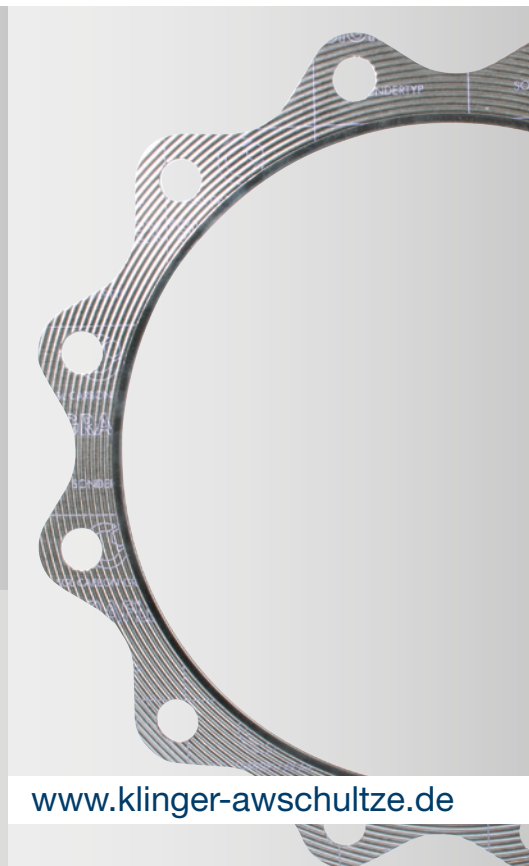
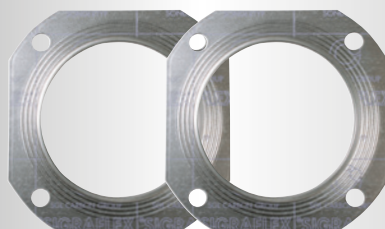
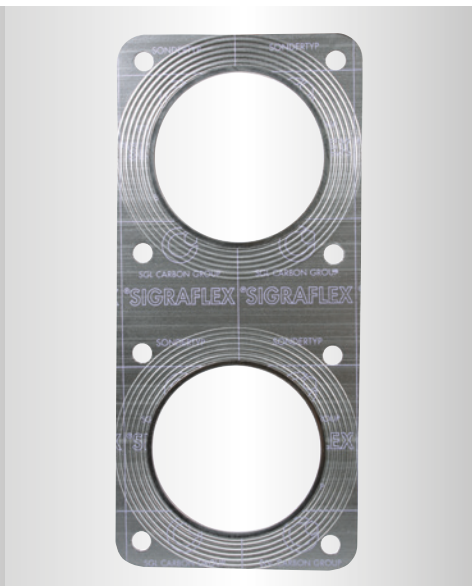
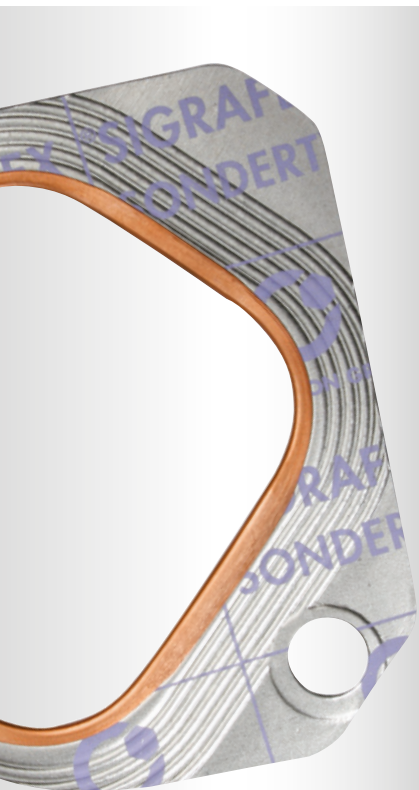




SIGRAFLEX® SPECIAL TYPE WAVELINE-WLP®

Our know-how for a clean environment



THE CHALLENGE

Highly temperature resistant

High pressure gaskets must withstand high temperatures in the areas of power station technology as well as motor, plant and container fabrication.

Frequently the limits for use of fibrous materials and exposed graphite are exceeded. At the same time, unevenness and heat distortion have to be compensated for at the gasket surfaces.

