



## DATA SHEET

### GRAPHITE

Material data SIGRAFLEX® FOIL						
Foil grade		APX	C	E	D	Z
Standard bulk density	g/cm <sup>3</sup>	0.7 – 1.3				
Ash content (DIN 51903)	%	≤ 2.0	≤ 2.0	≤ 1.0	≤ 4.0	≤ 0.15
Total chloride content	ppm	≤ 25	≤ 25	≤ 10	≤ 50	≤ 10
Foil thickness* (supplied on rolls)	mm	0.35 – 1.0				0.15 – 1.0
Foil thickness (supplied as sheets, 1000 mm x 1000 mm) under the label SIGRAFLEX BASIS	mm	1.0/1.5 2.0/3.0				1.0/1.5 2.0
Roll width*	mm	500/1000				
Tape width*	mm	≥ 4				
Roll length*	m	50				
Typical material data of SIGRAFLEX® FOIL grade Z with bulk density of 1.0 g/cm <sup>3</sup>						
Thermal conductivity at 20 °C	in plane	W/K·m	180 – 200			
	through plane	W/K·m	4 – 6			
Resistivity at 20 °C	in plane	Ωµm	6 – 8			
	through plane	Ωµm	650 – 700			
Coefficient of thermal expansion (20 – 1000 °C)	in plane	10 <sup>-6</sup> /K	approx. 1			
	through plane	10 <sup>-6</sup> /K	approx. 50			
Permeability coefficient for air	through plane	cm <sup>3</sup> /s	< 2 · 10 <sup>-12</sup>			
	Shore hardness (D)		30			
Tensile strength		N/mm <sup>2</sup>	≥ 4			
Elongation at break		%	≥ 1			
Max. permissible compressive stress Specimen: 20 mm x 20 mm x thickness	0.35 mm	N/mm <sup>2</sup>	220			
	0.50 mm	N/mm <sup>2</sup>	200			
	1.00 mm	N/mm <sup>2</sup>	140			
Residual stress (DIN 52913)	$\sigma_{D 10 I, 200^{\circ}C, 30 N/mm^2}$	N/mm <sup>2</sup>	≥ 48			
Coefficient of friction against steel, roughness ≤ 10 µm			0.1			
The gasket factor conversion formulas as per AD Merkblatt B7 are as follows			$k_0 \cdot K_0 = \sigma_{vz} \cdot b_0$ $k_1 = m \cdot b_0$			

