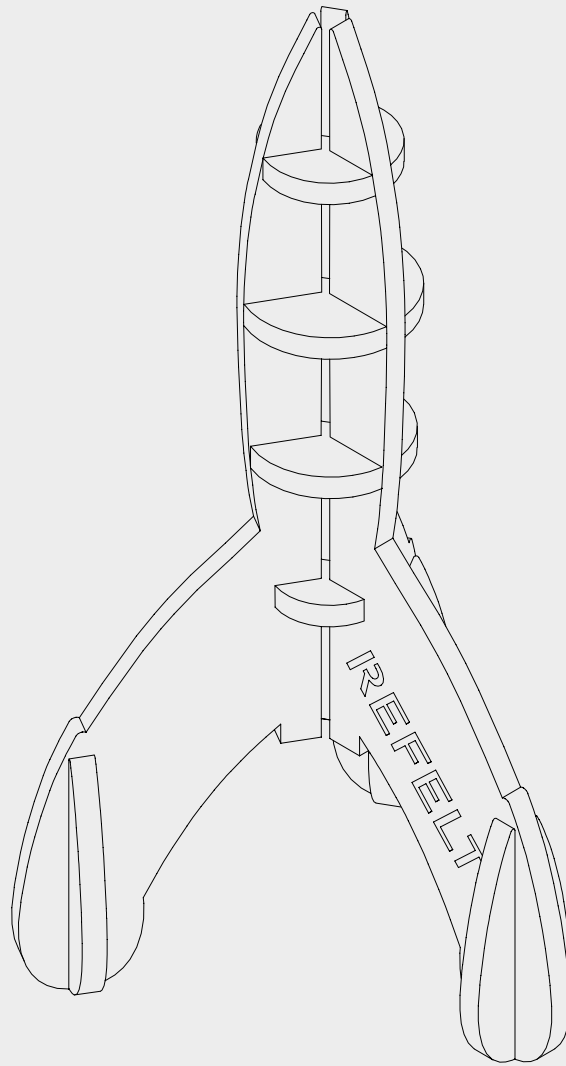


RE:FELT

CUSTOM  
ORDER  
MANUAL



# CUSTOM CUTTING SERVICE

Make a statement with  
your acoustic installation

PET Felt panels allow you to create your own design, that will equally contribute to the aesthetics and acoustics of the interior. Our digital cutting machine can create customized patterns, shapes, text or acoustic 3D models. Discover the possibilities that ReFelt has to offer and learn how to submit a custom order. ReFelt offers three different cutting types. In addition to cutting through the material, the digital cutting machine can cut v-cuts or beveled edges.

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## GENERAL: MATERIALS AND DIMENSIONS

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### 9mm PET Felt panels

The gross dimensions of a 9mm PET Felt panel are 2440mm x 1220mm. The net size of a 9mm PET Felt panel is 2400mm x 1200mm, these are also the measurements that need to be taken into account for the artboard when requesting a custom order for 9mm panels.

### 12mm Melange PET Felt panels

The gross dimensions of a 12mm PET Felt panel are 2800mm x 1200mm. The net size of a 12mm PET Felt panel is 2780mm x 1180mm, these are also the maximum dimensions that need to be taken into account when requesting a custom order for 12mm panels.

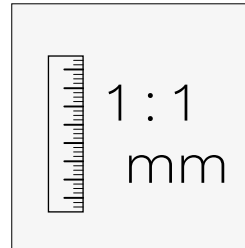
Material	Gross size	Net size	Artboard size
9mm PET Felt	2440mm x 1220mm	2400mm x 1200mm	2400mm x 1200mm
12mm PET Felt	2800mm x 1200mm	2780mm x 1180mm	2780mm x 1180mm

## FILE SPECIFICATIONS

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### Scale 1:1

Files must be drawn in the actual size, scale 1:1. Always use millimeters as a unit of measurement.

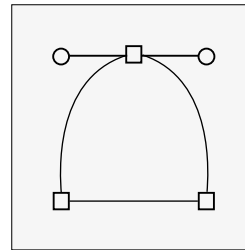


### File extensions

Suitable file extensions are:  
.Ai, .DXF or EPS

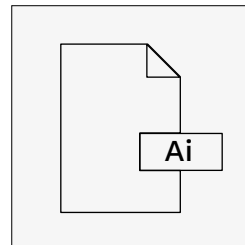
### Vector-based file

All files have to be vector-based. For example, files made with Adobe Illustrator. To retain vector information, the file must be saved or exported as an Ai-, or DXF File. A JPG-file is pixel-based and therefore not suitable for the software of the cutting machine.



### Name of file

Please mention the PET Felt color name you require in de custom file name.



### Visual or preview file

If possible, a visual or preview file (for instance. pdf) makes it easier to provide you with an accurate quotation. It can also come in handy when requesting a custom order which contains beveled or chamfered edges.

1. **Thru-cut** | A Thru-cut is used to cut straight through a PET Felt panel.

