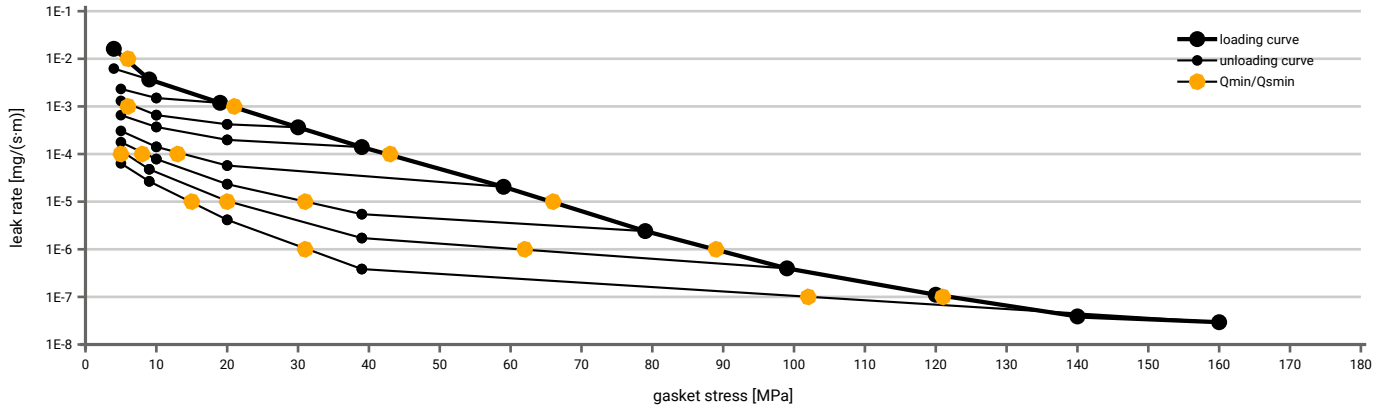
Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **DIN EN 13555 2014-7**
Product name	Sigraflex Hochdruck Pro V30011Z3I-P	
Product dimensions	92 x 49 x 3 mm (DIN EN 1514-1 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 10 bar (T = 23 ± 2 °C)

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]										
		Q_A = 5 [MPa]	Q_A = 10 [MPa]	Q_A = 20 [MPa]	Q_A = 30 [MPa]	Q_A = 40 [MPa]	Q_A = 60 [MPa]	Q_A = 80 [MPa]	Q_A = 100 [MPa]	Q_A = 120 [MPa]	Q_A = 140 [MPa]	Q_A = 160 [MPa]
1E-0	5		5	5	5	5	5	5	5			5
1E-1	5		5	5	5	5	5	5	5			5
1E-2	7		5	5	5	5	5	5	5			5
1E-3	21				7	5	5	5	5			5
1E-4	43						14	8	6			5
1E-5	67							32	20			15
1E-6	90								62			32
1E-7	122											103
1E-8												

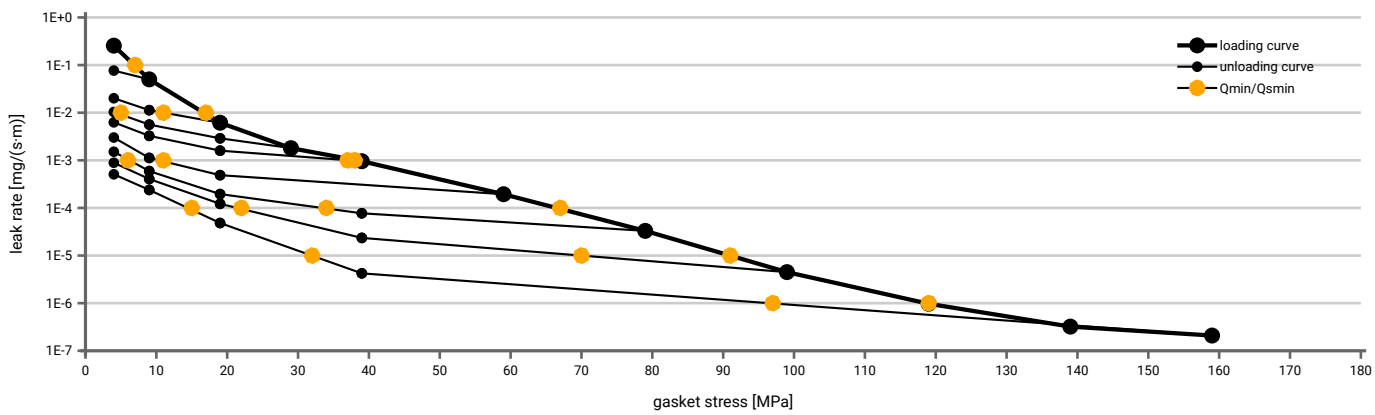
Leakage - 23 ± 2 °C / 10 bar



Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 40 bar (T = 23 ± 2 °C)

