



ARMANO

Coatings for Flange Type and Cellular Type Chemical Seals according to DIN EN 1092-1; ASME; JIS

Chemical seals are fitted if the medium must not come into contact with the measuring instrument. Especially regarding media that must be locked against diffusion (permeation)*, chemical seals offer special protection with the application of additional corresponding coatings.

* Permeation is the superordinate term for diffusion. At permeation, the medium (e.g. chemicals) permeates the protective coating of the chemical seal and may damage it. In order to avoid this process, materials offering sufficient protection have to be applied.

BLACK • RED • GOLD

Protection against any attack of diffusion (permeation)

PTFE Foil
PFA Coating
Galvanic Gold-Plating



Foils and Coatings

For chemical seals



ARMANO Messtechnik GmbH



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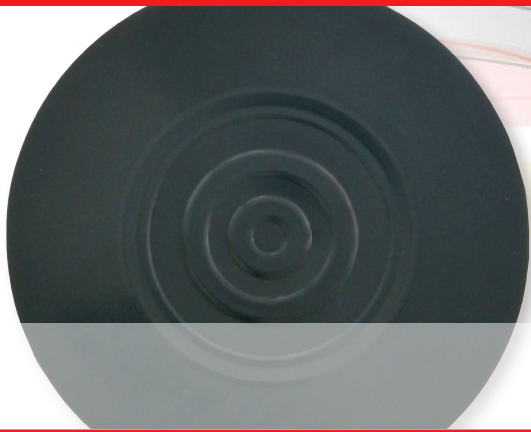
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Black – PTFE Foil

Polytetrafluoroethylene (PTFE) is a fluoridated polymer. We have developed a new process – the KCT process, with which we are able to apply PTFE foil in a very thin, homogeneous layer. The operating capacity of the chemical seal is not affected.

Red – PFA Coating

Perfluoroalkoxy (PFA) is a type of polymer fluorocarbon with similar properties as PTFE. After extensive preprocessing, the PFA material is repeatedly applied and sintered with an electrostatic powder technology. We use Ruby Red®, a PFA extended with minerals that slow down the process of permeation. They are also responsible for the red colour.

Gold – Galvanic Gold-Plating

By electrochemical precipitation of metallic sediments (gold), a layer of 20 to 25 µm is applied to the chemical seal.

Characteristics of PTFE in the KCT process

PTFE has good qualities and offers sufficient protection against permeation in many fields of application.

- ◆ High chemical resistance
- ◆ Excellent anti-adhesive properties
- ◆ Very good abrasion protection
- ◆ Very good sliding properties
- ◆ High temperature resistance
- ◆ PTFE foils up to 0.5 mm (0.02") can be processed, with negligible influence on the measurement result
- ◆ Difficult shapes can be coated with foil (e.g. clamp chemical seals)
- ◆ Chemical seals made of special material (e.g. tantalum) can be coated with foil (double protection: special material and PTFE foil)

- ◆ **Standard: PTFE in grey – FDA-approval**
- ◆ **Optional: PTFE in black – antistatic**



Characteristics of PFA

The Ruby Red® PFA offers considerably better protection against permeation than PTFE or PFA without extenders, against, for example, chemicals* that attack plastics and also metals.

Characteristics of Gold

The gold coating even prevents the permeation of hydrogen**, and thus offers the highest level of protection.

* chemical compounds on a molecular basis – bond of several atoms to form molecules

** hydrogen is the lightest chemical compound with one atom (atomic basis) – due to its size, it permeates almost any atomic lattice

Industries / Applications



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