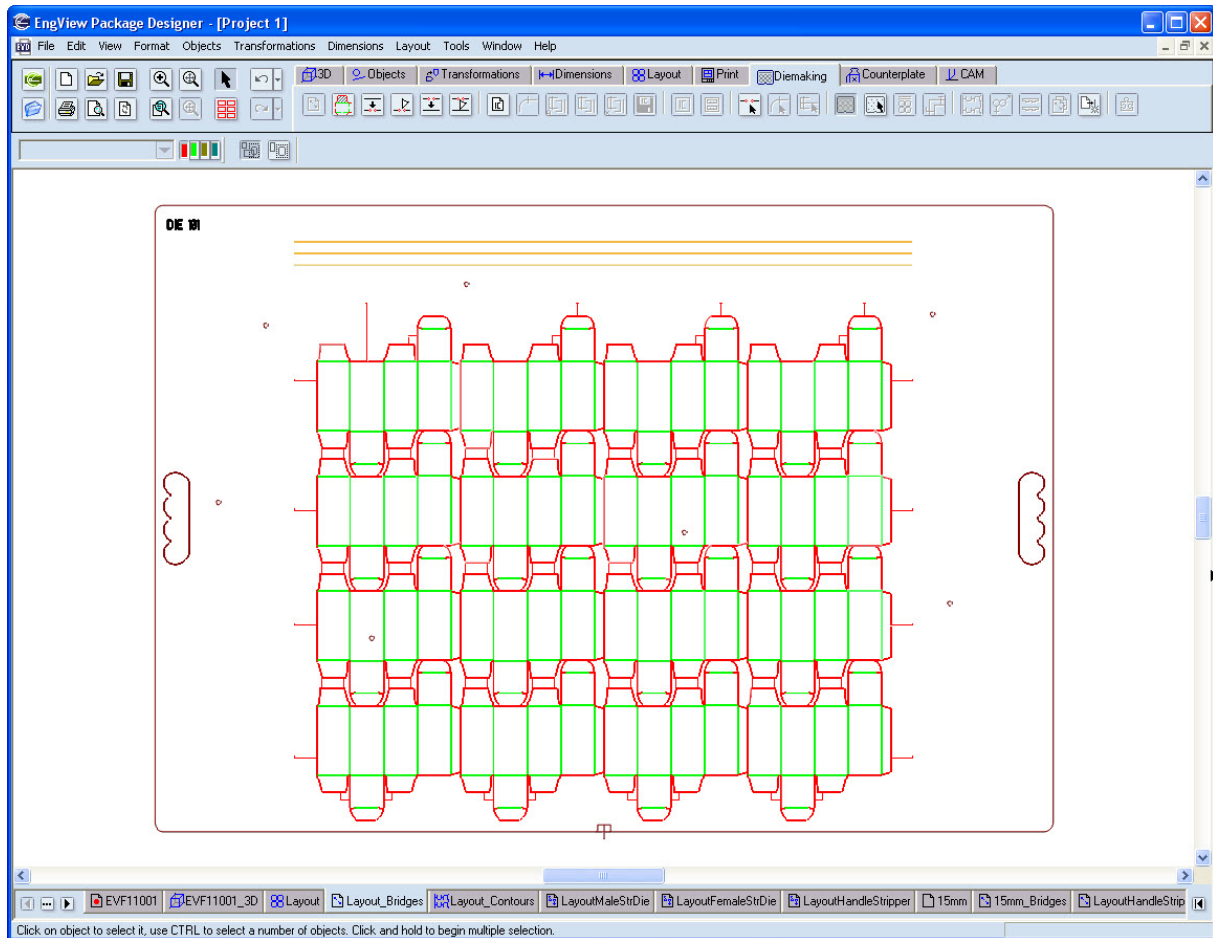
1. On the **Objects** toolbar, click **Vector Text** , and then select a font.



2. In the contextual edit bar that appears, enter the text that you need, and then drag it to the place in the dieboard where you want it.