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]										
		Q_A = 4.7 [MPa]	Q_A = 9.6 [MPa]	Q_A = 20 [MPa]	Q_A = 30 [MPa]	Q_A = 40 [MPa]	Q_A = 60 [MPa]	Q_A = 80 [MPa]	Q_A = 100 [MPa]	Q_A = 120 [MPa]	Q_A = 140 [MPa]	Q_A = 160 [MPa]
1E-0	5		5	5	5	5	5	5	5			5
1E-1	8		5	5	5	5	5	5	5			5
1E-2	17			12	5	5	5	5	5			5
1E-3	39					38	11	7	5			5
1E-4	67							34	22			15
1E-5	92								71			33
1E-6	119											97
1E-7												
1E-8												

Leakage - 23 ± 2 °C / 40 bar

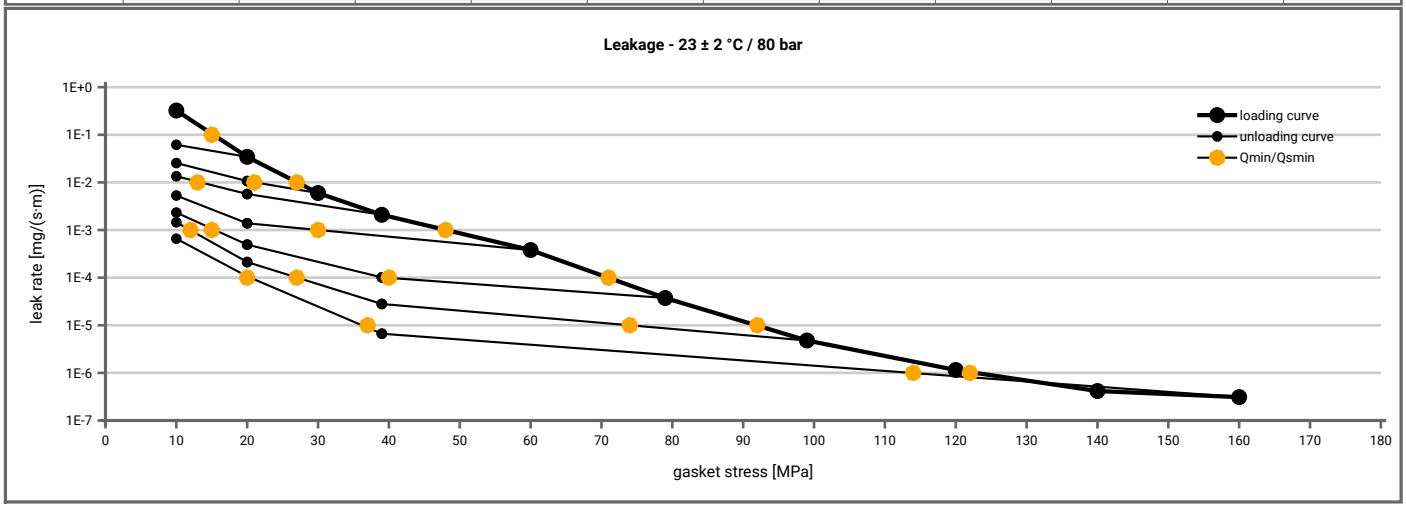


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **3**	Creation date of this sheet: **2015-05-04**

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **DIN EN 13555 2014-7**
Product name	Sigraflex Hochdruck Pro V30011Z3I-P	
Product dimensions	92 x 49 x 3 mm (DIN EN 1514-1 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 80 bar (T = 23 ± 2 °C)

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]									
		Q_A = 10 [MPa]	Q_A = 20 [MPa]	Q_A = 30 [MPa]	Q_A = 40 [MPa]	Q_A = 60 [MPa]	Q_A = 80 [MPa]	Q_A = 100 [MPa]	Q_A = 120 [MPa]	Q_A = 140 [MPa]	Q_A = 160 [MPa]
1E-0	10		10	10	10	10	10	10			10
1E-1	15		10	10	10	10	10	10			10
1E-2	27			21	13	10	10	10			10
1E-3	49					30	15	12			10
1E-4	71						41	27			20
1E-5	93							75			37
1E-6	123										114
1E-7											
1E-8											

