

STASSKOL



SK 305

Certified Sealing material for Oxygen applications

SK305 is a sealing material based on Polytetrafluorethylene (PTFE) and it is widely used at dry-running compressor services. The main application is the compression of Oxygen. Therefore, the material was tested and certified by the "German federal institute for material research and testing" (BAM certification). An optimized concentration of fillers and lubricants within the PTFE matrix ensures high service life-times and increased mechanical properties, while providing an outstanding resistance against oxidation reactions.

TRIBOLOGICAL PROPERTIES

The tribological properties are defining the wear behavior of the material. The wear rate (k) and friction coefficient (μ) of SK305 are identified by tribological characterization.

Under Air	
Wear rate:	$k = 2.8 \cdot 10^{-7} \text{ mm}^3/\text{Nm}$
Friction coefficient:	$\mu = 0.25$

The following conditions were applied during the test of SK305:

Gas:	Air
Average velocity:	5.2 m/sec
Pressure:	20 bar
Dew point:	0 °C
Counter surface:	Cast iron GGG30 (EN-GJS-300)
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 SK305.



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

SK305 shows a good stiffness combined with an excellent flexibility due to the optimized formulation. The mechanical properties have been investigated using a tensile testing machine under standard (DIN EN ISO 527-1) conditions.

Elastic modulus:	1,010 MPa
Tensile strength:	23.9 MPa
Elongation at break:	310 %
Density:	2.41 g/cm ³
Hardness:	63.3 Shore D

CUSTOMER GUIDELINE

Operating Conditions:

- Dry-running service
- Pressure up to 100 bar
- Compression ratio up to 1:5
- Temperature up to 150 °C
- Average velocity up to 4.5 m/sec

References:

- Oxygen compressors
- Air separation
- Oxygen supply within the O₂ network
- Large scale industrial oxidation processes

Please contact STASSKOL to get additional information about SK305. We are pleased to support you by choosing the best sealing material according to the operating conditions of your application.

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