## 1.1 Minimum dimensions

Depending on the shape of a contour, the following minimal dimensions should be taken into account for cutting through PET Felt. For squares or similar angular shapes a minimal dimension of 6mm x 6mm is needed to be able to make a decent cut out.

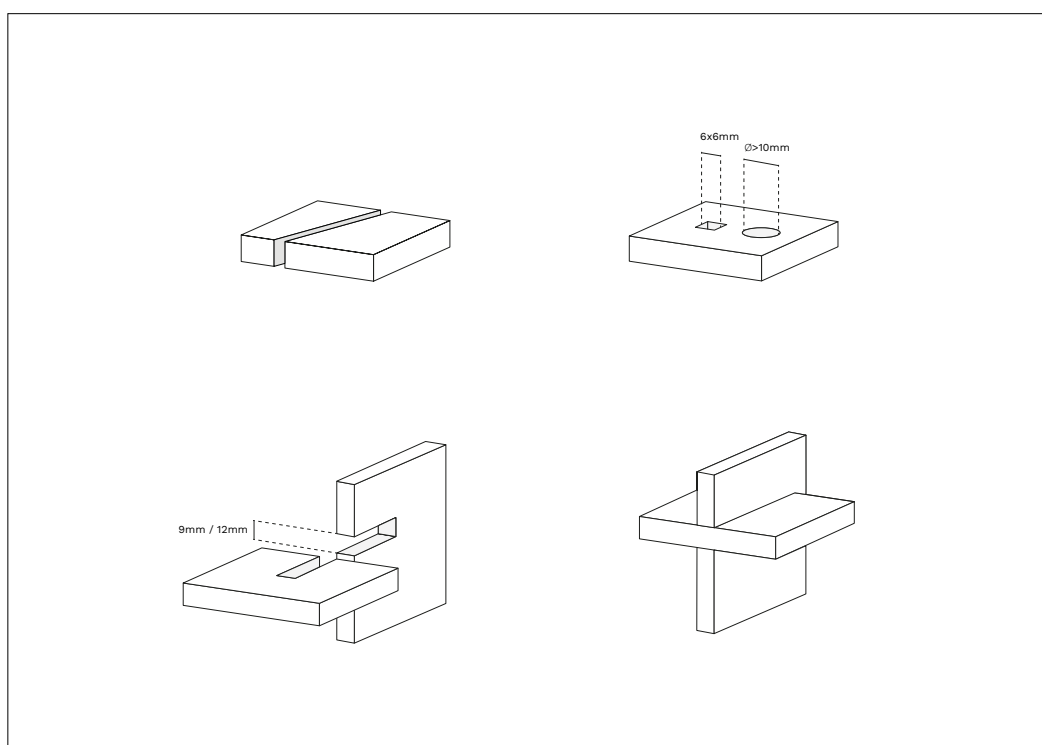
The dimensions of a circle with a diameter of Ø10mm or smaller deviate when cutted.

The table below shows an indication of the deviation of small circles.

Circle diameter in drawing	Ø10mm	Ø9mm	Ø8mm	Ø7mm	Ø6mm	Ø5mm
Circle diameter cutting result 9mm*	+/- Ø10,5 mm	+/- Ø9,5 mm	+/- Ø8,5 mm	+/- Ø7,8 mm	+/- Ø6,8 mm	+/- Ø5,8 mm
Circle diameter cutting result 12mm*	+/- Ø11,5 mm	+/- Ø10,5 mm	+/- Ø9,6 mm	+/- Ø8,7 mm	+/- Ø7,8 mm	+/- Ø6,5 mm

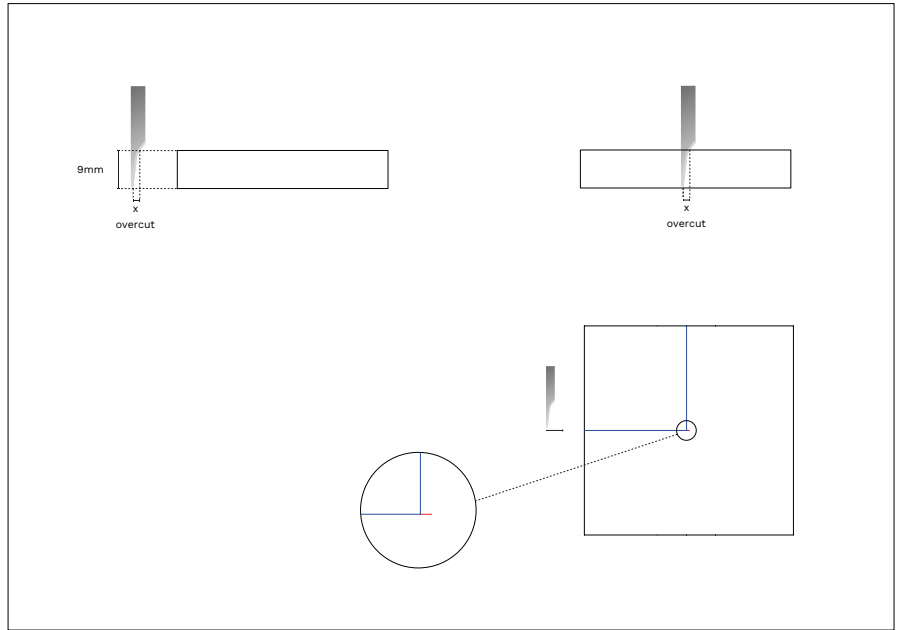
\* these dimensions are an indication and may vary

Cutting a slot joint to connect two or more PET Felt parts requires a slot with the same width as the thickness of the material, this means either 9mm or 12mm.