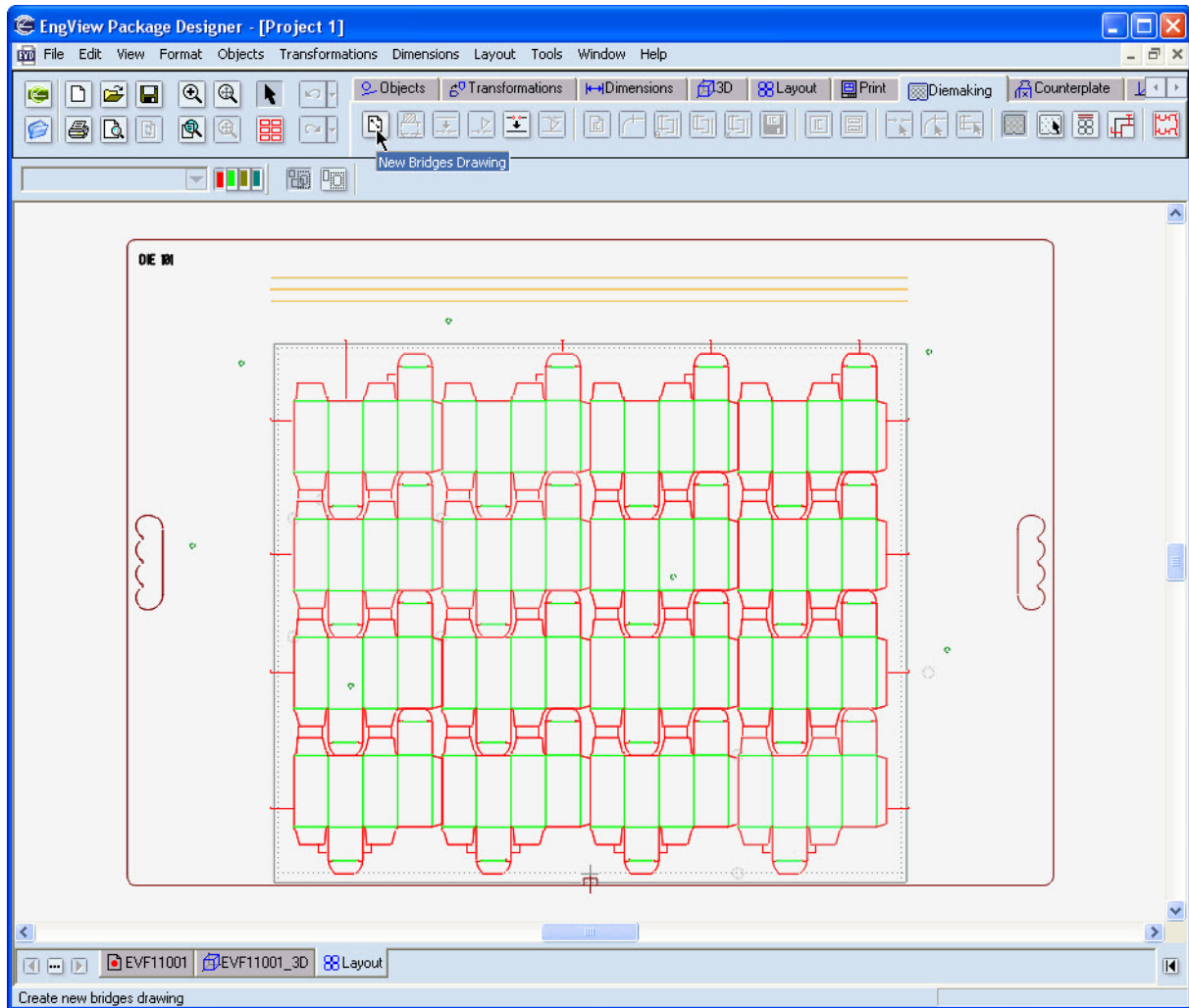


DIE 101

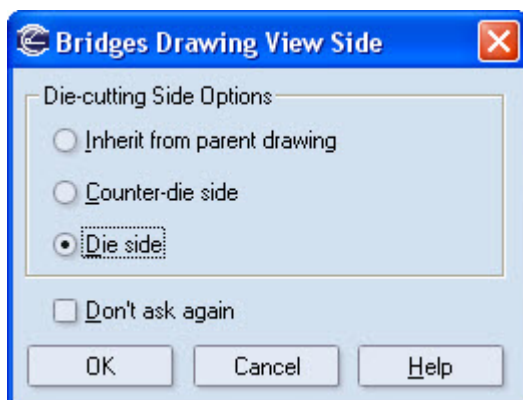


Creating cutting die bridge drawing

1. On the Diemaking tab, click **New Bridges Drawing** .

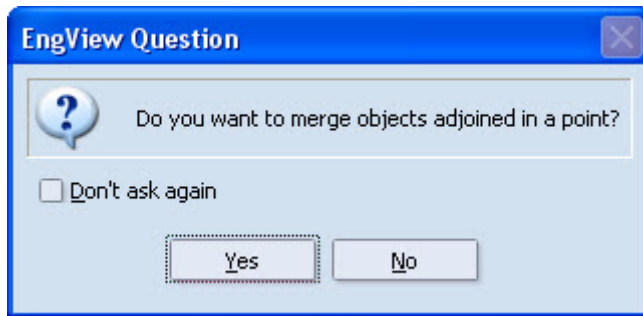


A dialog box appears, prompting you to select the side from which the bridges drawing will be generated.



