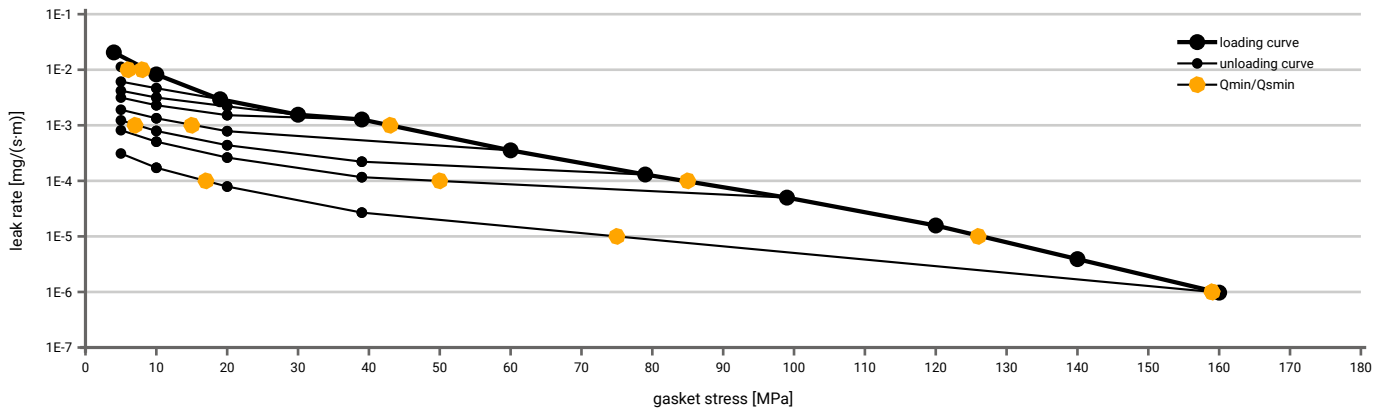
Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to
Product name	Sigraflex Hochdruck V30011Z3I	EN 13555
Product dimensions	92 x 49 x 3 mm	2021-4

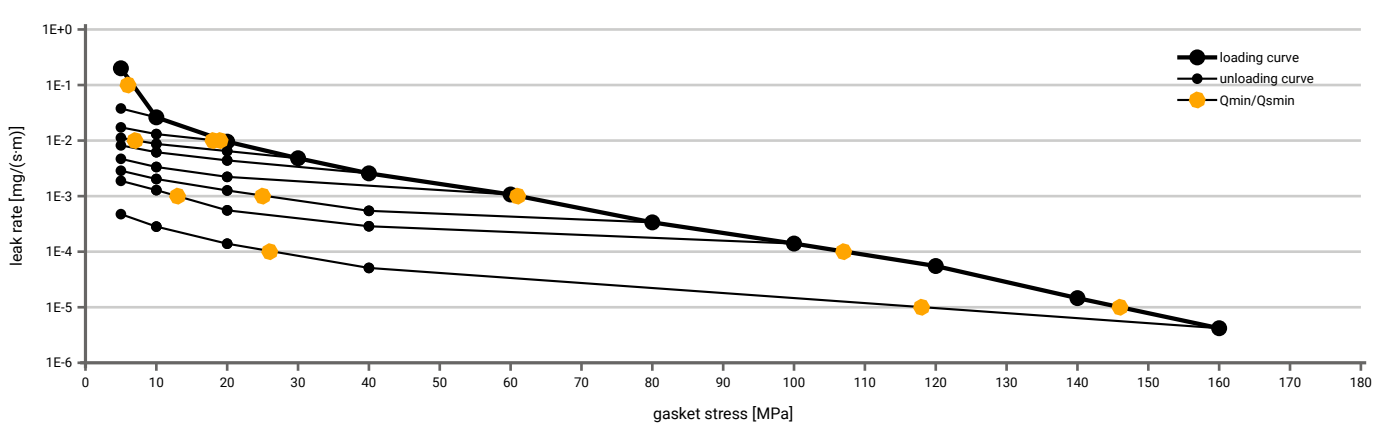
Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 10 bar (T = 23 ± 2 °C)

