

The TA-Luft requires the “Introduction of High-Quality Gas-kets.” This high-quality for flanges and valves is defined in the VDI-Directive 2440 “Emissions Reduction in Petroleum Refineries”.

Along with high-quality sealing for control and shut-off devices such as, for example, metallic bellows with downstream safety stuffing box, sealing systems like the TA-Luft Packing K80STA can be introduced.

The first criterion for the equivalence is that the design layout of the sealing system consistently produces the intended function under operating conditions. Second, the specific leakage rates must comply with the following limits:

- at temperatures greater than or equal to 250°C, a leakage rate of 10^{-2} [mbar·l·s⁻¹·m⁻¹]

The requirements for these sealing systems are as multi-faceted as the applications, so that the selection is carried out according to prescribed criteria.

On that point, the working parameters like temperature, pressure, medium, type of movement and maximum applied lifting force as well as the number of expected lifts during the entire period of operation must be taken into account.



The K80STA is as a packing unit with two K80S antiextrusion rings (graphite with stainless steel sheet inserts) and three K80TA gaskets (flexible graphite with PTFE) from the MPA in Stuttgart with certificate no. 0010/2009 classified as high-quality packing within the meaning of the TA-Luft for temperature ranges greater than or equal to 250°C.

The packing unit distinguishes itself with, among other things, an extremely small friction coefficient, so that the lifting power is correspondingly small. A spring assembly with disk springs is not necessary in order to fulfill the TA-Luft leakage rate criterion of the VDI-Directive 2440 of 10^{-2} [mbar·l·s⁻¹·m⁻¹].

The K80S antiextrusion rings dependably impede the extrusion of the sealing rings. In this way, an abrupt malfunction of the sealing system can be avoided.

Mechanical Properties

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|---|--------------------------|
| Maximum temperature of the packing (the medium temperature can be substantially higher) | 300°C |
| Pressure | up to 1500 bar |
| Oscillating movement | 2 m/s |
| Rotating movement | 5 m/s |
| Least possible friction between spindle and packing | $\mu < 0,012$ |
| Diameter (other dimensions are possible) | 6/12 mm up to 340/360 mm |

Median Durability

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|---|---|
| Abrasive mediums | ○ |
| Colors, Varnishes | ● |
| Gasses, Air, Nitrogen | ● |
| Adhesives, Bitumen | ○ |
| Concentrated lyes/alkalies | ○ |
| Diluted lyes/alkalies | ○ |
| Solvents | ● |
| Oils, greases | ● |
| Organic compounds | ● |
| Concentrated acids | ○ |
| Diluted acids, inorg./org. saline solutions | ○ |
| Drinking water, foodstuffs | ● |
| Heat transfer mediums | ● |
| Water, Sewage, Boiler Feed Water | ● |

● = applicable ○ = conditionally applicable

