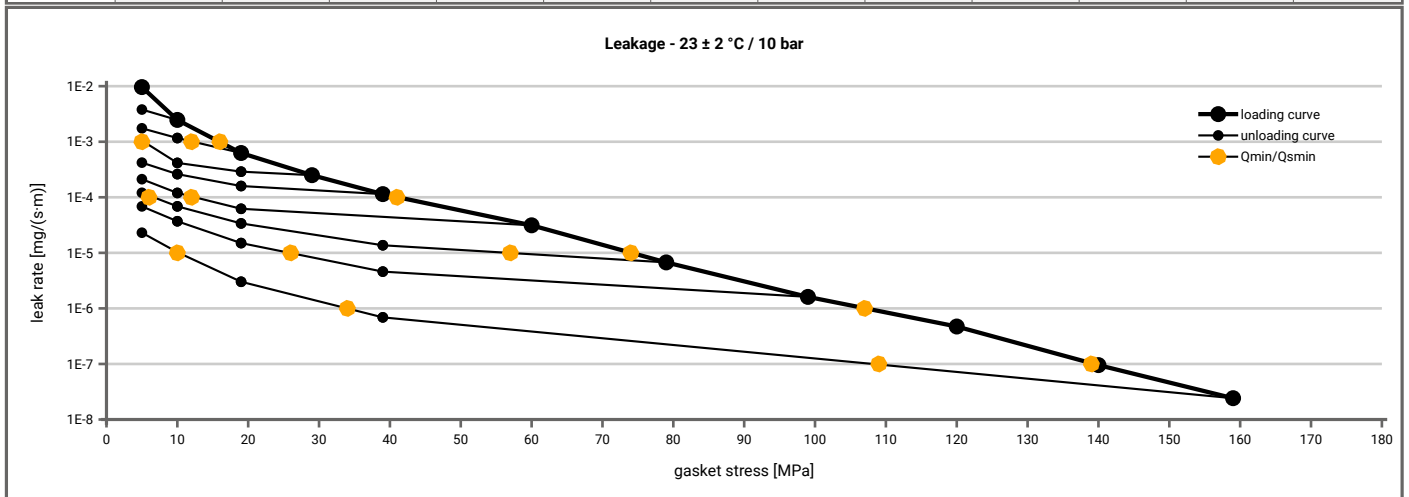
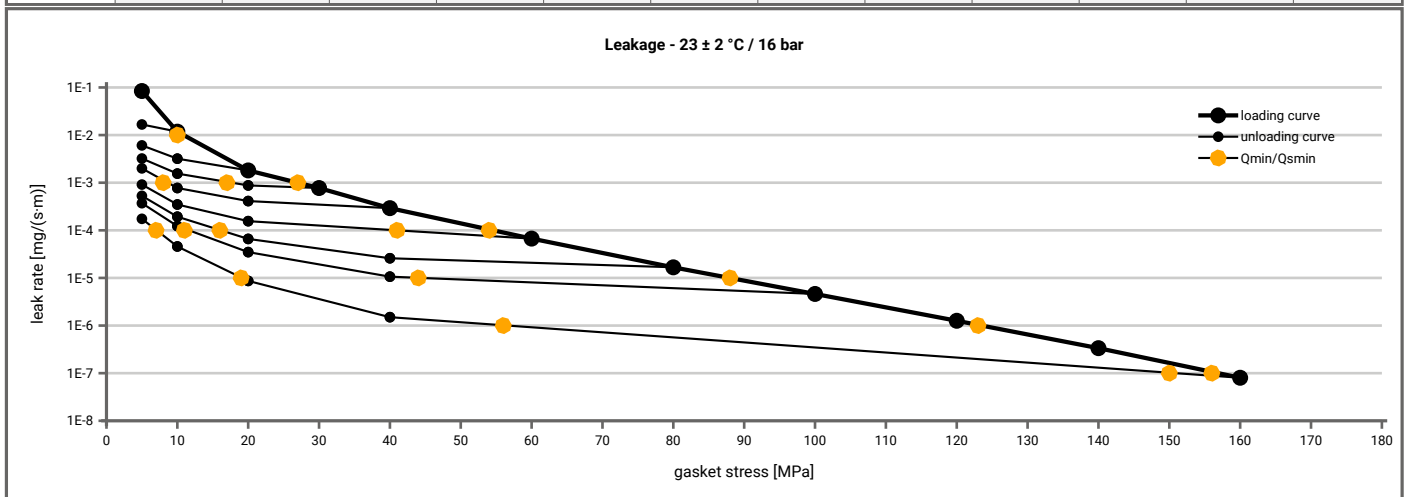


Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to DIN EN 13555 2014-7
Product name	Sigraflex Universal Pro V20010C2I-P	
Product dimensions	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 10$ bar ($T = 23 \pm 2$ °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	42						13	7	5			5
1E-5	75							58	27			10
1E-6	108											35
1E-7	139											109
1E-8												