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	9		7	5	5	5	5	5	5			5
1E-3	44						15	7	5			5
1E-4	85								51			17
1E-5	126											76
1E-6	160											159
1E-7												
1E-8												



Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 16 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	20			19	7	5	5	5	5			5
1E-3	61							26	13			5
1E-4	107											27
1E-5	146											118
1E-6												
1E-7												
1E-8												

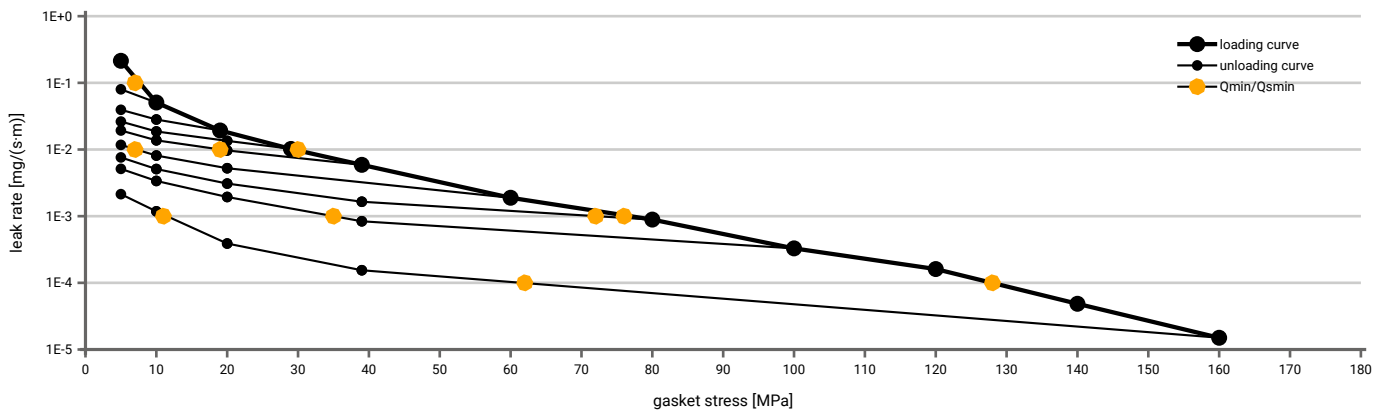


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **4**	Creation date of this sheet: **2021-12-07**

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to
Product name	Sigraflex Hochdruck V30011Z3I	EN 13555
Product dimensions	92 x 49 x 3 mm	2021-4

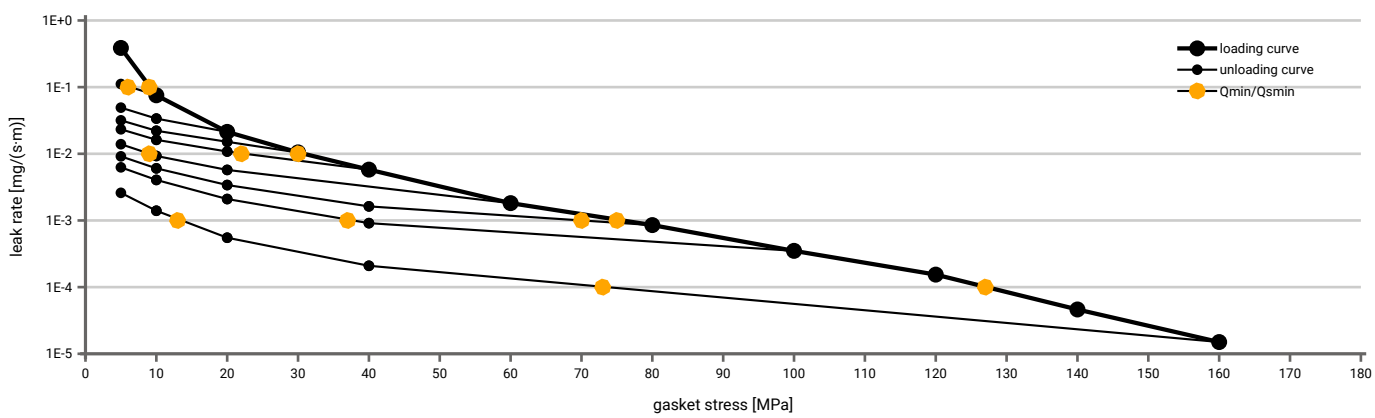
Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 25 bar (T = 23 ± 2 °C)

