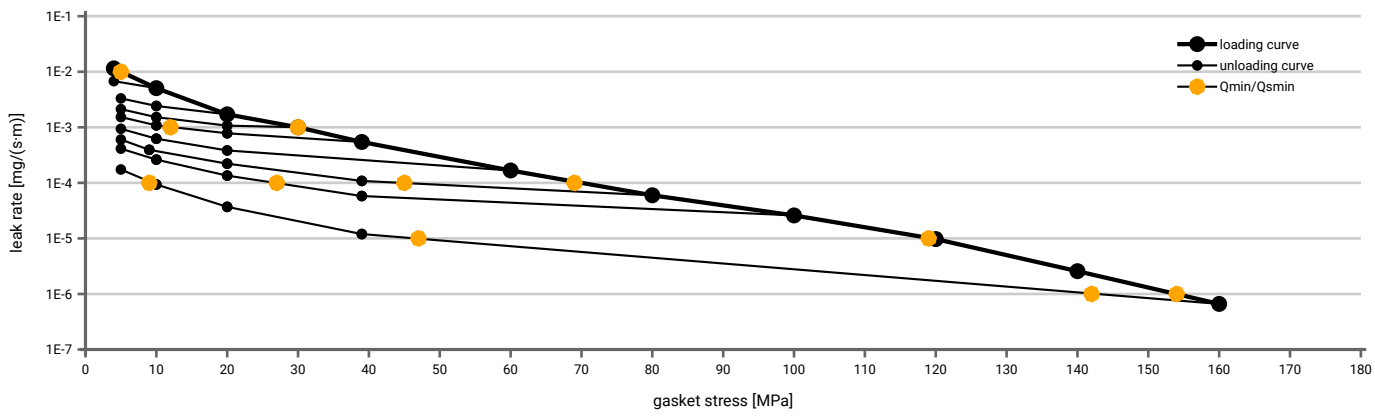
Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **DIN EN 13555 2005-2**
Product name	Sigraflex Hochdruck V10011Z3I	
Product dimensions	92 x 49 x 1 mm (DIN EN 1514-1 1997-8)	

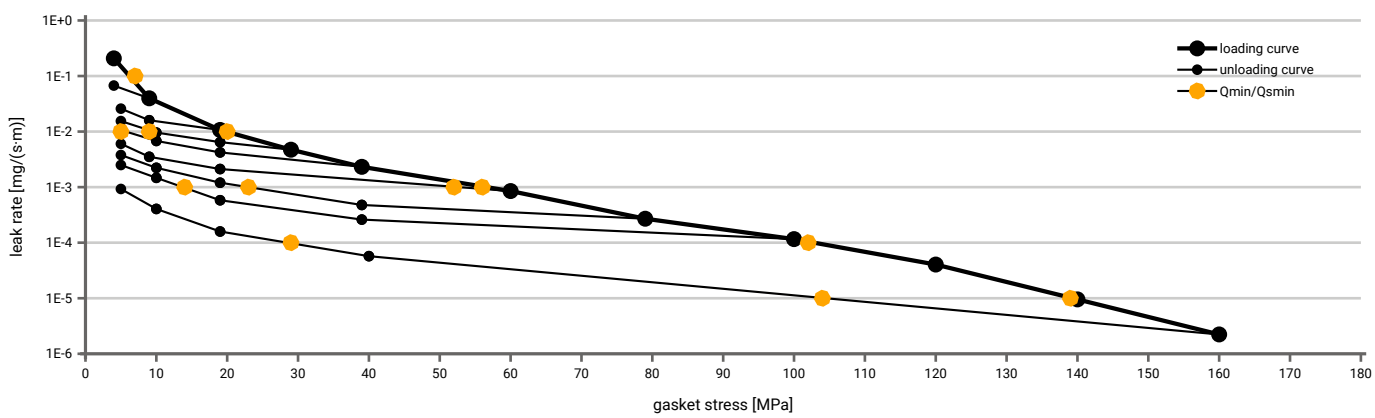
Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 10 bar (T = 23 ± 2 °C)

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	6		5	5	5	5	5	5	5			5
1E-3	30					12	5	5	5			5
1E-4	70							45	27			9
1E-5	119											47
1E-6	154											143
1E-7												
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	7		5	5	5	5	5	5	5			5
1E-2	21				10	6	5	5	5			5
1E-3	57						53	24	14			5
1E-4	103											29
1E-5	139											105
1E-6												
1E-7												
1E-8												

