Warping

Almost all cups are conical. To ensure that a label fits nicely around the cup, it has to follow the conical shape of the cup. This shape will finally be our die cut shape and is usually specified by the injection moulder and not the label designer.

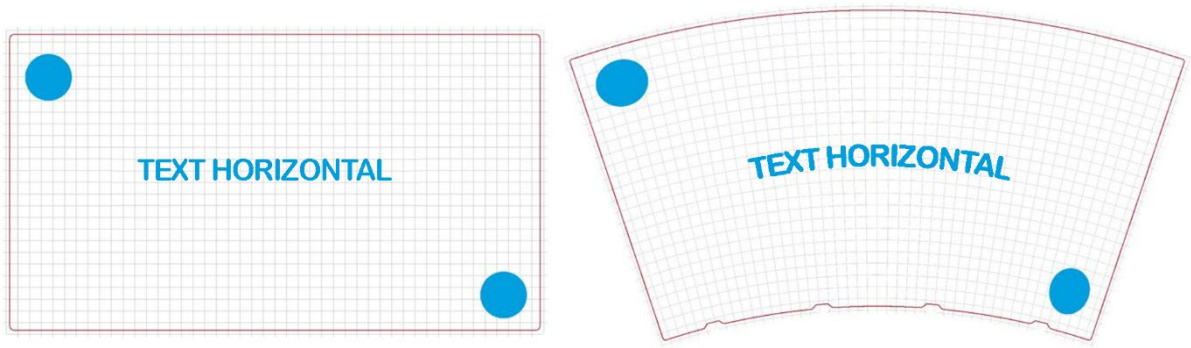
A label designer has the choice to either start from a rectangular shape and convert it by iPB with warping software into a conical shape. (This conversion from a rectangular shape to a conical shape is called warping.) Or the designer can start designing directly on a conical shape.

Designing on a rectangular shape and convert it later with warping software

A big advantage of software warping is that the entire design is automatically made conical and enables photos, text, shapes and lines to fit nicely around the cup. The designer does not have to warp anything manually. Horizontal lines and texts follow the shape of the cup and, once moulded, they will be nicely horizontal on the cup. A photo or image on the full background must also follow the shape of the cup and will therefore need to be warped.

The downside is that the design will be distorted. The top of the label is stretched horizontally while the bottom of the label is compressed horizontally. For clearly recognisable shapes such as circles, squares, logos and so on, this can become disturbing, especially if they are at the top or bottom of the label.

Below an illustration of a rectangular design (left) that has been software-warped (right). You can clearly see the distortion.



By default the entire label is warped. However, to preserve the original shape of some items, the prepress can choose to detach them from the design and not warp them. The choice to not warp an item is difficult to determine in advance. It depends on the shape, position and size of the item and in addition to this, the file must allow this. It must be formatted according to our artwork specifications, and the items not to be warped must be separate from any background image. For example, if a logo is a part of a pixelated background image, we cannot separate it and it will be warped anyway.

When submitting the artwork, it must be clearly indicated which parts can't be warped to avoid correction costs. Depending on the file and the complexity of which parts should not be warped, additional costs may be charged.

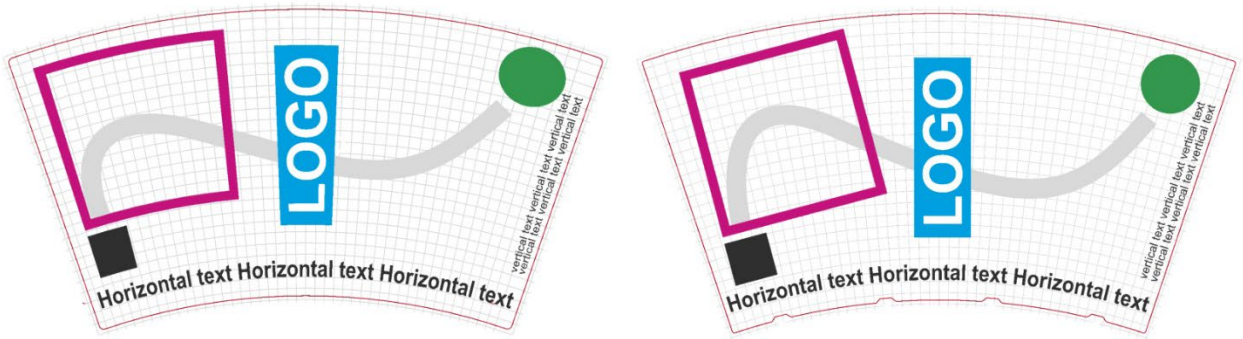
Each conical shape has a corresponding rectangular format. If this size is not correct, the design must be scaled (out of proportion) to fit the die cut. Any content lines of a cup may therefore differ with the content of the cup. If in doubt about the correct rectangular format, the customer can request a template from iPB that contains the conical shape and the matching rectangular format.

Designing directly on a conical shape

If a design only contains a few texts or drawings, it can be better to start from the conical shape rather then the rectangular shape. This will prevent distortion of the items. The designer should take the following into account:

- The shape of the die cut:
  - horizontal items must be placed with the correct curvature
  - vertically, everything must be placed at the right angle
- Large (especially rectangular) objects such as text blocks and photos are difficult to position because they cannot follow the shape of the die cut or surrounding items.
- For vertical texts consisting of more than one line, it is best to keep the distance between the lines the same everywhere.
- For vertical items that are close to the edge of the die cut, you have to weigh up whether to follow the die cut or follow the correct vertical angle.

Below, you can see on the left a rectangular format which is software-warped and on the right directly designed on a conical format.



Tip: You will only see the final result when the label is moulded around the cup. As a designer, you can already make a simulation by cutting out the label and sticking it around the cup. Or by rolling up the printed label and sticking the left side of the punch exactly on the right side.