2. Click **Die side**, and then click **OK**.

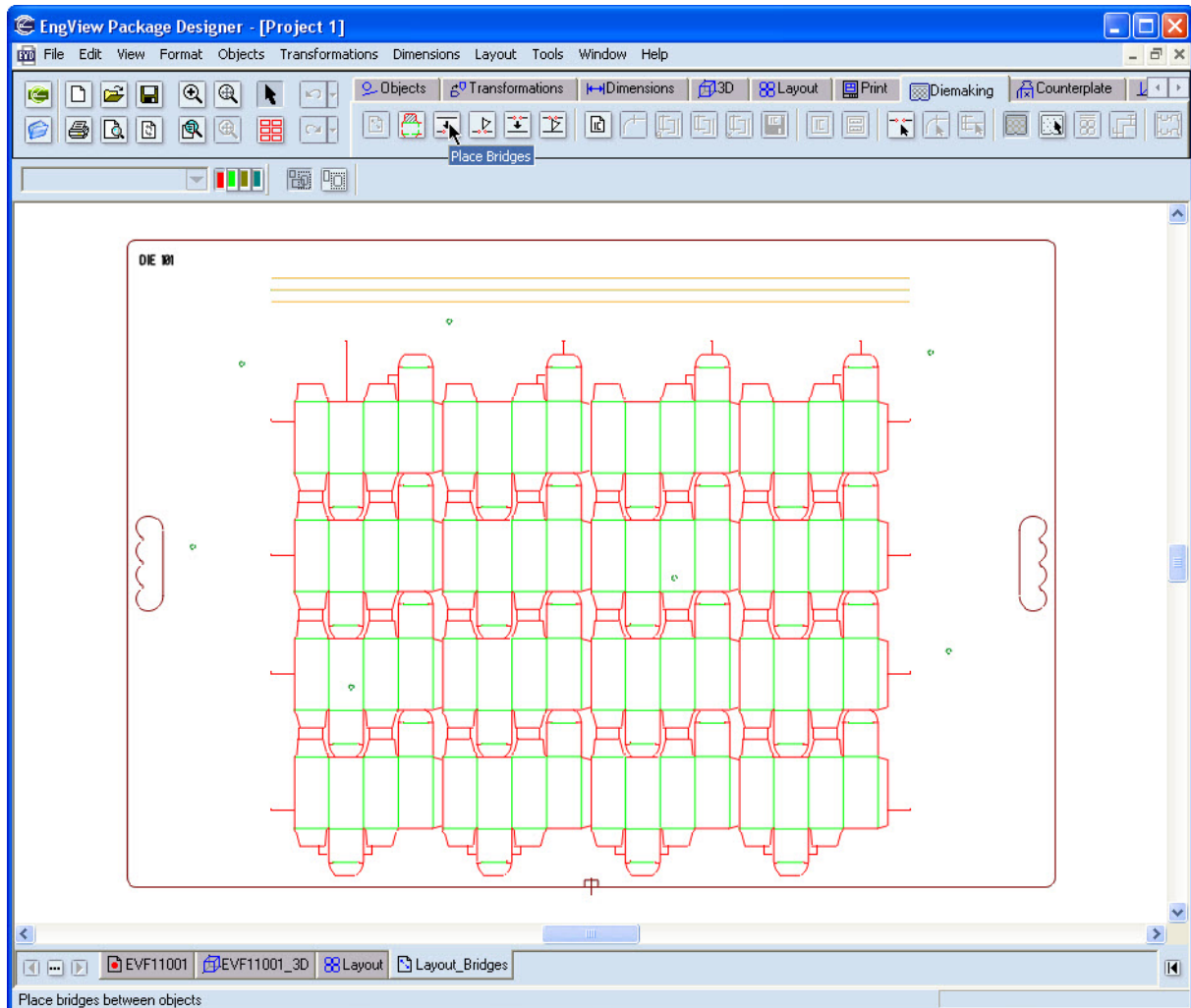
A dialog box appears.



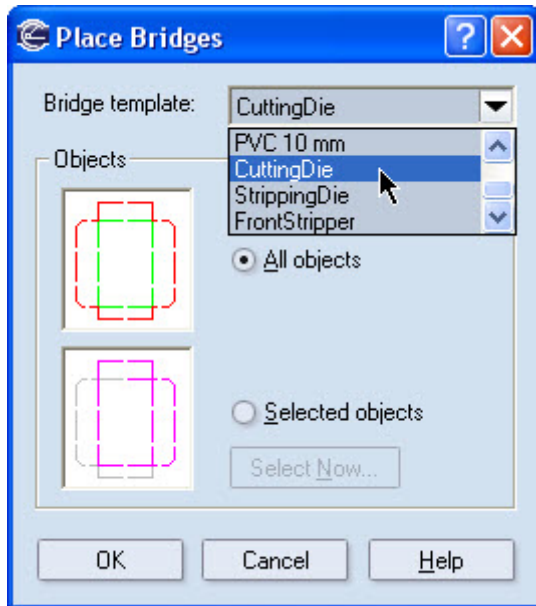
3. Click **Yes**.

