

Impregnated TA Luft-Compliant Sealing Sheet Made from Natural Graphite with Tanged Stainless Steel Reinforcement

SIGRAFLEX® UNIVERSAL PRO is an adhesive-free graphite sealing sheet reinforcement. The made from flexible graphite foil with one or two tanged 316 (L) stainless steel sealing sheet is impregnated to reduce leakage and improve handling.

Applications

- For all common pipework and vessel flange designs
- Recommended for one-piece gaskets up to 1500 mm outside diameter; for diameters over 1500 mm for example two-layer structures with segmented sections and staggered joints

- For internal pressures ranging from vacuum to 100 bar
- For corrosive media
- Suitable for a broad range of temperatures from – 250 °C to approx. 550 °C under consideration of the chemical resistance; for applications at more than 450 °C, users should request our advice
- Gaskets for the chemical, petrochemical and refinery industries
- Steam pipework in power stations and heating facilities
- Existing plants

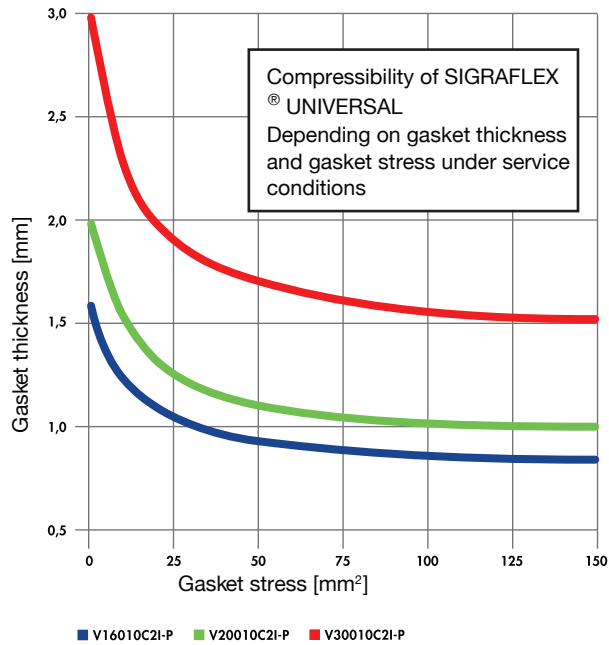
Properties

- Reduction in fugitive emissions due to very high leak-tightness
- Complies with the TA Luft leakage requirements for all sheet thicknesses
- High blow-out resistance and high mechanical strength
- Long-term stability of compressibility and recovery
- Good chemical resistance
- Very high fault tolerance
- High operational reliability and excellent oxidation resistance
- Good scratch resistance; antistick finish due to special impregnation
- No measurable cold or warm flow characteristics up to the maximum permissible gasket stress
- High thermal shock resistance
- No aging or embrittlement, owing to absence of adhesives or binders
- Asbestos-free, no associated health risks

Approvals

- TA Luft (VDI 2440/VDI 2200) for all thicknesses
- Fire safety according to API 607
- Blow-out resistance (TÜV at 2.5 times the nominal pressure)
- BAM oxygen
- DVGW (DIN 3535-6)

Compressibility of SIGRAFLEX® UNIVERSAL



Forms supplied

SIGRAFLEX® UNIVERSAL sheets are available in the following dimensions and type designations:

Types (Dimensions in mm)

- 1500 x 1500 x 1.6 V16010C2I-P
- 1500 x 1500 x 2.0 V20010C2I-P
- 1500 x 1500 x 3.0 V30010C2I-P

The sheets can also be supplied in dimensions of 1000 x 1000 mm.

Material data of SIGRAFLEX® UNIVERSAL			Material type		
			V16010C2I-P	V20010C2I-P	V30010C2I-P
Thickness	mm		1.6	2.0	3.0
Dimensions	m		1.5 x 1.5 / 1.0 x 1.0		
Bulk density of graphite	g/cm ³		1.0		
Ash content of graphite (DIN 51903)	%		≤ 2.0		
Total chloride content	ppm		≤ 25		
Reinforcing steel sheet details			Tanged stainless steel sheet		
ASTM material number			316 (L)		
Thickness	mm		0.1		
Number of sheets			1	1	2
Residual stress (DIN 52913)	N/mm ²	σ_D 16 h, 300 °C, 50 N/mm ²	≥ 45		
Compression factors (DIN 28090-2)					
Compressibility	ϵ_{KSW}	%	35 – 45		
Recovery at 20°C	ϵ_{KRW}	%	4 – 6		
Hot creep	ϵ_{WSW}	%	< 5		
Recovery at 300°C	ϵ_{WRW}	%	3 – 6		
ASTM	"m" factor		2.5		
	"y" factor	psi	2000		
Compressibility ASTM F36		%	35 – 45		
Recovery		%	15 – 25		

"m" factor Similar to m, but defined according to ASTM, hence different value

"y" factor Minimum gasket stress in psi

Warranty exclusion

In view of the variety of different installation and operation conditions as well as application and process engineering options, the information given in this datasheet can only provide approximate guidance and cannot be used as basis for warranty claims.