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	8		5	5	5	5	5	5	5			5
1E-2	30					19	7	5	5			5
1E-3	77							72	36			12
1E-4	128											62
1E-5												
1E-6												
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	9		6	5	5	5	5	5	5			5
1E-2	31					23	9	5	5			5
1E-3	76							70	38			14
1E-4	127											74
1E-5												
1E-6												
1E-7												
1E-8												

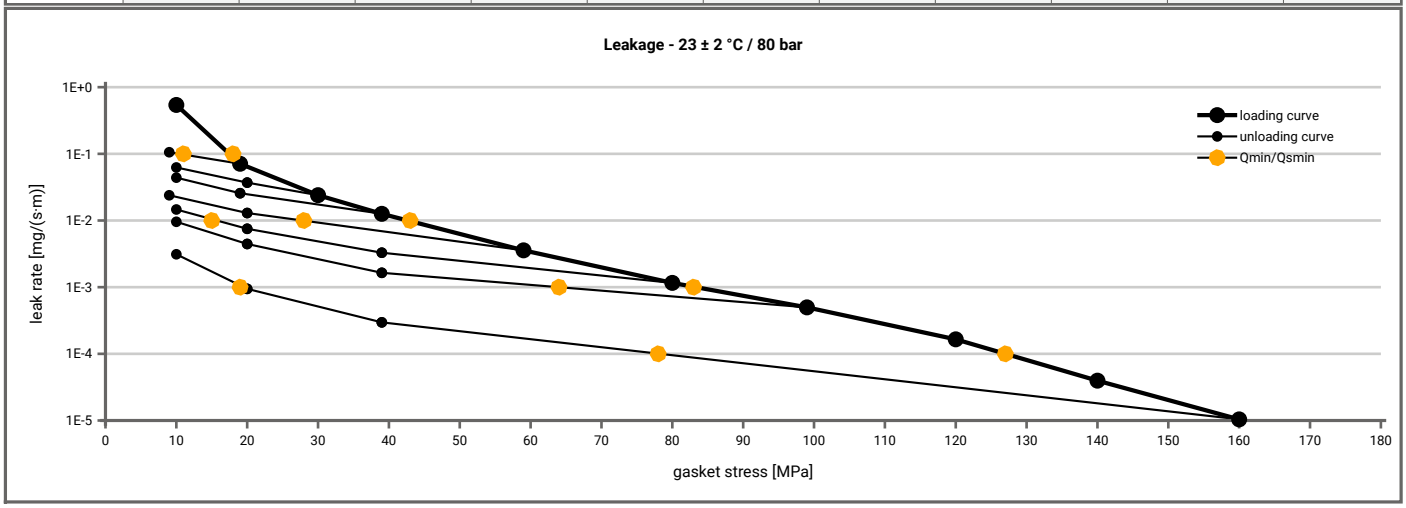


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **4**	Creation date of this sheet: **2021-12-07**

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **EN 13555 2021-4**
Product name	Sigraflex Hochdruck V30011Z3I	
Product dimensions	92 x 49 x 3 mm	

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	18		11	10	10	10	10	10			10
1E-2	44					28	16	10			10
1E-3	83							65			19
1E-4	127										79
1E-5											
1E-6											
1E-7											
1E-8											

