

# SHAFT SLEEVES

## CONCEPT AND METHOD OF FUNCTIONING

Shaft sleeves are used to protect machine shafts from damage such as scoring or grooving. If a machine shaft comes into contact with a static component with a harder material then scoring or grooving is inevitable. Optically this is often seen as homogenous radial damage on that part of the shaft where the sealing rings are located.

In order to avoid this damage, which can result in leakage or even weakening of the structure of the shaft itself, protective shaft sleeves are used.

The protective shaft sleeve is positioned on the sealing area of the shaft and fixed in position by shrinking it on to the shaft or by using a fixing element. The sealing to atmosphere is achieved by either locating an O ring axially on the shaft itself or between the shaft sleeve and the shaft. Shaft seals are supplied either as a single component or in a split execution to allow easier fitting without the need to dismantle the unit.

The choice of material and/or selection of a coating is determined by the relative operating parameters.

Coatings reduce the wear and ensure high running hours for the machine. By use of a wear resistant and corrosion resistant coating the surface of the shaft or the shaft sleeve can be upgraded.

### High velocity flame spraying (HVOF Kerosene)

By using kerosene as a fuel a spray coating of wolfram carbide, chrome carbide or titanium carbide can be applied.

### Atmospheric Plasma Spray Coating

Using a high velocity and an ionised and dissociated gas (plasma) a spray coating is applied. Because of the extremely high temperatures (up to 30.000° C) almost all materials (mainly ceramic) can be processed.

### Plasma Spraying with Powder

The heat source here is a flammable gas/ oxygen flame. It is mainly used in order to process lower melting temperature metals.

## APPLICATIONS

The application area ranges over the entire high and low temperature fields in combination with different kinds of shaft seals.

The main application areas are: chemical and food industries, as well as the pharmaceutical industry. The protective shaft sleeves are used in a wide range of machines such as radial, and axial ventilators, as well as milling machines, mixers and centrifuges.