## 1.2 Overcut

An overcut is caused by the knife blade geometry and the material thickness. In general the blade geometry causes more overcut when cutting thicker materials. This causes a little overcut at the end of a cutting line. When cutting out thin features, this overcut can unintentionally cut completely through those features. The overcut of a knife will be visible on the front of a contour cutted panel. However, it is possible to eliminate this overcut by cutting the panel with the frontside facing down and mirroring the cutting drawing. If this is required this needs to be requested explicitly.



## 1.3 Text and logo

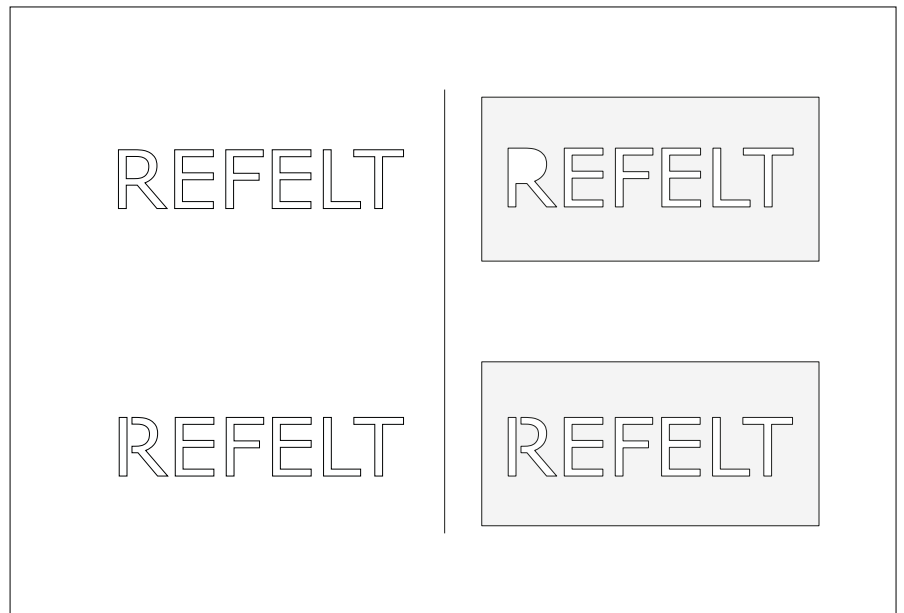
### 1.3.1 Minimum dimensions

To be able to cut out text and or a logo a font size of +/- 100pt or +/- 35mm is recommended. These dimensions however are only applicable on sans serif fonts and are merely guidelines, since a lot of what is possible concerning cutting text is depending on the type of letters and font. Fonts that are possible to cut →



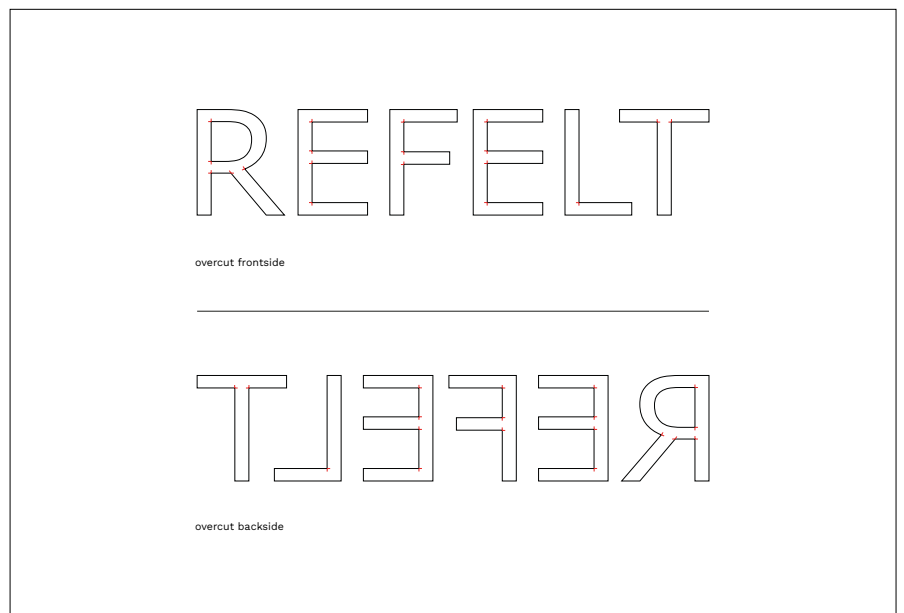
### 1.3.2 Letter tabs

If inner shapes of letters need to remain tabs should be added. These tabs are an interruption of the cutting line.