The bridge drawing is created in which we should choose a bridge template to apply.

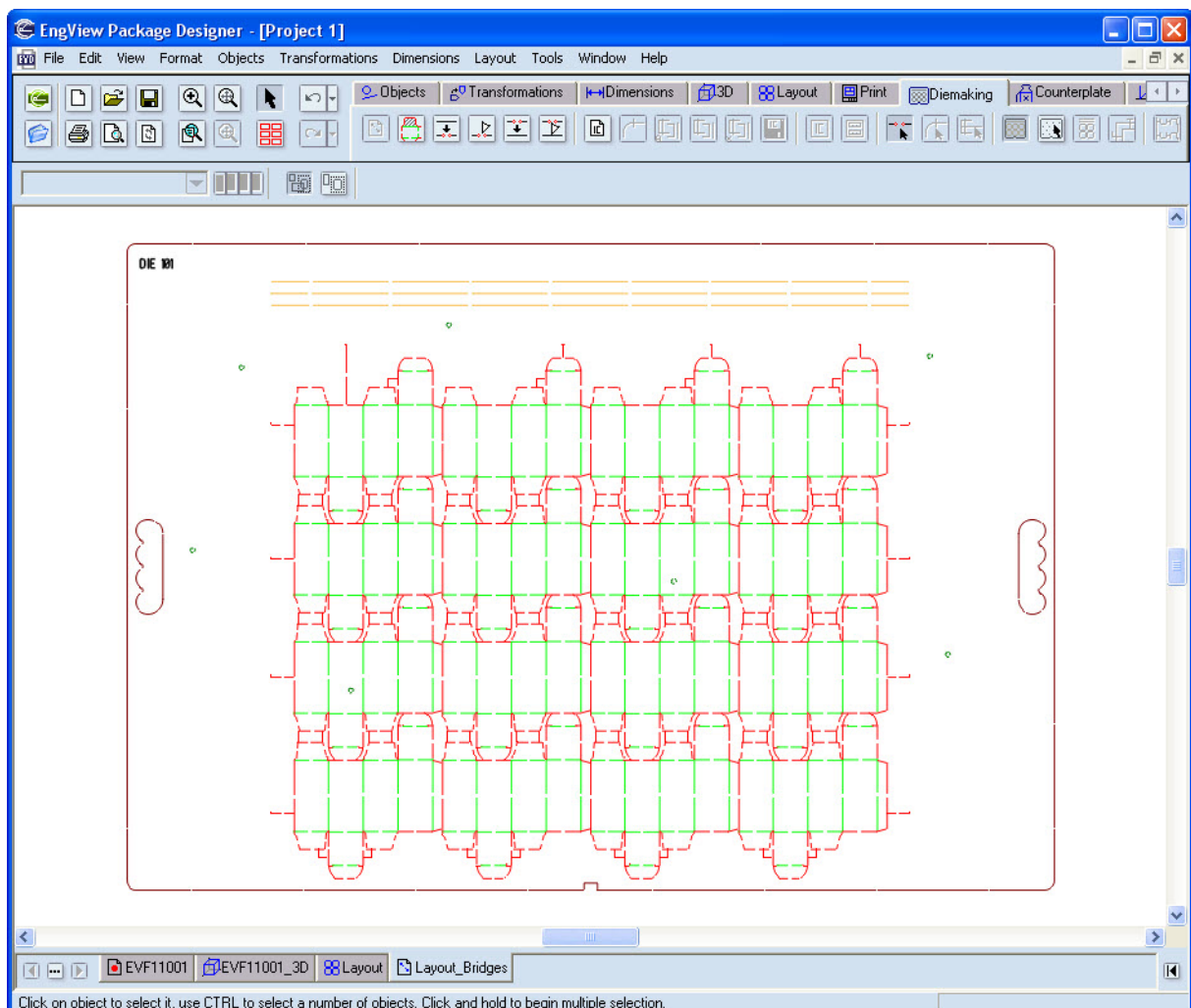
4. On the Diemaking toolbar, click **Place Bridges**.



The **Place Bridges** dialog box appears.



5. In **Bridge template**, choose the template that you want.



The dieboard drawing with a bridge template applied.

6. Save the file.