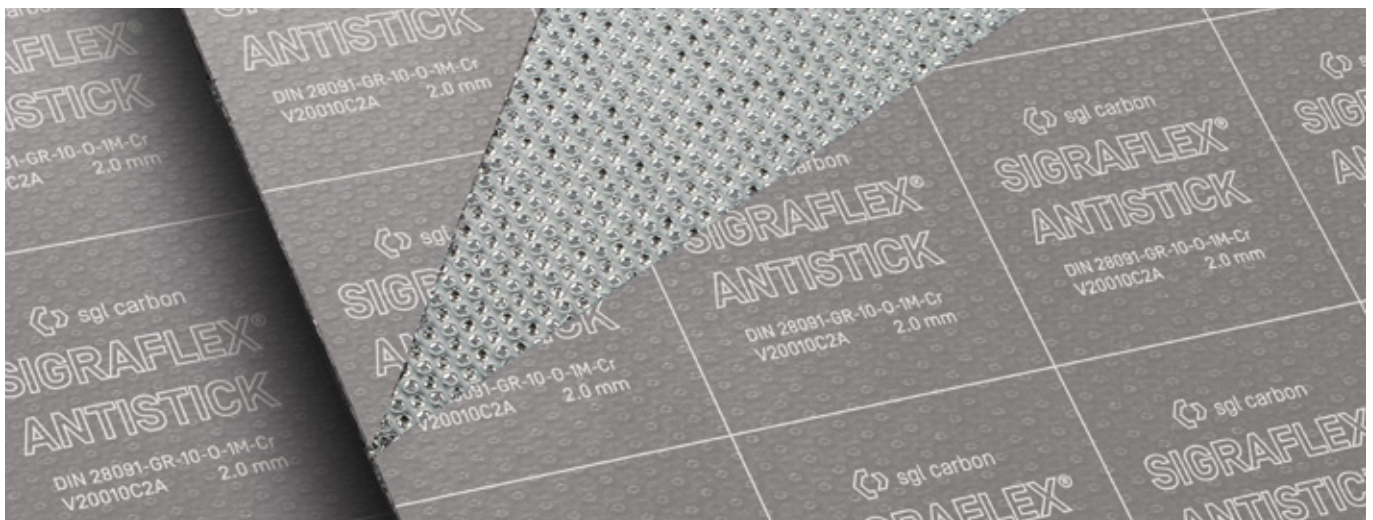


## SIGRAFLEX® ANTISTICK

Sealing sheet made from natural graphite with tanged stainless steel reinforcement and mineral antistick finish



**SIGRAFLEX ANTISTICK** is an asbestos-free flexible graphite sealing sheet with a 0.1 mm thick tanged stainless steel reinforcement. The sealing sheet is coated with a special mineralbased antistick finish to improve handling.

It has been adjusted to give optimum antistick behaviour as to avoid adhesion to the sealing faces and to keep the leakage rate as low as possible.

### Applications

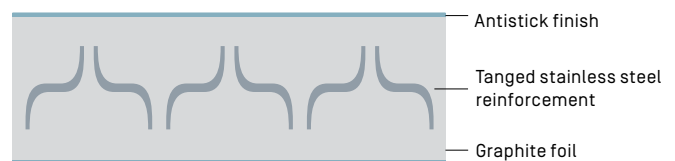
- For partially inaccessible sealed joints, as the antistick effect facilitates disassembly
- For all common pipework and vessel flange designs
- For operating pressures up to 100 bar
- For corrosive media
- Operating temperatures range from –250 °C up to 550 °C depending on chemical resistance. Life time might be limited at high temperatures. Consult the manufacturer when application temperatures exceed 450 °C. Please refer to our technical guideline regarding thermal stability.
- Gaskets for the chemical, petrochemical and refinery industries
- Steam pipework in power generation plants and heating equipment
- Existing plants

### Properties

- No adhesion to sealing faces, even at high temperatures
- High operational reliability, increased plant availability
- Excellent oxidation resistance
- High blow-out resistance and mechanical strength
- High fault tolerance during assembly and operation
- Good chemical resistance
- Long-term stability of compressibility and recovery, even under fluctuating temperatures
- No measurable cold or warm flow characteristics up to the maximum permissible gasket stress
- No aging or embrittlement (no adhesives or binders)
- Asbestos-free (no associated health risks)

### Assembly instructions

Our detailed assembly instructions are available on request.