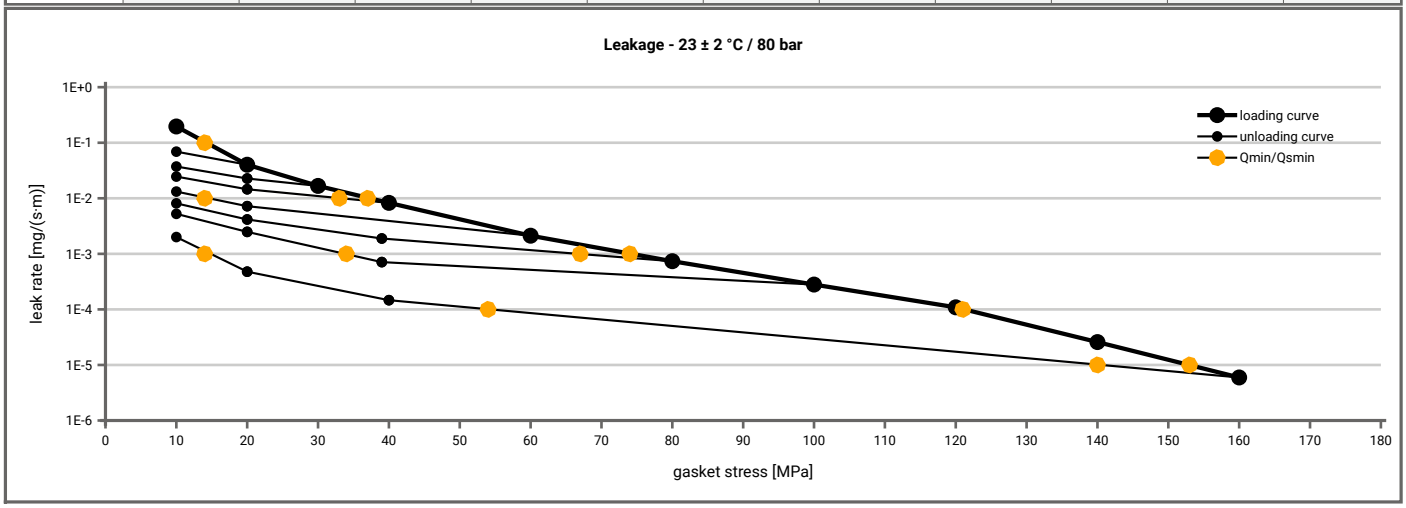


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **1**	Creation date of this sheet: **2012-12-20**

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **DIN EN 13555 2005-2**
Product name	Sigraflex Hochdruck V10011Z3I	
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	14		10	10	10	10	10	10			10
1E-2	37				33	15	10	10			10
1E-3	74						67	34			15
1E-4	121										54
1E-5	153										141
1E-6											
1E-7											
1E-8											

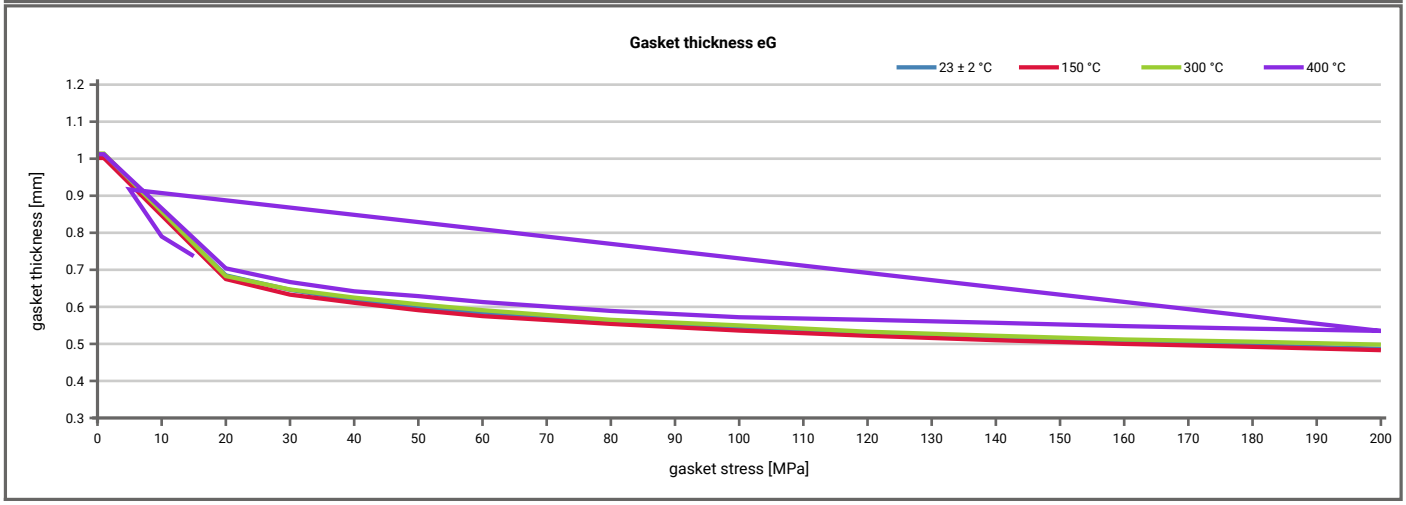


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **1**	Creation date of this sheet: **2012-12-20**

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **DIN EN 13555 2005-2**
Product name	Sigraflex Hochdruck V10011Z3I	
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]	0.98	5	0.95	14	0.95	13	0.91	24		
Stress level 2 [50 MPa]	0.99	6	0.97	13	0.97	15	0.96	17		
P_{QR} and Δe_{Gc} at maximum gasket stress to be applied Q_{smax}										
P_{QR} at Q_{smax}	1.00	0	1.00	8	1.00	8	0.99	17		
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	1.007	0	1.002	0	1.014	0	1.012		
1	0	1.007	0	1.002	0	1.014	0	1.012		
20 / 5	328	0.685	479	0.675	872	0.683	143	0.917		
30 / 10	566	0.646	577	0.633	578	0.647	257	0.790		
40 / 15	703	0.618	994	0.611	1082	0.625	361	0.737		
50 / 20	941	0.597	942	0.591	1052	0.607	508	0.704		
60 / 30	1388	0.585	1155	0.575	1241	0.591	829	0.667		
80 / 40	1329	0.558	1729	0.554	1544	0.565	1083	0.642		
100 / 50	1645	0.540	1777	0.536	2034	0.550	1774	0.629		
120 / 60	2409	0.530	1670	0.522	1652	0.533	1403	0.613		
140 / 80	2373	0.518	1847	0.510	1728	0.522	2533	0.589		
160 / 100	2304	0.508	1961	0.500	2047	0.512	3164	0.572		
180 / 120	2079	0.496	2181	0.492	2374	0.506	4103	0.565		
200 / 140	1969	0.487	2159	0.483	2567	0.498	5383	0.557		
160							6543	0.548		
180							6775	0.541		
200							6724	0.535		



Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **1**	Creation date of this sheet: **2012-12-20**