

# SIGRAFLEX® APX2® HOCHDRUCK

Multilayer high-strength gasket sheet made of SIGRAFLEX flexible graphite foil reinforced with flat stainless steel for high-temperature applications

SIGRAFLEX APX2 HOCHDRUCK is a multilayer high-strength gasket sheet – designed for high-temperature applications. It is comprised of 0.020 inch thick layers of highly oxidation resistant SIGRAFLEX APX2 flexible graphite foils and 0.002 inch thick layers of 316L stainless steel foils.

The sheet is manufactured with our proven SIGRAFLEX HOCHDRUCK technology. SIGRAFLEX APX2 HOCHDRUCK was developed for end users in the process industry to cover a broad range of demanding gasket requirements with a reliable and safe product.

SIGRAFLEX APX2 HOCHDRUCK is specifically designed for high temperature flat gasket applications.

## Application

- Operating temperatures range from –269 °C [–452 °F] up to 580 °C [1076 °F] depending on chemical resistance. Life time might be limited at high temperatures. Consult the manufacturer when application temperatures exceed 480 °C [896 °F]. Please refer to our technical guideline regarding thermal stability.
- All common pipework and vessel flange designs as well as difficult and highly stressed sealed joints.
- For one-piece gasket designs up to an outside diameter of 59.1 inch [1500 mm]; for diameters above 59.1 inch [1500 mm], for example two-layer structures with segmented sections and staggered joints are recommended.
- For operating pressures from vacuum up to 3600 psi [250 bar]
- For corrosive media
- Steam pipework and boilers in power generation plants
- Heat transfer oils and heating equipment
- Inspection glasses, pumps, fittings and valves
- Nuclear power generation plants
- Pulp and paper mills
- Also, highly suitable for existing plants due to high fault tolerance



## Properties

SIGRAFLEX APX2 HOCHDRUCK combines the outstanding characteristics of both SIGRAFLEX APX2 graphite foil and reinforced sheets manufactured with SIGRAFLEX HOCHDRUCK technology:

- Increased gasket life and improved operational safety due to very high oxidation resistance
- Reliable product characteristics for high plant security and availability
- Outstanding maximum permissible gasket stress
- Very high blow-out resistance and mechanical strength
- Very adaptable sealing material during gasket assembly
- Good chemical resistance
- Long-term stability of assembly load and gasket stress
- No measurable cold or warm flow characteristics up to the maximum permissible gasket stress
- No aging or embrittlement (no adhesives or binders)
- Very easy to cut into required sealing shapes, even with conventional cutting equipment/tools
- Asbestos-free (no associated health risks)

## Approvals/Test reports

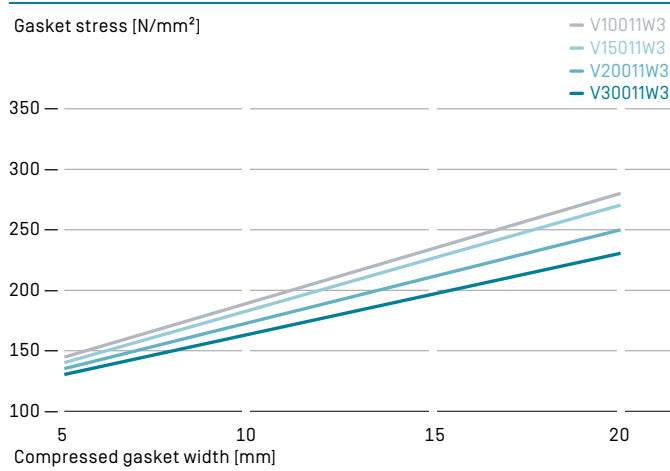
Please see [www.sigraflex.com/downloads](http://www.sigraflex.com/downloads) for details

- Fire safe according to API 607
- Blow-out safety HOBT [ASTM WK26064]
- BAM oxygen
- DVGW [DIN 3535-6]

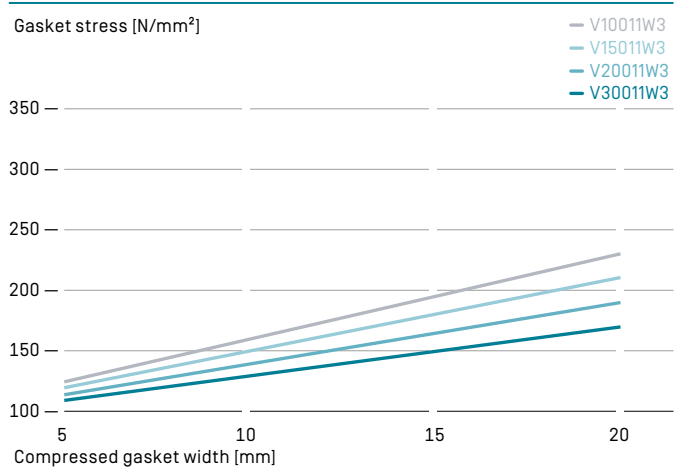
## Assembly instructions

Our detailed assembly instructions are available on request.

### Typical maximum permissible gasket stress of SIGRAFLEX APX2 HOCHDRUCK at 20 °C [68 °F]



### Typical maximum permissible gasket stress of SIGRAFLEX APX2 HOCHDRUCK at 300 °C [572 °F]



### Material data of SIGRAFLEX® APX2® HOCHDRUCK

Typical properties <sup>1)</sup>	Units	V1001W3	V1501W3	V2001W3	V3001W3
Thickness (ASTM F104)	in	0.04	0.06	0.08	0.12
Sheet dimensions	in	59.1 x 59.1	59.1 x 59.1	59.1 x 59.1	59.1 x 59.1
Density of graphite (ASTM F1315)	lb/ft <sup>3</sup>	70	70	70	70
Carbon content (ASTM D5373B)	%	≥ 98.0	≥ 98.0	≥ 98.0	≥ 98.0
Ash content (ASTM C561)	%	≤ 2.0	≤ 2.0	≤ 2.0	≤ 2.0
Compressibility (ASTM F36A)	%	37	37	37	37
Recovery (ASTM F36A)	%	17	17	17	17
Creep relaxation (ASTM F38B)	%	4	4	4	4
Total sulfur (ASTM D4239A)	ppm	< 300	< 300	< 300	< 300
Total chloride (ASTM D4208/D4327)	ppm	≤ 25	≤ 25	≤ 25	≤ 25
Oxidation rate in air at 670 °C [1238 °F] [TGA]	%	≤ 1.0	≤ 1.0	≤ 1.0	≤ 1.0
	Gb	psi	787	787	787
	a		0.4	0.4	0.4
PVRC design constants	Gs	psi	0.00287	0.00287	0.00287
Tpmin at 4,500 psi gasket stress			370	370	370
Pmin at 15,000 psi gasket stress			2218	2218	2218
	„m“-factor		2.5	2.5	2.5
Gasket factors (ASTM F3149)	„y“-factor	psi	3000	3000	3000
Gasket factors (DIN EN 13555)			see <a href="http://www.esadata.org">www.esadata.org</a>		

<sup>1)</sup> Some data are for graphite foil only

Unless stated otherwise, all values are valid at room temperature, typical, non-binding and subject to change.

Please note some values correspond to the graphite foil only. For engineering or design purposes please contact our technical sales team.



Additional information on our SIGRAFLEX sealing materials can be found under “Download Center” on our homepage. [www.sigraflex.com/downloads](http://www.sigraflex.com/downloads)



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