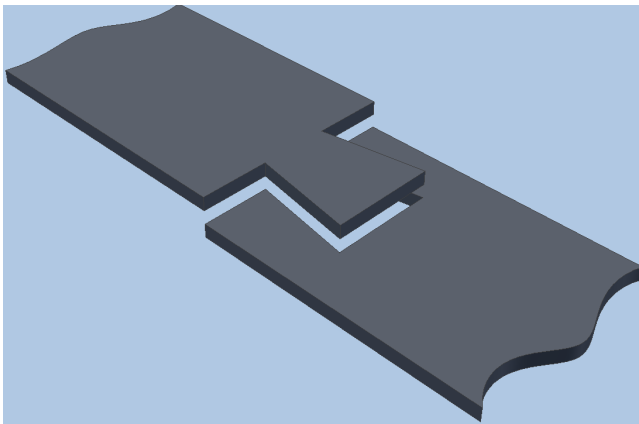


### Segmented Gaskets

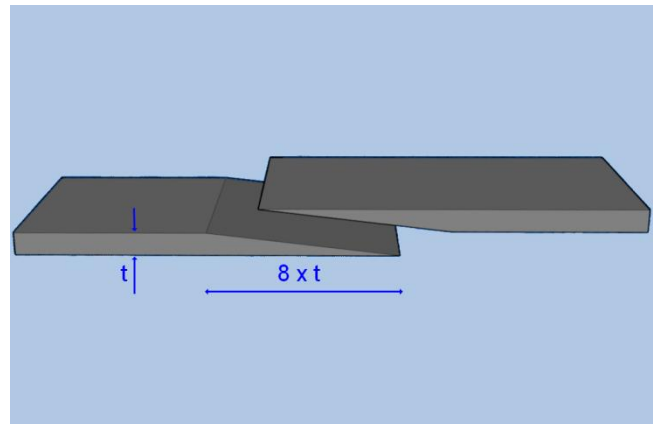
For many applications larger sized gaskets (larger than the maximum available sheet size) are required. For such cases we recommend a suitable technology of joining gasket segments, by thus any gasket size can be manufactured.

#### Dove tail joint or scarf joint

In practice two different methods have been approved. In case of dove-tail jointing the gasket is put together from individual segments. This can optionally be done at site, which is easier from a packaging and logistics point of view especially in case of very large gaskets. In case of scarf jointing the individual segments are glued together in order to get the required gasket dimension.



Dove tail joint



Scarf joint

Generally both methods can be used for any type of gasket material. However on condition of material composition we recommend to use novamica®, novaphit® and novafon® as more suitable for dove tail jointing, whereas for novapress® and novaform® there can be made scarf jointings without problems.

#### Dovetail joint with reduced kerf

Each jointing location is a weak point unless performed precisely. Dovetail joints can be manufactured in several ways including digital plotters such as cnc oscillating knife cutters, waterjet systems or Steel punches. **The male and female joints in the dovetail segment must be a tight fit, therefore if any tolerances are supplied, this must be considered.**

Such a correction of the kerf (dimensional deviation from the male and female part of the segment) is dependent on the material and manufacturing process. The aim is not to see daylight anymore through the segments. Furthermore the segments have to be put together smoothly without failure.

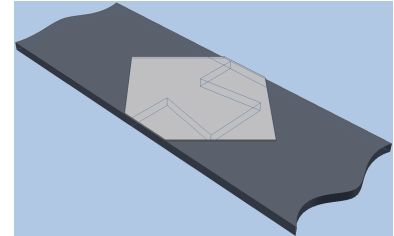
**Note for design:** The segmentation should be positioned as close as possible to the next bolt in order to apply maximum surface pressure on it!

## Segmented Gaskets

In case a slight gap cannot be avoided, there is the possibility, at least in case of novaphit®-gaskets, to put an graphite plaster of thickness 0.25 mm on one side of the jointing position.

This plaster should have the shape of a rhombus.

Material novaphit® M in 0.25 mm thickness is available at Frenzelit.



