VULCATEC

VULCANIZED GASKETS

Inflatable Gaskets

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Introduction

As a specialist in the field of hot vulcanization, we offer our customers individual solutions for sealing movable elements. Vulcatec inflatable gaskets can be used for a wide range of applications because of their geometry and expandability. Their range of applications includes clamping, lifting and pressure functions in addition to their sealing function.
Customer-specific solutions can be implemented in addition to standard profile geometries.

Production

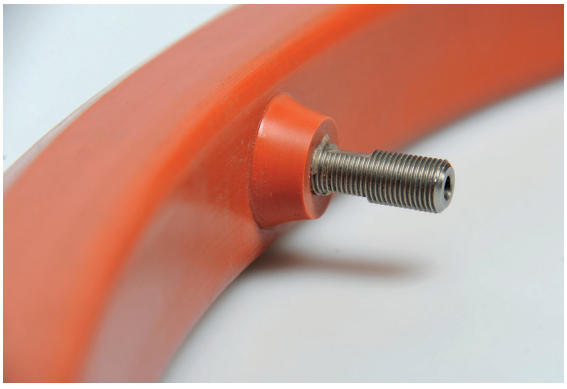
Inflatable seals are prepared to the appropriate dimensions from an extruded profile and vulcanized using the process of hot vulcanization. The resulting joint is characterized by its high strength and flexibility. The vulcanization joint has virtually the same chemical and thermal properties as the base material.

Hot Vulcanization

Elastomers are permanently connected under high pressure and temperature conditions in the process of hot vulcanization. The advantages of hot vulcanization are that the vulcanization joints are barely visible and have virtually the same chemical and thermal properties. In addition, gaskets can be produced in almost any dimensions.

Function

The distortion of the physical state is caused by the build-up of internal pressure. The application function is achieved by introducing a pressure medium by rolling out or expanding the profile. Predefined pressure on a counter surface can be produced by the profile geometry. The gasket is retracted into the groove in its deactivated state.



Good to know

A minimum wall thickness of 2 mm is recommended.

The possible lift comes from the geometry of the gasket.

Designs

Inflatable Ring Gasket

Gaskets can provide an axial, external or internal radial seal depending on the installation situation. It is important to take account of minimal radii in order to ensure the optimum function of the profile. These minimal radii depend directly on the chosen profile. Endless gaskets have a vulcanization joint. These joints have virtually the same chemical and thermal properties as those of the profile.

Vulcatec inflatable gasket produced to form an endless ring

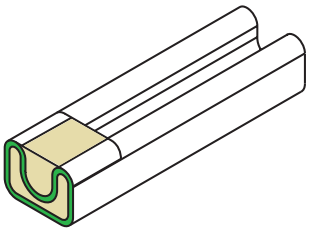
Inflatable Frames

Frame gaskets are produced using the process of corner vulcanization. A complete frame consists of four vulcanization joints that are produced from a mould to be manufactured.
Open frames with end plugs can be produced if required. A frame gasket enables the bridging of applications with very tight radii.

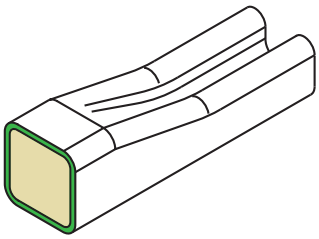
Vulcatec inflatable frame gaskets

Gaskets with End Plugs

Gaskets with end plugs are not endless, i.e. the gaskets each have end pieces with an elastomer plug. Here is it possible to produce an end piece in a retracted or expanded state.



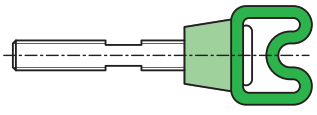
Rolled-in with an end plug



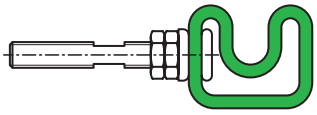
Rolled-out with an end plug

Valve Fixation and Positioning

Valves are fitted to the base of the profile with expansion gaskets. It is possible to fit the valve to the base or side of the profile with unfolding gaskets. The valve is fixed mechanically or by additionally fitting a cone[1] to stabilize the valves.



Fixation with an additional elastomer cone



Mechanical valve fixation

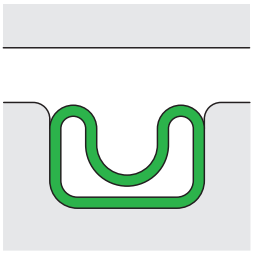
Good to know

[1] A cone is a conical moulded part that fulfils the function of an additional gasket and stabilizes the valve.

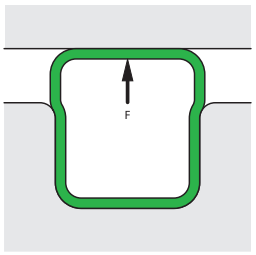
Types

Unfolding

Unfolding gaskets need lower pressure ratios than expansion gaskets and can bridge larger sealing gaps because of their geometry. A bead integrates the part to be rolled out in the geometry of the gasket with unfolding gaskets.



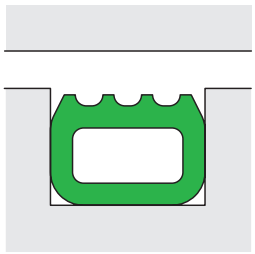
Rolled-in



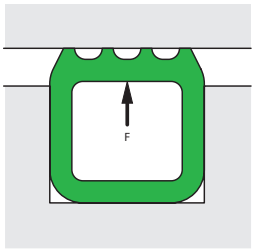
Rolled-out

Expansion

The cross-section is changed through expansion with expansion gaskets. The pressure applied is higher as a result. This type of gasket is suitable for bridging smaller sealing gaps.



Without expansion



With expansion

Traceability

Vulcatec inflatable gaskets are provided with customer-specific marking if required. The marking can be done in the form of laser engraving or using manual marking with an additional seal. In addition, all gaskets have a test certificate that guarantees traceability thanks to the individual marking.

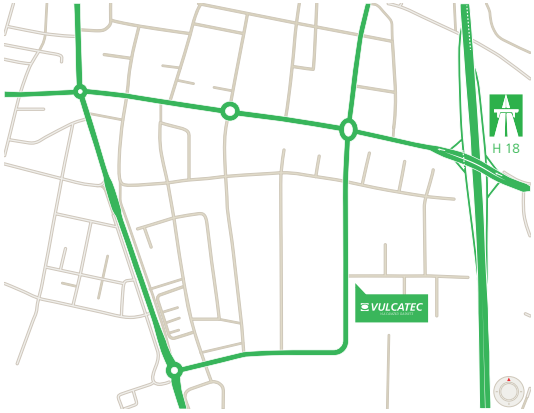
Quality Management

Our quality management system in accordance with ISO 9001:2008 is aimed at the continuous improvement of all the company processes.

Both product quality and service quality are given top priority at Vulcatec. This enables us to provide our customers with the smooth and reliable management of their requirements.

Services

- Express production if material is available
- Individual marking
- Individual coatings
- Individual packaging
- Test report



Contact

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Good to know

Unfolding
Bridging of large sealing gaps
No material expansion in a rolled-out state

Expansion
Bridging of small sealing gaps
Material expansion in an activated state