TWO-COMPONENT / MULTICOMPONENT GASKETS IN STATIC SEALS

Trend towards more lightweight designs in mechanical engineering and plant construction continuing!

The trend towards constructing more lightweight and hence material-saving designs of machines and systems shows no sign of waning. This also applies to the connecting elements to be sealed. The focus here is on a resource-saving design of the fl ange and clamping elements. This is achieved by reducing the fl ange sheet thickness as well as e.g. the number and size of the screws.

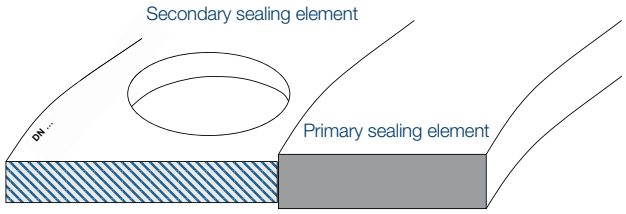
PROBLEM

a) the flange sheet thickness and
b) number and size of the screws,
only low and also unevenly distributed forces are available for the required compression of the sealing material.
A conventional fl at gasket cannot meet these requirements

SOLUTION

Multicomponent gaskets: To solve the problem, structural measures are necessary when designing and manufacturing the gaskets. Two-component or multicomponent gaskets have proven their merit in many areas of application. Depending on the relevant sealing task, suitable components are selected, calculated and designed.

As a rule, multi-/two-component gaskets consist of a primary and a secondary sealing element. The primary sealing element assumes the actual sealing to the medium. The secondary sealing element fulfi ls functions such as centring and satisfies the mechanical requirements of a sealing element. Both elements are in a block position when installed.



Examples of multicomponent gaskets:

Smooth sheet flange, temperature 80 °C, 6 bar, cooling air, vibrations

» **Outer ring:** Fibrous material or VA 2.0 mm; safe guards inner pressure. Easier installation and torque support (here KLINGERSIL® C4400 with hole pattern)
» **Inner ring:** Elastomer ring 2.5 mm; primary sealing element in the force shunt

Exhaust flange DIN 86044, temperature to 650 °C, 0.5 bar, partially seawater, vibrations

» **Outer ring:** VA 2.0 mm; additional inner pressure safeguarding and torque support
» **Centre ring:** High-temperature mica material 2.2 mm; centring and secondary sealing
» **Inner ring:** High-temperature mica material with Elasteiloy C 276 casing 2.5 mm; primary media-resistant sealing element

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10/2022

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