Structure

The interior structure of the sheet consists of several 0.5 mm layers of high-grade graphite film and 0.05 mm layers of sheet metal and stainless steel foil.

The surface consists of a 0.05 mm layer of stainless steel foil 1.4401. The entire compound is free of adhesives.

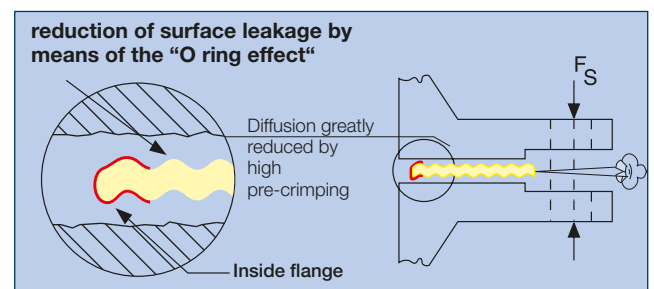
THE SOLUTION

Sigraflex® special type Waveline-WLP®

meets most important user criteria when exposed graphite oxidises.

- » high thermal stability for applications to 650 °C and higher (depending on installation and operating conditions)
- » good adaptivity to uneven and distorted gasket surfaces
- » good behaviour under changing temperatures, high pressure stability, bursting resistance, rigidity, long-term stable compression and resilience behaviour

Waveline-WLP® design



- » reduces cross-sectional leakage by pre-crimping of the gasket
- » reduces surface leakage through the "O-ring" effect
- » reduces the surface leakage of a flanged gasket in a particularly significant manner compared to the smooth metallic flange
- » optimal handling during installation through greater stiffness

THE PROPERTIES

Sigraflex® special type is based on the gasket material Sigraflex® high-pressure, which has proven its worth over many years in demanding fields of application. In its refined version, Sigraflex® special type Waveline WLP®, the gasket has excellent characteristics.

- » the mechanical and thermal properties of high-purity graphite
- » the reduced oxidation and shielding from the oxygen from the surroundings
- » the blow-out safety and stabilising effect of inner flange and stainless steel inserts
- » the emission-reducing effect of the Waveline WLP® design, high compressive strength, resistance to bursting, rigidity, long-term stable compression and resilience behaviour

Inside flange

- » increases blow-out safety
- » protects medium and gasket from contamination
- » reduces cross-section leakage
- » increases buckling stability
- » improves handling

THE BENEFITS

- » good compressibility and resilience
- » high resistance to pressure
- » thermal and chemical resistance, no material ageing
- » temperature resistance up to 650 °C and good temperature variation behaviour
- » extensive protection from oxidation
- » adhesive-free compound
- » high blow-out safety
- » no contamination of medium due to gasket
- » no contamination of gasket with toxic media
- » high installation safety and handling advantages due to Waveline WLP®
- » constructive tool in the gasket connection

THE APPLICATION

The gasket has already proven its worth in the following fields of application:

- » Exhaust gases of internal combustion engines up to 640 °C
- » Oxidizing media (SO₂/SO₃) up to 570 °C
- » Steam up to 545 °C
- » Production up to 4.5 m in diameter

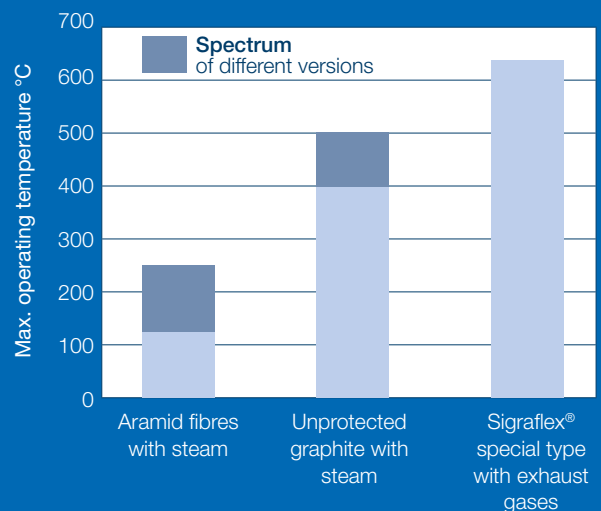
Material data of the Sigraflex® special type plate material