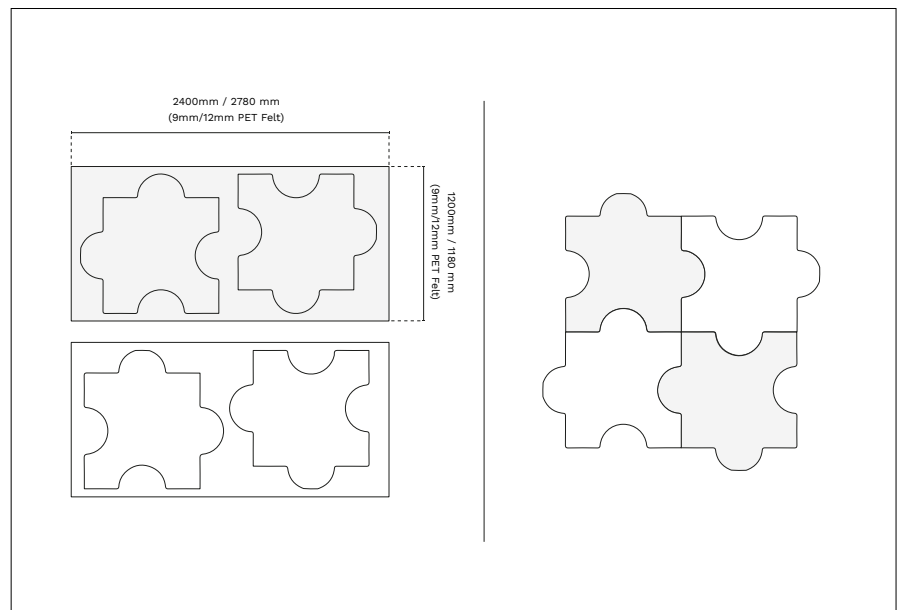
### 1.3.3 Mirrored cutting of letters

The overcut of a knife is always visible on the frontside of a contour cutted panel. This is the reason why cutting letters mirrored will result in a cleaner cut out. The PET Felt panel will be placed on the digital cutting machine frontside down.



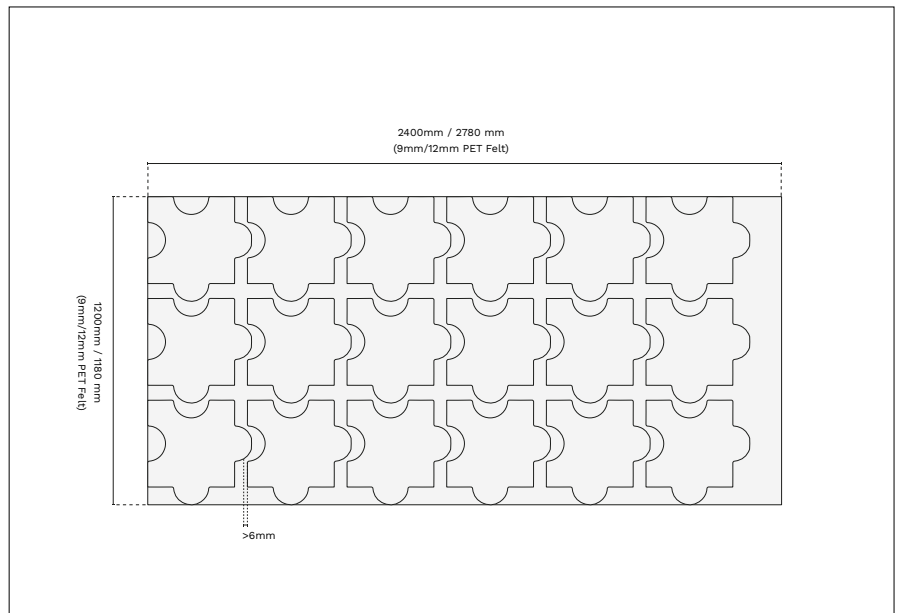
### 1.4 Combining multiple shapes as a puzzle

When multiple shapes and / or colors are combined as one single layer puzzle, the shapes must connect exactly in the cutting drawing. The knives that are used for cutting PET Felt are very thin, therefore there is no cutting loss. All shapes in a specific color need to be drawn on the panel dimensions and submitted as separate files.