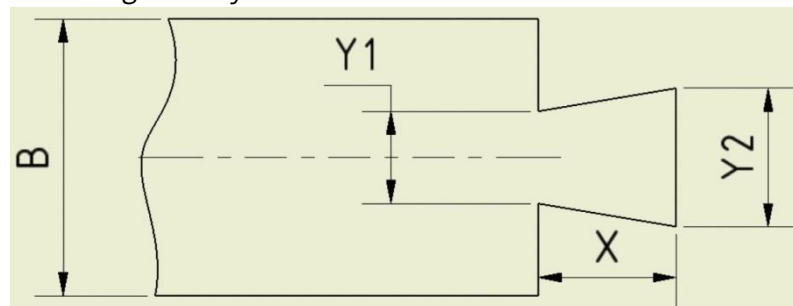
### Recommendations on dimensions

Recommendations on dimensions for the dove-tail geometry according to the table below:

| Schwalbenschwanz-<br>geometrie |    |    |    |
|--------------------------------|----|----|----|
| B                              | X  | Y1 | Y2 |
| 20                             | 10 | 6  | 9  |
| 21                             | 10 | 7  | 10 |
| 22                             | 11 | 7  | 10 |
| 23                             | 11 | 7  | 10 |
| 24                             | 12 | 8  | 12 |
| 25                             | 12 | 8  | 12 |
| 26                             | 13 | 8  | 12 |
| 27                             | 13 | 9  | 13 |
| 28                             | 14 | 9  | 13 |
| 29                             | 14 | 9  | 13 |
| 30                             | 15 | 10 | 15 |
| 31                             | 15 | 10 | 15 |
| 32                             | 16 | 10 | 15 |
| 33                             | 16 | 11 | 16 |
| 34                             | 17 | 11 | 16 |
| 35                             | 17 | 11 | 16 |
| 36                             | 18 | 12 | 18 |
| 37                             | 18 | 12 | 18 |
| 38                             | 19 | 12 | 18 |
| 39                             | 19 | 13 | 19 |
| 40                             | 20 | 13 | 19 |

Formeln:  
 $X = \text{INT}(B/2)$   
 $Y1 = \text{INT}(B/3)$   
 $Y2 = Y1 + \text{INT}(B/6)$

dove-tail geometry



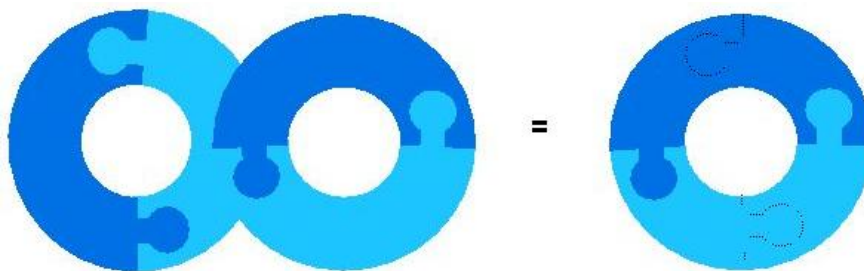
The data in this table can be used as a guideline. Other dimensions or suitable geometry may be used as well.

**Note for design:** For gasket design please take care to position the jointing as close as possible to the next bolt hole.

### Segmented Gaskets

#### Supply of gaskets in segments or in one piece

According to customer's requirements the gaskets can be supplied in loose individual segments or ready made in one piece. For the latter we recommend to use chloride free adhesive to combine two layers of a thinner gasket (e.g. two times 1.5 to achieve 3.0 mm). Make sure that the connections of both layers are NOT in the same position. (correct example as shown below).



#### Scarf joint

In case of scarf joints the jointing segments need to be ground transversely in an opposite direction. The length of the grinding should be approx. 8 times higher than the gasket thickness. This should ideally not be done by hand but with a suitable professional device or tool. The jointing segments need to be glued together. Please take care to minimize the thickness of the glue film, preferably using spray glue (e.g. Tesa 60021). Finally any increase in the material thickness must be reduced by grinding down to the original thickness required.

Application engineering questions?

We help you at: [gaskets@frenzelit.com](mailto:gaskets@frenzelit.com), Phone: +49 9273 72-140

Status: May 2017