



SIGRAFLEX® HOCHDRUCK PRO is a multilayer high-strength graphite sealing sheet comprising 0.5 mm thick layers of high-purity graphite foil and 0.05 mm thick stainless steel foils. Depending on the sheet thickness required, several layers of graphite and stainless steel foil are joined together in a patented adhesive-free process. As a result, the sheets have outstanding mechanical properties. The sealing sheet is impregnated to reduce leakage and improve handling

SIGRAFLEX® HOCHDRUCK PRO allows end users in the process industry to cover almost their entire gasket application range with a reliable and safe product.

## Applications

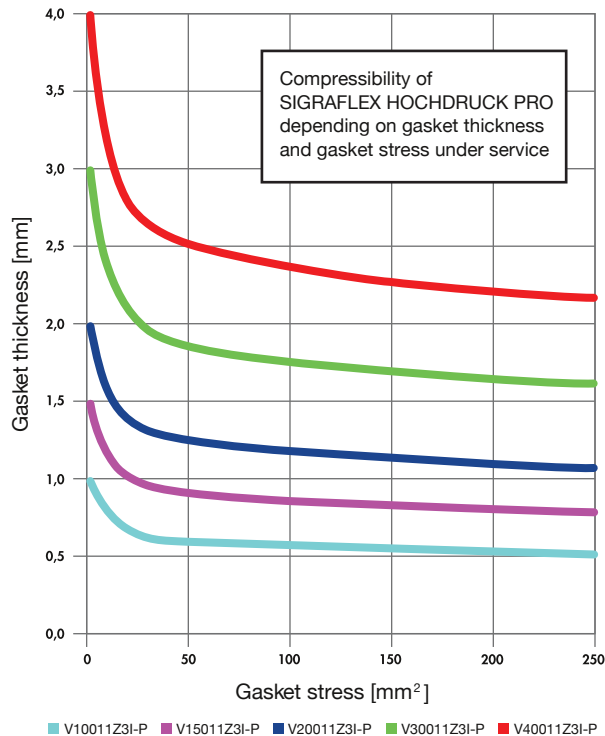
- For difficult and mechanically highly stressed sealed joints (in tongue-and-groove and special-dimension flanges, process equipment, heat exchangers); also suitable for all common pipework and vessel flange designs
- Recommended for one-piece gaskets up to 1500 mm outside diameter; for diameters over 1500 mm as two-layer structures with segmented sections and staggered joints, for instance
- For high internal pressures of up to 250 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 nuclear industry as well as refineries
- Steam pipework and boilers in power stations
- Heat transfer oil and heating facilities
- Inspection glasses, pumps, fittings
- Existing plants

## Properties

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

*Other dimensions and thicknesses are available on request*

## Compressibility of SIGRAFLEX® HOCHDRUCKPRO



## Forms supplied

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

### Dimensions in mm, Types:

- 1500 x 1500 x 1.0 V10011Z3I-P
- 1500 x 1500 x 1.5 V15011Z3I-P
- 1500 x 1500 x 2.0 V20011Z3I-P
- 1500 x 1500 x 3.0 V30011Z3I-P
- 1500 x 1500 x 4.0 V40011Z3I-P

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

Material data of SIGRAFLEX® HOCHDRUCK PRO		Material type				
		V10011Z3I-P	V15011Z3I-P	V20011Z3I-P	V30011Z3I-P	V40011Z3I-P
Thickness	mm	1.0	1.5	2.0	3.0	4.0
Dimensions	m	1.5 x 1.5 / 1.0 x 1.0				
Bulk density of graphite	g/cm <sup>3</sup>	1.1				
Ash content of graphite (DIN 51903)	%	≤ 0.15				
Total chloride content	ppm	≤ 10				
Reinforcing steel foil details		Flat stainless steel foil				
ASTM material number		316 (L)				
Thickness	mm	0.05				
Number of foils		1	2	3	5	7
Residual stress (DIN 52913) $\sigma_{D, 16 h, 300^\circ C, 50 N/mm^2}$	N/mm <sup>2</sup>	≥ 48				
ASTM "m" factor		2.5				
"y" factor	psi	2000				
Compressibility	ASTM F36 %	30 – 40				
Recovery	%	20 – 30				

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

"y" factor Minimum gasket stress in psi

## 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)

## Waranty 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.