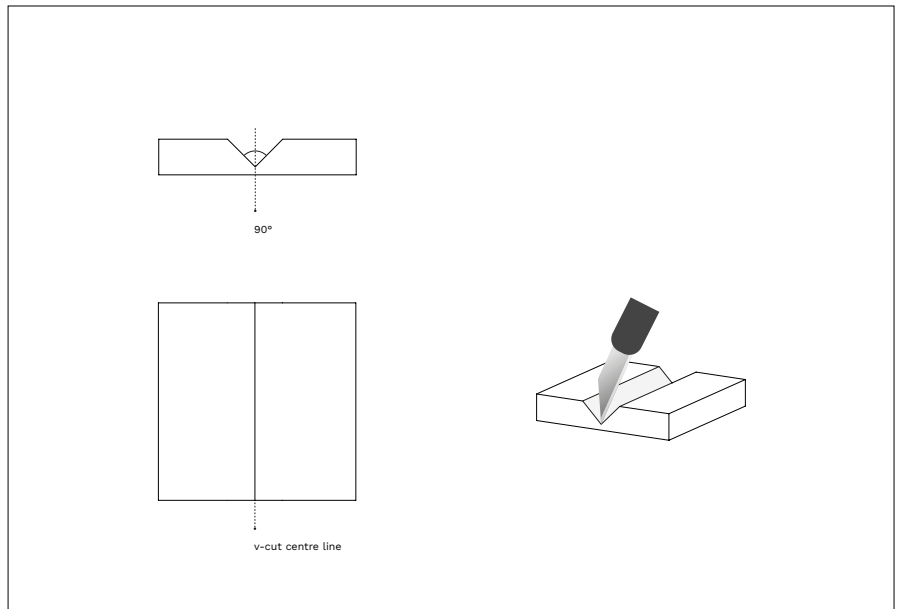
### 1.5 Part spacing and margins: Nesting

If you require multiple shapes being cut out of one PET Felt panel these can be positioned with at least 6mm in between these parts.



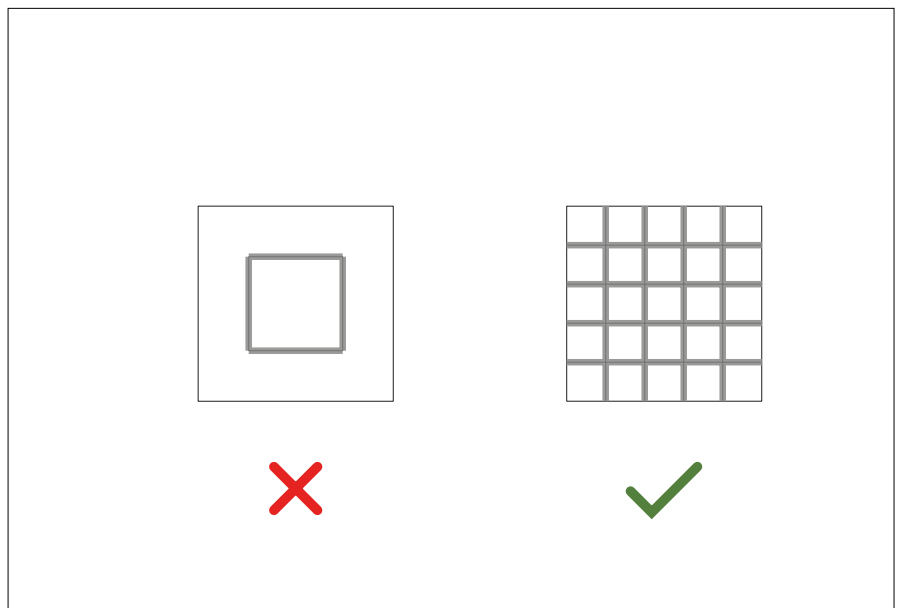
### 2. V-cut

A v-cut is always 90 degrees. The cutting line in the drawing is the centerline of the V-cut. V-cut lines can only be open vector lines or circles of at least 200mm diameter.



### 2.1 Possibilities / do's and don'ts

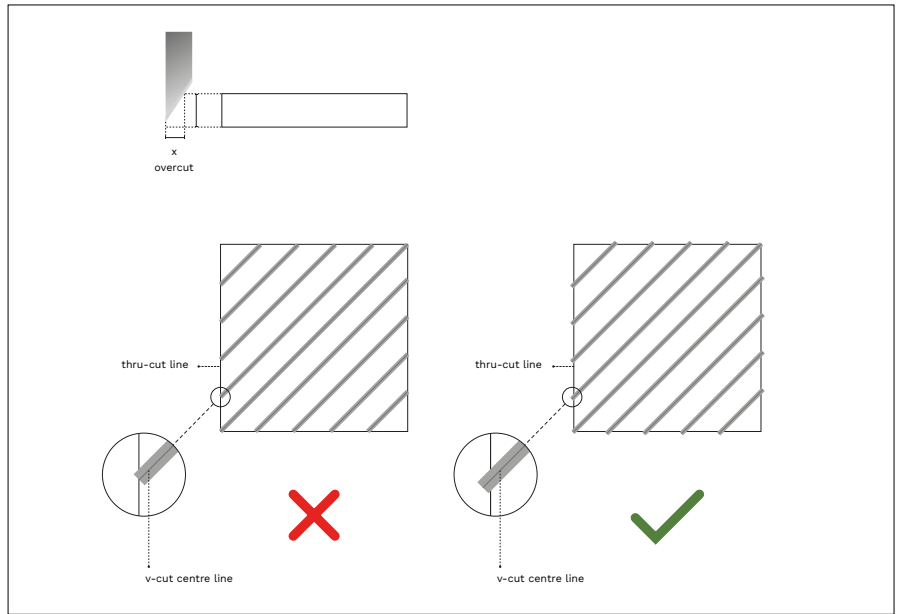
A V-cut can be used to cut horizontal, vertical or diagonal lines. It is not possible to cut letters or logo's, nor is it possible to cut closed contour shapes like squares, triangles or hexagons. It is possible to cut circles that have a diameter of at least 200mm. Cutting splines is possible to a certain extent, however a v-cut with a curve will have some deviation.





