

STASSKOL



SK 301

Sealing material for Hydrocarbon gases in lubricated applications

SK301 is a sealing material based on Polytetrafluorethylene (PTFE) and it is widely used at lubricated compressor services. Typical applications are the compression of Hydrocarbon gases as well as the compression of Hydrogen and inert gases 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 SK301 are identified by tribological characterization.

Under Nitrogen	
Wear rate:	$k = 2 \cdot 10^{-7} \text{ mm}^3/\text{Nm}$
Friction coefficient:	$\mu = 0.17$

The following conditions were applied during the test of SK301:

Gas:	Nitrogen
Average velocity:	2.7 m/sec
Pressure:	20 bar
Dew point:	-70 °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 tribological characterizations under reciprocating and rotating movement. For example, a unique reciprocating tribometer was used to investigate the wear behavior of SK301.



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

MECHANICAL PROPERTIES

SK301 shows an increased stiffness combined with a good 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:	1,060 MPa
Tensile strength:	12.2 MPa
Elongation at break:	85 %
Density:	2.20 g/cm ³
Hardness:	60.3 Shore D

CUSTOMER GUIDELINE

Operating Conditions:

Lubricated service
Pressure up to 350 bar
Temperature up to 150 °C
Average velocity up to 4.5 m/sec
High and low dew points

References:

Refinery applications
Flare gas compression
Compression of inert gases
Process gases at chemical plants

Please contact STASSKOL to get additional information about SK301. We are pleased to support you by choosing the best sealing material according to the operating conditions of your application.

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