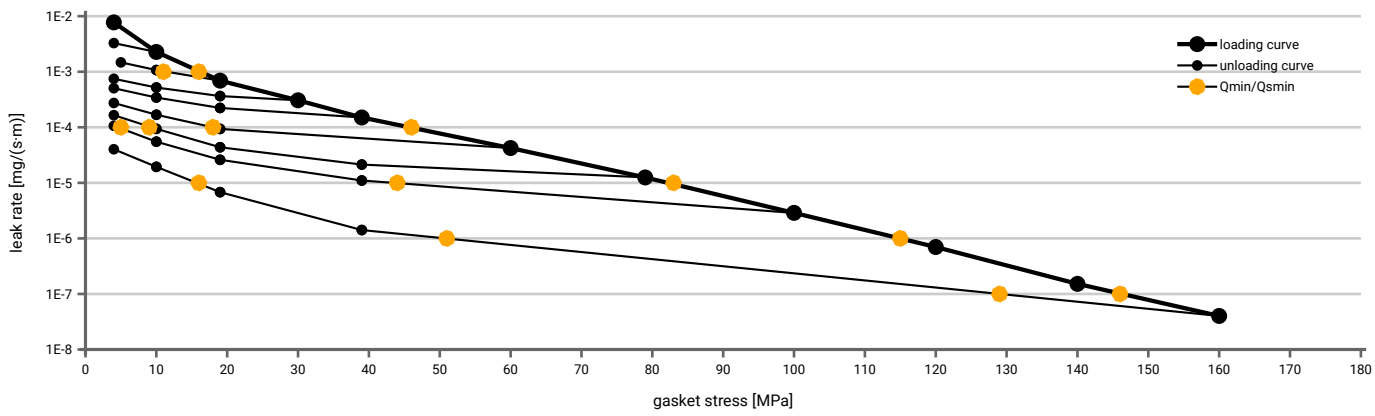
Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to
Product name	Sigraflex Hochdruck Pro V10011Z3I-P	**DIN EN 13555**
Product dimensions	92 x 49 x 1 mm (DIN EN 1514-1 1997-8)	**2014-7**

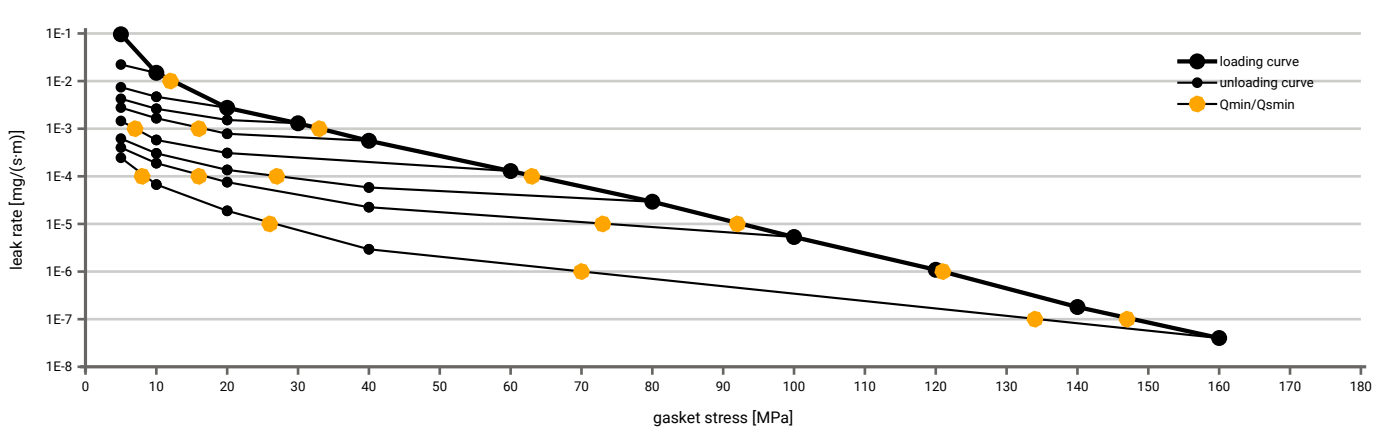
Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 10 bar (T = 23 ± 2 °C)

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	5		5	5	5	5	5	5	5			5
1E-3	17			12	5	5	5	5	5			5
1E-4	46						19	9	5			5
1E-5	83								44			16
1E-6	115											52
1E-7	146											129
1E-8												



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 = 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	12			5	5	5	5	5	5			5
1E-3	33					17	7	5	5			5
1E-4	63							27	17			8
1E-5	93								74			27
1E-6	121											70
1E-7	148											134
1E-8												