Thickness	mm	2
Bulk density of the graphite	g/cm ³	1,1
Ash content of the graphite DIN 51903	%	≤ 0,15
Information on smooth metal inserts/layers		
Material number		1.4401
Thickness	mm	0,05
Number		5
Pressure resistance according to DIN 52913 for 16 h, 300 °C, 50N/mm ²	N/mm ²	> 48
Gasket characteristics		
Gasket width		
VO	b _d = 10 mm	N/mm ² 170
	b _d = 20 mm	N/mm ² 240
BO, 300 °C	b _d = 10 mm	N/mm ² 140
Deformation characteristics according to DIN 28090 part 2		
Cold heading value	KSW	% 25 - 30
Cold resilience value	KRW	% 3 - 4
Hot creep	WSW	% < 3
Warm resilience value	WRW	% 3 - 4

- VU Minimum pressure for pre-crimping
- BO Minimum surface pressure in the operating condition
- VO Maximum permissible surface pressure at RT
- BO, 300 °C Maximum permissible surface pressure in the operating condition
- KSW Compression and compressibility at a surface pressure of 35 N/mm²
- KRW Resilience after relief of 35 N/mm² to 1 N/mm²
- WSW Recovery after relief of 35 N/mm² to 1 N/mm²
- WRW Resilience after relief of 50 N/mm² to 1/3 (16,7 N/mm²)

The percentage changes in thickness of KSW, KRW, WSW, WRW refer to the initial thickness of the gasket.

Temperature diagram

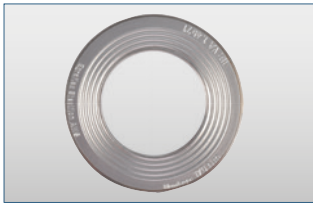


The temperature data for aramid fibres and graphite relate to the full spectrum of the manufacturer's instructions. The temperatures for Sigraflex® special type relate to practical applications. In all cases, the operating temperatures can be both under and above the values shown here, depending on the installation and operating conditions. We always recommend a consultation with our sealing expert to choose the right gasket for the particular application.

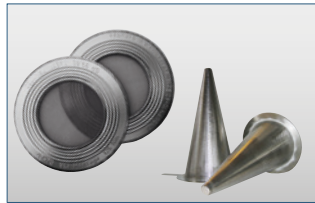
GET MORE INFORMATION ABOUT OUR OTHER PRODUCTS TOO:

A sample from our extensive product portfolio.

You can find our complete product range under www.klinger-awschultze.de



Seals with a marking



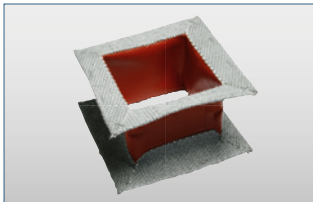
Sieve seals / conical sieves



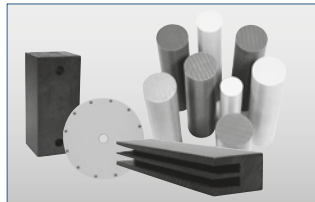
Mica seals with edging



Comb-profile / grooved seals



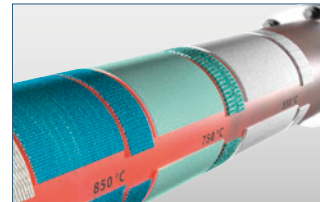
Fabric expansion joints



Plastics



Packaging / cords / belts



Technical textiles

WE MANUFACTURE, DEVELOP AND REFINE

- » We manufacture seals to drawings and special dimensions in all sizes.
- » We develop individual solutions, e.g. for lightweight structures.
- » We refine seals with inner and outer beads and with the Waveline-WLP® process developed by us.

We manufacture from the following manufacturers' sealing sheets: Cooper, Flexitallic, Frenzelit, Garlock, Gore, Hecker, Klinger, Reinz, Semperit, SGL and others on request.

SERVICE

Advice on the selection and installation of the right seal for your application considering the aspects of environmental protection, costs, storage and ease of installation.

Immediate availability for standard dimensions in many qualities.

The technical details listed have been compiled to the best of our knowledge. However, given the large number of possible installation and operating conditions, it is not possible to come to definite conclusions about the behaviour of the material in all cases. This is why no claims can be made under guarantee which are based on these technical details. In case of doubt please get in touch with us to precisely specify all of the operating conditions.