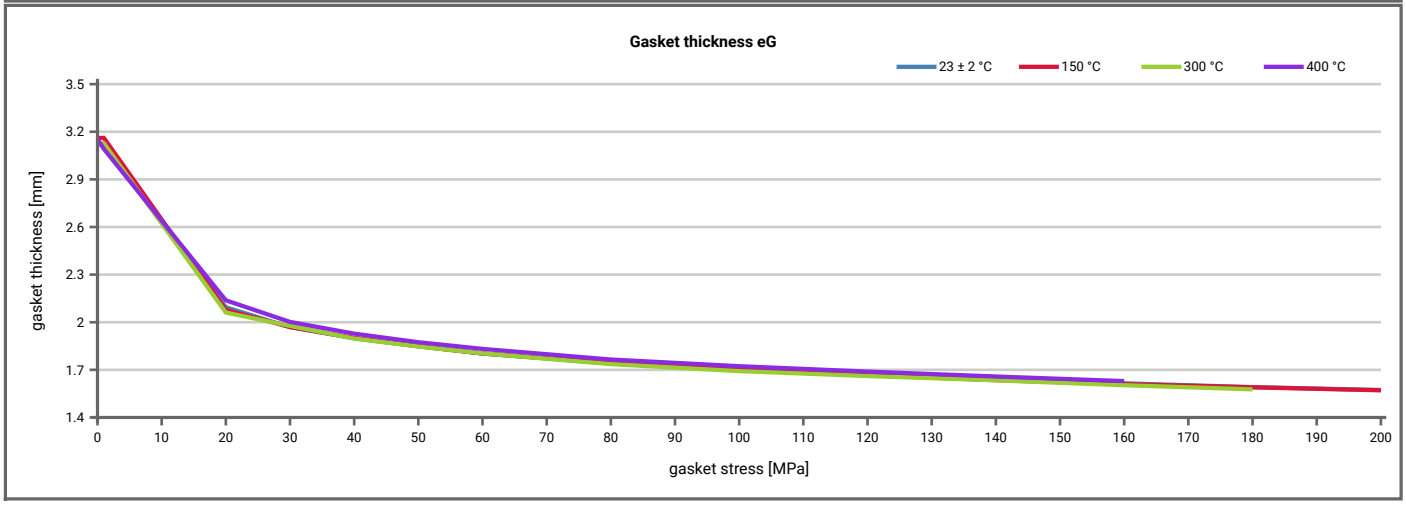


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **3**	Creation date of this sheet: **2015-05-04**

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **DIN EN 13555 2014-7**
Product name	Sigraflex Hochdruck Pro V30011Z3I-P	
Product dimensions	92 x 49 x 3 mm (DIN EN 1514-1 1997-8)	

Relaxation ratio P_{QR} for stiffness C = 500 [kN/mm]										
Gasket stress	**23 ± 2 °C**		**Temperature 1 [150 °C]**		**Temperature 2 [300 °C]**		**Temperature 3 [400 °C]**			
	P_{QR}	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**
Stress level 1 [30 MPa]	0.98	6	0.93	18	0.91	23	0.88	30		
Stress level 2 [50 MPa]	0.98	8	0.97	15	0.94	25	0.94	27		
P_{QR} and Δe_{Gc} at maximum gasket stress to be applied Q_{smax}										
P_{QR} at Q_{smax}	1.00	0	0.99	17	0.98	30	0.98	34		
Q_{smax}	200 MPa		200 MPa		180 MPa		160 MPa			

Sekant unloading modulus of the gasket E_G [MPa] and gasket thickness e_G [mm]										
Gasket stress [MPa]	**23 ± 2 °C**		**Temperature 1 [150 °C]**		**Temperature 2 [300 °C]**		**Temperature 3 [400 °C]**			
	E_G [MPa]	**e_G [mm]**	**E_G [MPa]**	**e_G [mm]**	**E_G [MPa]**	**e_G [mm]**	**E_G [MPa]**	**e_G [mm]**	**E_G [MPa]**	**e_G [mm]**
0	0	3.120	0	3.161	0	3.127	0	3.154		
1	0	3.120	0	3.161	0	3.127	0	3.091		
20	382	2.094	398	2.077	371	2.061	383	2.138		
30	562	1.969	606	1.970	584	1.977	558	2.002		
40	889	1.899	868	1.901	766	1.897	862	1.928		
50	1148	1.848	1121	1.849	1109	1.847	1080	1.874		
60	1287	1.803	1246	1.803	1325	1.804	1360	1.832		
80	1760	1.740	1983	1.743	1621	1.736	1827	1.765		
100	2649	1.701	2231	1.699	1939	1.692	2676	1.723		
120	3123	1.669	2828	1.667	2878	1.661	3464	1.689		
140	3057	1.639	2872	1.635	3354	1.634	3887	1.658		
160	3464	1.615	3327	1.610	3185	1.603	4201	1.629		
180	3764	1.591	3958	1.590	3208	1.577				
200	4428	1.573	4768	1.571						



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