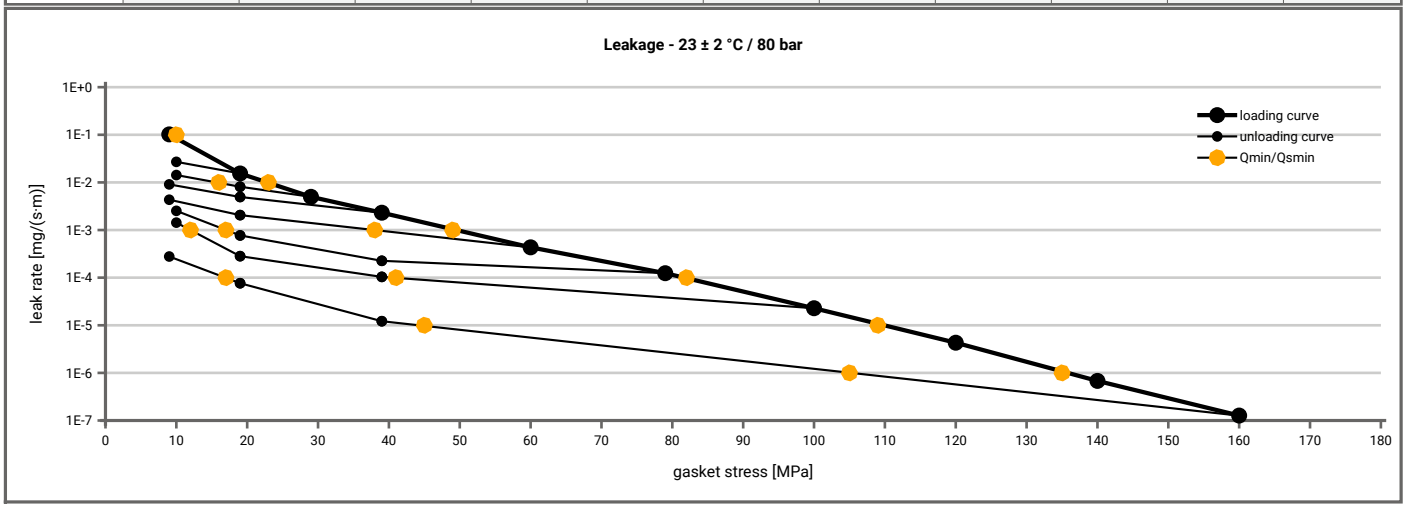


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **1**	Creation date of this sheet: **2015-03-20**

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 V10011Z3I-P	
Product dimensions	92 x 49 x 1 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	10		10	10	10	10	10	10			10
1E-2	24			16	10	10	10	10			10
1E-3	50					38	18	12			10
1E-4	82							41			18
1E-5	110										45
1E-6	136										106
1E-7											
1E-8											



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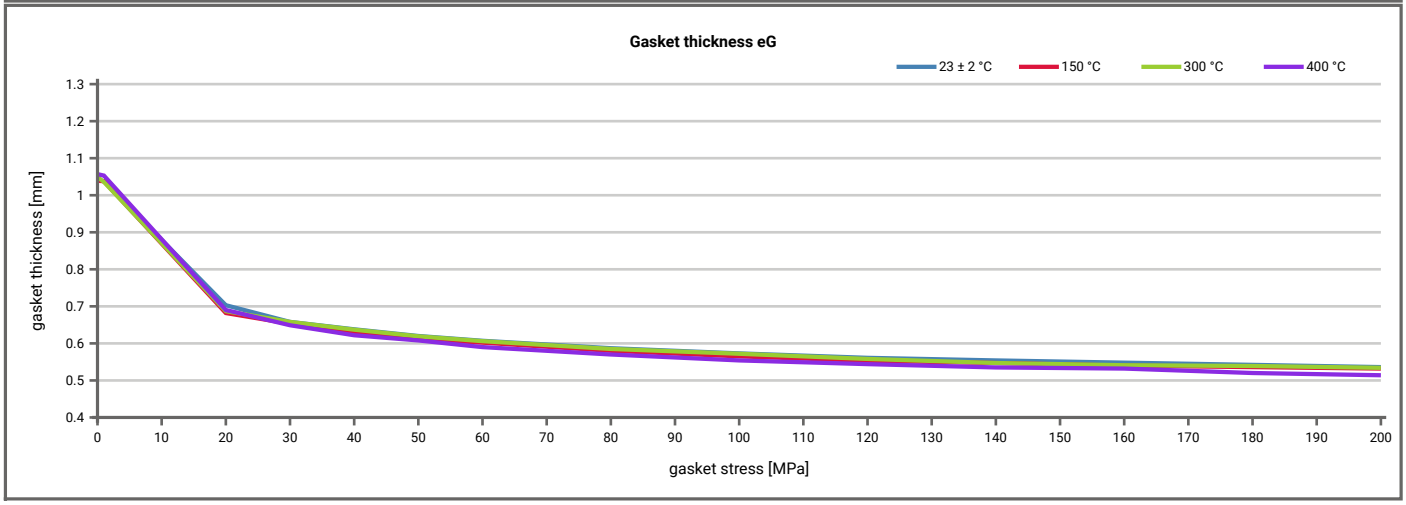
Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **DIN EN 13555 2014-7**
Product name	Sigraflex Hochdruck Pro V10011Z3I-P	
Product dimensions	92 x 49 x 1 mm (DIN EN 1514-1 1997-8)	

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]	1.00	1	0.94	15	0.94	15	0.92	21		
Stress level 2 [50 MPa]	1.00	2	0.97	13	0.97	15	0.96	19		
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	0.99	17	0.99	25		
Q_{smax}	200 MPa		200 MPa		200 MPa		200 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	1.040	0	1.039	0	1.049	0	1.057		
1	0	1.038	0	1.038	0	1.036	0	1.053		
20	468	0.703	442	0.682	313	0.687	444	0.690		
30	669	0.658	945	0.653	334	0.658	626	0.649		
40	1546	0.638	1041	0.629	727	0.637	803	0.622		
50	1430	0.620	1368	0.612	751	0.619	1548	0.608		
60	2117	0.607	2749	0.602	966	0.606	1346	0.590		
80	3749	0.587	2671	0.580	1665	0.585	2066	0.570		
100	5414	0.573	3104	0.565	2404	0.572	2552	0.554		
120	4437	0.561	4098	0.553	2165	0.558	3436	0.544		
140	7482	0.554	6406	0.547	1748	0.547	3219	0.535		
160	8967	0.548	8806	0.540	1737	0.541	5313	0.532		
180	8236	0.542	9258	0.536	2474	0.539	4398	0.520		
200	8651	0.536	9529	0.532	3087	0.534	5394	0.514		



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