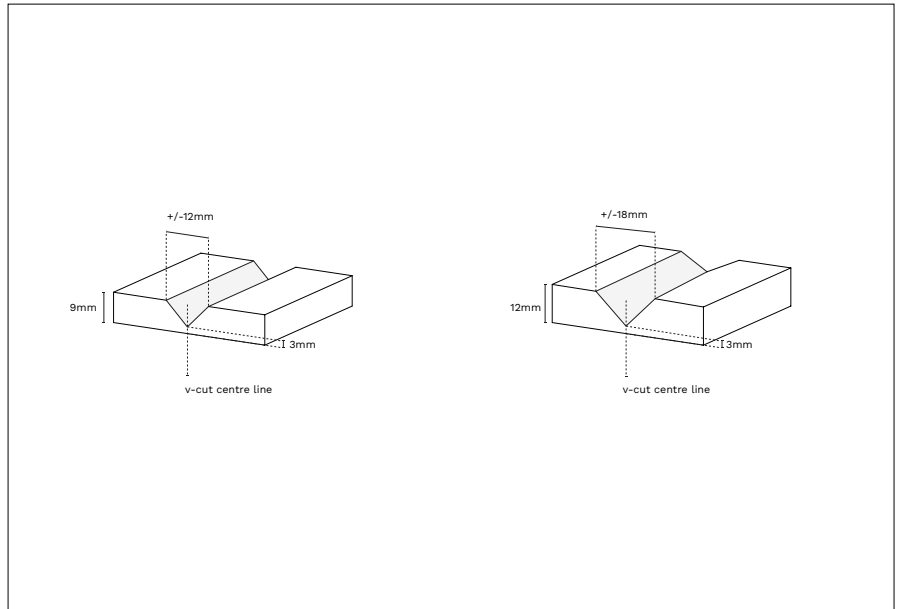
## 2.2 Overcut

An overcut is caused by the knife blade geometry and the material thickness. In general the blade geometry causes more overcut when cutting thicker materials. Due to the v-cut knives geometry and positioning at an angle of 45 degrees, v-cut lines will not always be cut entirely. To be able to take out v-cuts an overcut needs to be added in the cutting drawing.



## 2.3 Depth settings

Various depths are possible. The depth for a 9mm panel can range from -1mm to -7mm, for a 12mm panel it can be set from -1mm to -10mm. A V-cut -1mm means 1mm of material will remain in the centerline of the v-cut. The width of a v-cut is determined by the depth setting.



## 2.4 V-cut depth and width ratio

### 9mm PET FELT panels

V-cut depth	-1mm	-2mm	-3mm	-4mm	-5mm	-6mm	-7mm
V-cut width +/-	16mm	14mm	12mm	10mm	8mm	6mm	4mm

### 12mm PET FELT panels

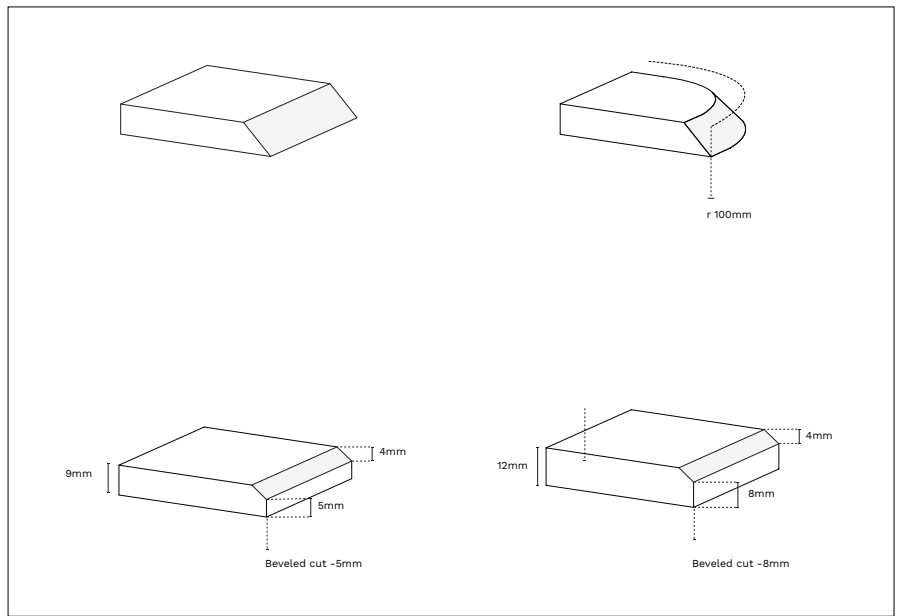
V-cut depth	-1mm	-2mm	-3mm	-4mm	-5mm	-6mm	-7mm	-8mm	-9mm	-10mm
V-cut width +/-	22mm	20mm	18mm	16mm	14mm	12mm	10mm	8mm	6mm	4mm

