ProPack DICHTUNGEN UND PACKUNGEN AG

YOUR COMPETENT PARTNER
WORLDWIDE IN
SEALING TECHNOLOGY



NEWSLETTER 02-24



P 20 Carbon

Carbon fiber with special impregnation

- Strong against abrasive products, yet low friction on shaft surface.
- Recommended shaft/sleeve hardness HRC 45
- Volume stabile, minimal shrinkage
- Suitable as bullrings

QUESTIONS & ANSWERS ABOUT GLAND PACKING

QUESTION: ARE MORE PACKING RINGS BETTER?

You might think that more rings provide a better sealing result or that the wear is distributed over a larger area. Usually, 5 rings of a packing with a cross-section matching the shaft/spindle diameter are used. See also Newsletter 8/23.
Experience shows that a good result can also be achieved with 3 rings at low pressures. 7 or more rings are not necessary and are even detrimental to the sealing result due to uneven compression in the stuffing box.
The most important thing, however, is the installation. For applications in pumps and agitators, the two packing rings closest to the product, i.e., the lower packing rings in the stuffing box, should be compressed separately from the rest of the packing rings and individually with a suitable tool. This ensures that the rings cannot lift off the base of the stuffing box under pressure. This means that the primary sealing function takes place on a very small scale in the comparable dimensions of the ring surface of the gap between the stuffing box base ring and the shaft. If the correct compression and setting of the two lower rings is not achieved, these lower rings often lift off and the pressure acts on the entire annular surface of the stuffing box, causing a much larger leakage, especially on the outer diameter of the stuffing box. In valves, the entire stack of packing rings must be completely compacted at installation. This must eventually be repeated after the spindle is moved several times from closed to open and back to closed position to minimize or eliminate consolidation during operation.

QUESTION: HOW ACCURATELY DO CUTTING BOARDS AND CUTTING LENGTH CALCULATORS WORK?

All the ring cutting calculators and formulas in the world produce estimates that should primarily be used to determine requirements and provide a basis for cutting the first ring. Even a cutting gauge will only determine an approximate length from the shaft diameter and packing size. Once the first ring has been cut and fitted into the stuffing box, the correct cut length for this installation can be determined. The cutting gauge will then probably need to be readjusted in length and will provide a repeatable accuracy of the correct cut for the remaining rings. If the packing and stuffing box are the same, this value can be noted as a basis for the next installation.
Each packing ring requires a certain cut to length. This depends on the manufacturer and its braiding type, the respective packing type, the shaft diameter and the packing cross-section. An individual and precise result can only be achieved by adjusting and checking the cut length in the stuffing box or alternatively in a die form.

QUESTION: DO YOU HAVE TO REMOVE ALL THE OLD PACKING RINGS WHEN REPACKING A PUMP?

In principle, the answer is a clear yes. Usually, the reason that not all rings are removed is that a lantern ring is installed that cannot be removed. We therefore do not know the condition of the lower rings if we leave them in the stuffing box together with the lantern ring. It is also often difficult to check whether the lantern ring is still fully penetrable and whether sealing or flushing water is getting between the packing ring and shaft. A lantern ring made of slotted PTFE Lantern ring strips is easier to remove from the stuffing box using a stuffing box puller with a sharp tap, which also allows the packing rings underneath to be removed.

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