



Power Industry

Technical bulletin

Dovetail interlock design



AMORIM
CORK COMPOSITES

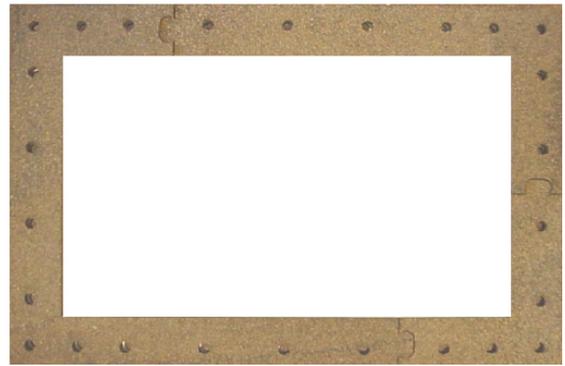
Dovetail interlock design

Large sealing areas used in transmission and distribution equipment implement dovetail designs on flat gaskets, to increase material yields and significantly reduce scrap rates, which has a direct impact on cost savings in terms of materials and products.

By definition, a dovetail is a tongue and groove that fit tightly together, thus creating an interlocking joint between two pieces which resist being pulled apart in all directions, except one.

Dovetails can be shaped like a bird's tail spread, or not, depending on the punch or tooling manufacturer. Their dimensions vary (depending on tooling design). As a rule of thumb the dovetail's maximum width should occupy approximately 1/2 to 3/4 of the gasket's width (leaving a 1/4 - 1/8 of gasket width on each side). For larger gasket widths, multiple dovetails can be made side-by-side, facing the same direction or inverted.

The dovetail interlock should guarantee a comfortable fit before compression. The interlock will seize once the gasket is under compression, eliminating any possible leak paths.



Example of dovetail punches and sizes

Dovetail design and selection guidelines

- We strongly recommend that the dovetail joint be positioned between bolt holes away from the flange corners, use corner parts to distance dovetails from the flange edges.
- Various dovetail geometries and designs are available, and should contemplate large perimeter contact areas and radii to eliminate high point stress conditions (when under compression).
- Dovetail base geometry should be sufficiently wide to eliminate any possible rotation (also ensuring there is no tearing or deformation) and at the same time guarantee the interlocking function.
- When using glue or RTV on the dovetail joints, to aid in assembly or positioning, use as little as possible. An excessive amount will serve as a lubricant between the contacting surfaces, leading to possible extrusion of the dovetail joint and eventual sealing failure.

Possible dovetail designs



AMORIM CORK COMPOSITES

Rua de Meladas, 260 - P.O. Box 1

4536-902 Mozelos - VFR

Portugal

T. +351 22 747 5300

F. +351 22 747 5301

E. acc@amorim.com

www.amorimcorkcomposites.com

The data provided in this technical bulletin refers to typical figures. This information is not intended to be used as a purchasing specification and does not imply suitability for use in any specific application. Failure to select the proper product may result in either product damage or personal injury. Please contact Amorim Cork Composites regarding recommendations for specific applications. Amorim Cork Composites expressly disclaims all warranties, including any implied warranties of merchantability or of fitness for any particular purpose. Amorim Cork Composites shall not be liable for any indirect, special, incidental, consequential or punitive damages as a result of using the information listed in this brochure, any of its material specification sheets, its products or any future use or re-use of them by any person or entity. **For contractual purposes, please request our Product Specifications Sheet (PDA).**