

**STASSKOL**



## **SK406**

Sealing material for Hydrocarbon gases  
with high dew points in dry-running applications

SK406 is a sealing material based on Polytetrafluorethylene (PTFE) and it is widely used at dry-running compressor services. Typical applications are the compression of Hydrocarbon gases as well as the compression of Hydrogen and Carbon dioxide at industrial processes, mostly by reciprocating systems. An optimized content of fillers and lubricants ensures high service life-times and increased mechanical properties, while keeping an outstanding chemical resistance against aggressive media.

## TRIBOLOGICAL PROPERTIES

The tribological properties are defining the wear behavior of the material. The wear rate (k) and friction coefficient ( $\mu$ ) of SK406 are identified by tribological characterization.

Under Hydrogen	
Wear rate:	$k = 3.8 \cdot 10^{-7} \text{ mm}^3/\text{Nm}$
Friction coefficient:	$\mu = 0.05$

The following conditions were applied during the test of SK406:

Gas:	Hydrogen
Average velocity:	2.7 m/sec
Pressure:	20 bar
Dew point:	-80 °C
Counter surface:	steel with tungsten carbide coating
Lubricant:	none

The lower the wear rate the higher are the wear resistance and the expected service life-time at the field application.

STASSKOL provides state-of-the-art equipment for tribological characterizations under reciprocating and rotating movement. An unique reciprocating tribometer was used to investigate the wear behavior of SK406.



The material performance strongly depends on the test conditions. Therefore measurements at the parameters of the customer's application are recommended. Please use the characterization and development capabilities of STASSKOL.

## MECHANICAL PROPERTIES

SK406 shows an increased stiffness in combination with a very high flexibility due to the optimized filler content. The mechanical properties have been investigated using a tensile testing machine under standard (DIN EN ISO 527-1) conditions.

Elastic modulus:	1,290 MPa
Tensile strength:	11.7 MPa
Elongation at break:	150 %
Density:	2.02 g/cm <sup>3</sup>
Hardness:	64.8 Shore D

## CUSTOMER GUIDELINE

### Operating Conditions:

- Dry-running service
- Pressure up to 350 bar
- Temperature up to 150 °C
- Average velocity up to 4.5 m/sec
- Dew points down to -50 °C

### References:

- Compression of Hydrocarbon gases
- Hydrogen compression
- Compression of carbon dioxide
- Oxo gas compression

Please contact STASSKOL to get additional information about SK406. You will be supported by choosing the best sealing material according to the operating conditions of your application.

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