### 3. Bevel-cut

A bevel-cut is an edge finish. The Bevel-cut can create beveled or chamfered edges of 45 degrees. As it is an edge finish it can only be used on the outlines of shapes. A bevel-cut is in fact half a v-cut and is cut with the same knife as a v-cut.

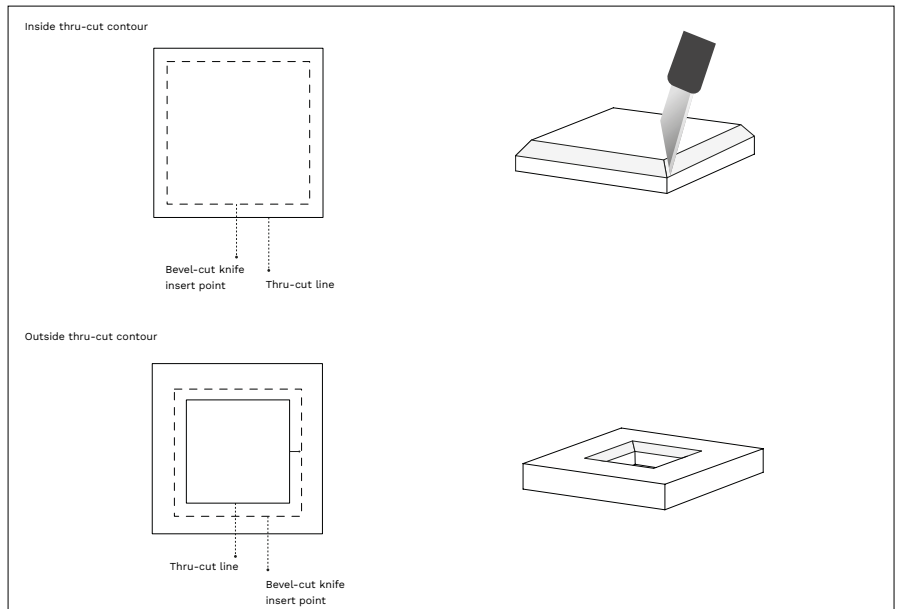
#### 3.1 Possibility's / do's and don'ts

The depth can be set to 0 mm for beveled edges or -5mm/-8mm (9mm/12mm) for chamfered edges. The minimum radius for a Bevel-cut is 100 mm.



#### 3.2 Inside or outside

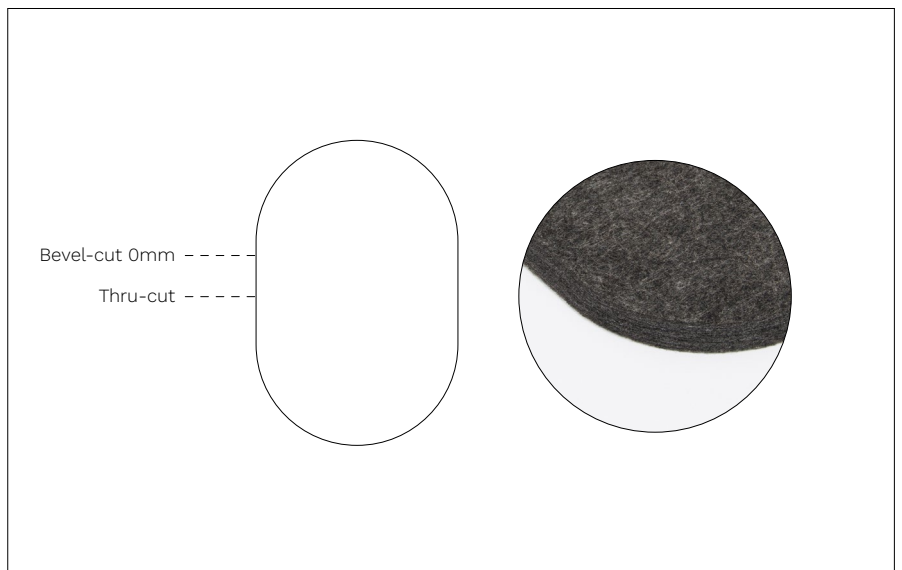
A sketch or rendered preview or visual of the requested custom order is required to be able to assess if a beveled edge needs to be placed on the inside or outside of a shape.



#### 3.3 Bevel-cut always requires a thru-cut

The Bevel-cut always requires two cutting lines. One drawn in a bevel-cut layer, for the 45 degree cutting and one in a thru-cut layer to cut the shape loose.

