ProPack DICHTUNGEN UND PACKUNGEN AG

YOUR COMPETENT PARTNER
WORLDWIDE IN
SEALING TECHNOLOGY

NEWSLETTER 01-25

Trapez-Pack®619

Combination of thermally conductive ePTFE yarn with silicone-based run-in lubricant and dimensionally stable PTFE yarn.

- Wear resistant through Running Track Reinforcement
- Very high heat conductivity through employment of a special heat conductive Compound
- Clean packing, no contamination of medium
- Provides maximum protection of shaft (recommended shaft surface hardness: HRC 25)

QUESTIONS & ANSWERS ABOUT GLAND PACKING

QUESTION: WHAT IS BETTER, A HARD OR A SOFTER BRAIDED PACKING?

A harder braided packing has lower compressibility. The advantage is reduced consolidation, meaning that gland nuts need to be retightened less frequently to ensure a reliable seal against the shaft, stuffing box bottom and housing bore. If the packing is manufactured with a slight negative tolerance, it slides into the stuffing box with less friction, allowing compression to be distributed more evenly from bottom to top.
A soft braid, on the other hand, transmits more radial sealing force with less gland load. However, the consolidation is significantly greater, so it may happen that the gland follower is even with the stuffing box face without achieving a proper packing compression. In such cases, the gland needs to be reopened, and at least one additional packing ring must be inserted.
The benefit of a soft braided packing lies in its ability to conform well to worn and uneven shaft surfaces.

QUESTION: WHAT PACKING-EXTRACTOR SHOULD I USE TO PULL OLD PACKING?

In general, there are two types of packing extractors and several design variants. The key difference lies in the shape of the extraction tip:
The pointed screw-type extractor (like a wood screw) is primarily used for hardened packings. The tip, handle and flexible wire are rigidly connected with each other. Its slim diameter makes it suitable for packing cross-sections below 4 mm (1/6"). However, when used on brittle packing material like expanded graphite, it often merely drills a hole without gaining sufficient grip to extract the packing.
In such cases, a helical-shaped extractor tip – like a corkscrew – is recommended. If made from hardened steel and of superior quality, it can also be driven into harder packings, making it a more versatile solution. Due to its larger diameter, however, it is not suitable for small cross-sections under 5 mm (3/16" found in valve stuffing boxes.
A variant includes extractors with interchangeable screw heads. These feature a threaded connection that allows pointed- or helical-tips to be mounted onto the base. The connection becomes tighter as the extractor is driven into the packing. However, during reverse rotation, the handle may come loose while the tip remains stuck in the stuffing box. Additionally, this design is bulky, making it difficult to use in narrow stuffing boxes with diameters below 10 mm (3/8").

QUESTION: IS IT POSSIBLE TO LIVELOAD DYNAMIC PACKING?

In principle, this is exactly what many users wish for when using packing to seal pumps, mixers, or agitators. The installed packing rings are compressed using a LiveLoading device that maintains preload automatically or over extended periods – using spring force, pneumatic or hydraulic systems. Tests have shown that the required compression for centrifugal pump packing is very low and must be applied with great care and adjusted incrementally with patience. Some say that "running in" pump packing is an art. This myth has a reasonable basis: the packing must be flexible enough to "surf" on the shaft's leakage-film, while simultaneously building up enough pressure to keep this film as thin as possible. A proper installation, therefore, requires a delicate balance between these two requirements. As the packing wears and consolidates, this balance must be regularly restored through small adjustments. In this operating state, the packing runs under what is known as hydrodynamic friction. Achieving this effect depends on several factors, such as surface speed, shaft condition, process pressure and packing design. This balance is particularly difficult to achieve in centrifugal pumps, where too many variables influence performance. LiveLoading is much easier to implement in mixers or agitators with slow shaft speeds. In these cases, the packing is constantly in contact against the shaft and – due to the most common top-mounted drive – typically runs dry. It operates under mixed friction conditions. If the resulting friction heat can be effectively dissipated through the packing material, LiveLoading can be successfully applied and maintain the gland load automatically over extended periods.

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