STASSKOL

SK802

Sealing material for bone-dry Hydrogen in dry-running applications

SK802 is a sealing material based on Polytetrafluorethylene (PTFE) and it is widely used at dry-running compressor services. Typical applications are the compression of Hydrogen as well as the compression of Hydrocarbon gases 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 (μ) of SK802 are identified by tribological characterization.

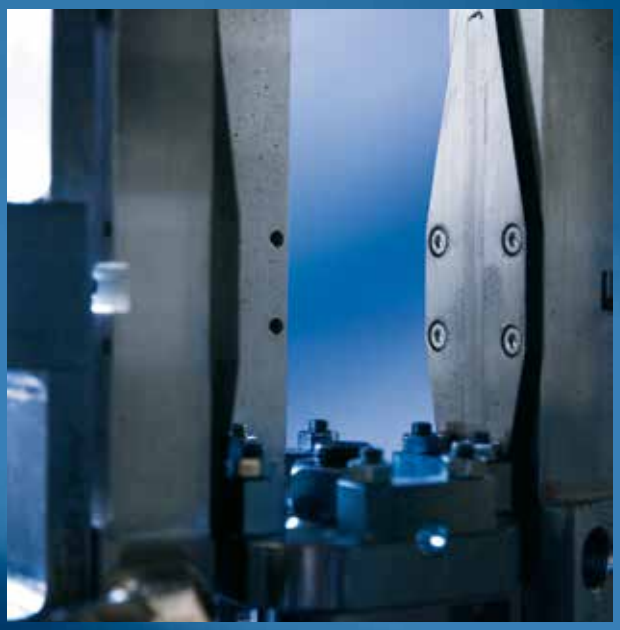
Under Hydrogen	
Wear rate:	$k = 2.5 \cdot 10^{-7}$ mm³/Nm
Friction coefficient:	μ = 0.08

The following conditions were applied during the test of SK802:

Gas:	Hydrogen
Average velocity:	2.7 m/sec
Pressure:	20 bar
Dew point:	-60 °C
Counter surface:	steel with tungsten carbide coating
Lubricant:	none

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

STASSKOL provides state-of-the-art equipment for tri-bological characterizations under reciprocating and rotating movement. For example, an unique reciprocating tribometer was used to investigate the wear behavior of SK802.



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

Mechanical Properties

SK802 shows a very high stiffness in combination with a moderate flexibility due to the optimized filler concentrations and a special processing method. The mechanical properties have been investigated using a tensile testing machine under standard (DIN EN ISO 527-1) conditions.

Elastic modulus:	1,740 MPa
Tensile strength:	14.8 MPa
Elongation at break:	5 %
Density:	1.88 g/cm³
Hardness:	70.8 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
Low dew points (down to bone-dry)

References:

Compression of Hydrogen
Biogas compression
Compression of Carbon dioxide
LNG applications

Please contact STASSKOL to get additional information about SK802. You will be supported by choosing the best sealing material according to the operating conditions of your application.

STASSKOL Inc.
19911 Morton Road, Suite 200
Katy, Texas 77449
USA

☏ +1-713-244-5050
✉ info@stasskol.com

STASSKOL GmbH
Maybachstrasse 2
39418 Stassfurt
Germany

☏ +49-3925-288-100
✉ info@stasskol.de

🌐 www.stasskol.com