These two lines are the same but have to be drawn or copied in the two layers.



# DRAWING SPECIFICATIONS

**Layers** Every desired cutting option needs to have a separate layer with a corresponding layer name.

A Bevel-cut or V-cut layer name has to include **the cutting depth**.

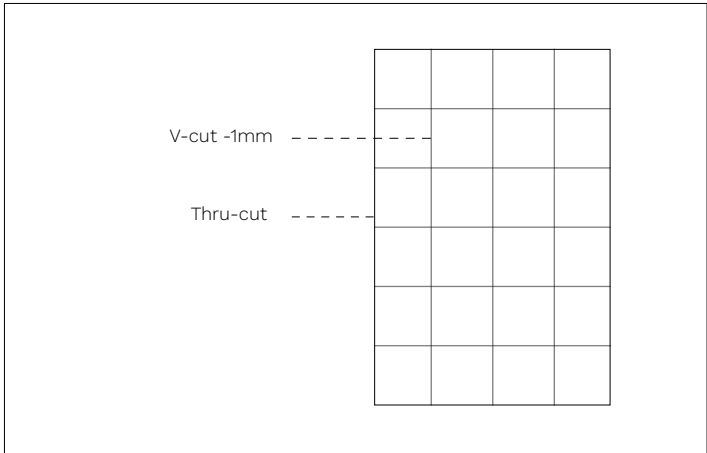
**Nesting** If you require multiple shapes being cut out of one PET Felt panel these can be positioned with at least 6mm in between.

**Illustrator** Please make sure to remove clipping masks in illustrator as these will only visually remove certain shapes or lines, the software of the cutting machine will still see all the lines that are cropped by a clipping mask.

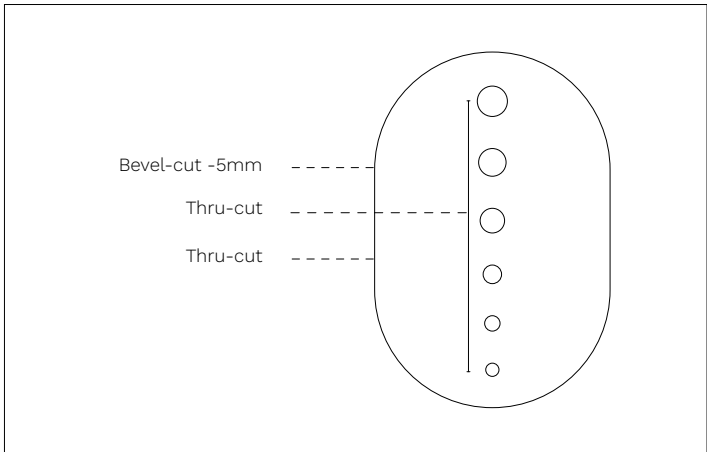
Thru-cut
Bevel-cut 0mm
Bevel-cut -5mm / -8mm
V-cut -1mm
V-cut -7mm
V-cut -10mm

## EXAMPLES

V-cut -1mm



Bevel-cut -5mm



# TERMS & CONDITIONS

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The general terms and conditions of ReFelt apply to custom orders, these additional terms and conditions apply where they differ from the general terms and conditions.

## **ReFelt custom order service**

In addition to selling PET Felt panels, ReFelt offers the option to custom cut PET Felt panels based on a cutting drawing supplied by the customer. ReFelt does not provide the service of making cutting drawings, adjusting the existing cutting drawings or developing ideas into products.

## **Liability**

ReFelt is not liable for errors occurring as a result of incorrectly accumulated cutting drawings. All supplied cutting drawings must meet the specifications as stated in this document.

## **Intellectual property rights of the client**

The customer retains the intellectual property rights of their production drawings. Neither will we make production drawings submitted to us public, nor will we provide them to third parties without the explicit consent of the customer. The customer must possess all relevant ownership or use rights of the supplied models and production drawings. ReFelt assumes that the customer has these rights. ReFelt cannot be held liable for claims related to intellectual property rights of supplied models or production drawings. We reserve the right to refuse orders if there is a suspicion that the customer does not have the necessary property rights if a model or production drawing goes against the legal provisions or at our own discretion.

## **Prices**

ReFelt can only determine prices for custom orders on the basis of a digitally submitted cutting drawing that meets the specifications stated in this document. Any changes made to the cutting drawing after the quotation has been issued may influence the price, in such case, the customer may be charged with the additional costs.

## **Guaranty**

We only guarantee that the custom order will meet the specifications of the submitted cutting drawing. A cutting drawing provided by the customer, if not otherwise stated by the customer, will be interpreted as a final production cutting drawing.

ReFelt does not reimburse products if any defect occurs due to a design flaw. If a product does not meet the specifications of the supplied drawing, the customer must immediately inform us in writing. Returns of delivered products may only take place after confirmed in writing by ReFelt, whereby ReFelt is entitled to issue instructions regarding the manner of shipping.

## **Returns**

Custom orders can not be returned.