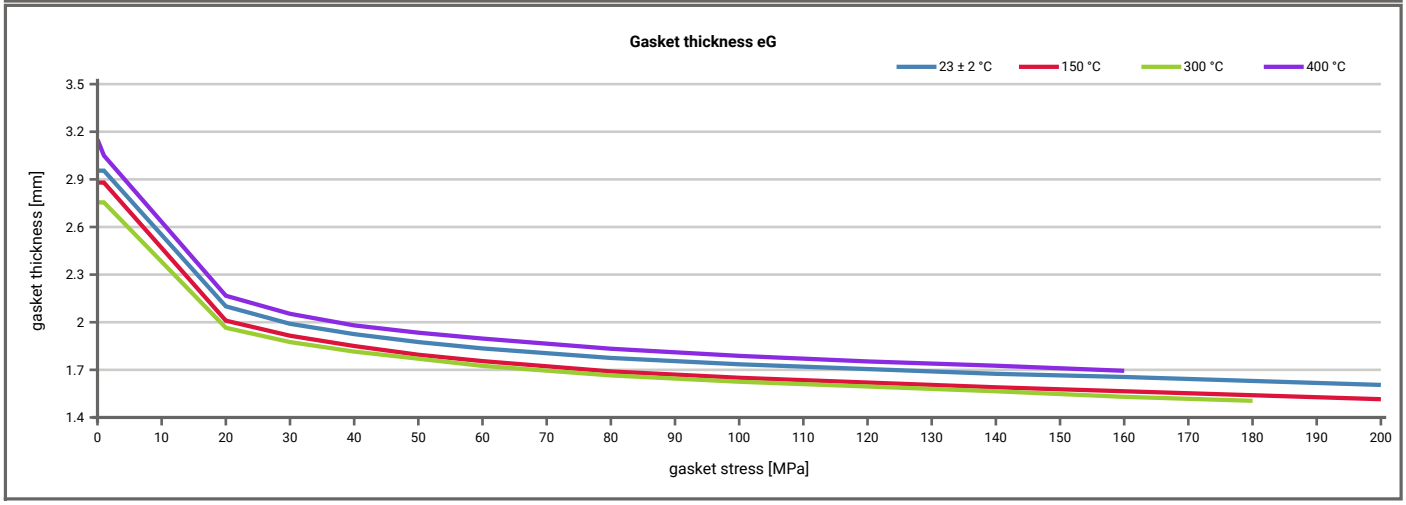


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **4**	Creation date of this sheet: **2021-12-07**

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to **EN 13555 2021-4**
Product name	Sigraflex Hochdruck V30011Z3I	
Product dimensions	92 x 49 x 3 mm	

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	0.92	21	0.86	35		
Stress level 2 [50 MPa]	0.98	8	0.96	19	0.95	21	0.91	38		
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	0.99	13		
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	2.955	0	2.880	0	2.755	0	3.151		
1	0	2.955	0	2.880	0	2.755	0	3.050		
20	409	2.100	432	2.010	466	1.965	405	2.167		
30	631	1.990	660	1.915	670	1.875	659	2.053		
40	936	1.925	1003	1.850	995	1.815	851	1.980		
50	1089	1.875	1038	1.795	1423	1.770	1283	1.934		
60	1275	1.835	1400	1.755	1323	1.725	1745	1.897		
80	1949	1.775	1838	1.690	2025	1.665	2085	1.833		
100	2578	1.735	2582	1.650	2427	1.625	2547	1.788		
120	2840	1.705	2868	1.620	3163	1.595	3300	1.753		
140	3146	1.675	3155	1.590	3322	1.565	4332	1.726		
160	3960	1.655	3294	1.565	3190	1.530	4379	1.694		
180	4279	1.630	3892	1.540	3245	1.505				
200	3695	1.605	4154	1.515						



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