↑ Cross-section

## Material data of SIGRAFLEX® ANTISTICK

Typical properties		Units	V16013C2A	V20010C2A	V30010C2A
Thickness		mm	1.6	2.0	3.0
Dimensions		m	1.0 x 1.0	1.0 x 1.0	1.0 x 1.0
Bulk density of graphite		g/cm <sup>3</sup>	1.3	1.0	1.0
Ash content of graphite [DIN 51903]		%	≤ 2.0	≤ 2.0	≤ 2.0
Purity		%	≥ 98	≥ 98	≥ 98
Total chloride content		ppm	≤ 25	≤ 25	≤ 25
Total halogen content		ppm	≤ 100	≤ 100	≤ 100
Total sulphur content		ppm	< 300	< 300	< 300
Oxidation rate in air at 670 °C [TGA]		%/h	< 4	< 4	< 4
Oxidation inhibitor			yes	yes	yes
Passive corrosion inhibitor [ASTM F 2168-13]			yes	yes	yes
Reinforcing steel sheet details			Tanged stainless steel sheet		
	ASTM material number		316L	316L	316L
	Thickness	mm	0.1	0.1	0.1
	Number of sheets		1	1	1
Residual stress [DIN 52913]	$\sigma_{D 16 h, 300 °C, 50 N/mm^2}$	N/mm <sup>2</sup>	≥ 45	≥ 45	≥ 45
Gasket factors [DIN E 2505 / DIN 28090-1]					
Gasket width	$b_D = 20 \text{ mm}$	$\sigma_{VU}$	N/mm <sup>2</sup>	20	20
		$m$		1.5	1.3
		$\sigma_{V0}$	N/mm <sup>2</sup>	160	160
		$\sigma_{B0 \text{ at } 300 °C}$	N/mm <sup>2</sup>	120	120
Compression factors [DIN 28090-2]					
Compressibility	$\epsilon_{KSW}$	%	20	40	40
Recovery at 20 °C	$\epsilon_{KRW}$	%	4	4	4
Hot creep	$\epsilon_{WSW}$	%	< 4	< 4	< 4
Recovery at 300 °C	$\epsilon_{WRW}$	%	4	4	4
Young's modulus at 20 N/mm <sup>2</sup> [DIN 28090-1]		N/mm <sup>2</sup>	850	850	850
ASTM	„m“-factor		2.5	2.5	2.5
	„y“-factor	psi	3000	3000	3000
Compressibility [ASTM F36]		%	20	40	40
Recovery [ASTM F36]		%	20	12	12
The gasket factor conversion formulas as per AD Merkblatt B7 are as follows				$K_D \times K_D = \sigma_{VU} \times b_D$ $K_1 = m \times b_D$	

### Definitions

$\sigma_{VU}$	Minimum gasket assembly stress. Recommended gasket assembly stress: $\geq 20 \text{ N/mm}^2$ bis $\sigma_{B0}$	$\epsilon_{KSW}$	Compression set under a gasket stress of $35 \text{ N/mm}^2$
$\sigma_{BU}$	Minimum gasket assembly stress in service, where $\sigma_{BU}$ is the product of internal pressure $p_i$ and gasket factor $m$ for test and in service ( $\sigma_{BU} = p_i \times m$ )	$\epsilon_{KRW}$	Gasket recovery after reduction in gasket stress from $35 \text{ N/mm}^2$ to $1 \text{ N/mm}^2$
$\sigma_{V0}$	Maximum permissible gasket stress at 20 °C	$\epsilon_{WSW}$	Gasket creep compression under a gasket stress of $50 \text{ N/mm}^2$ at 300 °C after 16 h
$\sigma_{B0 \text{ at } 300 °C}$	Maximum permissible gasket stress in service	$\epsilon_{WRW}$	Recovery after reduction in gasket stress from $50 \text{ N/mm}^2$ to $1 \text{ N/mm}^2$
$m$	$m = \sigma_{BU} / p_i$	The percentage changes in thickness of $\epsilon_{KSW}$ , $\epsilon_{KRW}$ , $\epsilon_{WSW}$ und $\epsilon_{WRW}$ are relative to the initial thickness.	
„m“-factor	Similar to $m$ , but defined acc. to ASTM, hence different value	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.	
„y“-factor	Minimum gasket stress in psi		
$K_0$	in mm, factor for gasket assembly stress		
$K_1$	in mm, factor for gasket stress in service		
$K_D$	in $\text{N/mm}^2$ , max. gasket stress-bearing capacity under assembly conditions		



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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