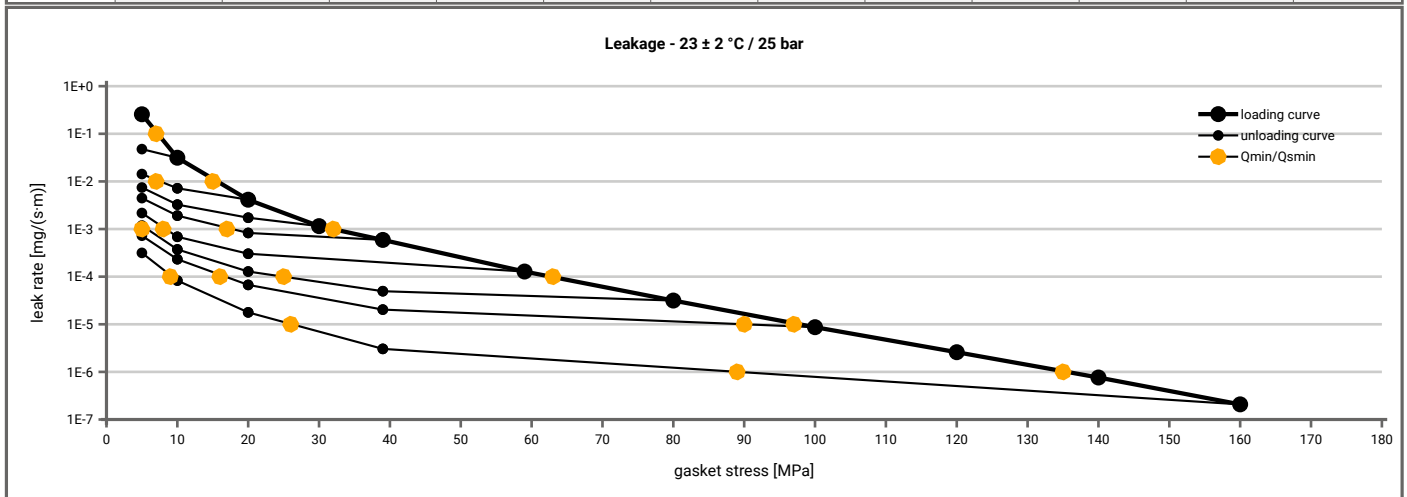
Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 16$ bar ($T = 23 \pm 2$ °C)												
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]										
		$Q_A = 5$ [MPa]	$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 30$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [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	11			5	5	5	5	5	5			5
1E-3	27				18	9	5	5	5			5
1E-4	55						41	16	12			7
1E-5	88								44			19
1E-6	124											57
1E-7	157											151
1E-8												



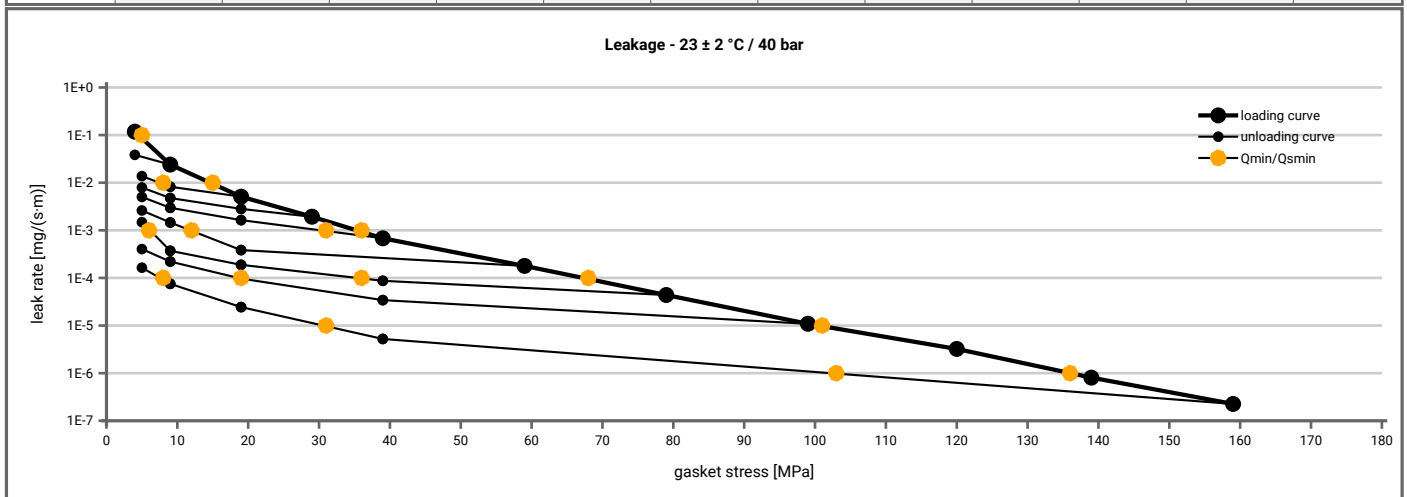
Note: the content of darkened cells was not determined respectively is unnecessary Rev.-No.: 3 Creation date of this sheet: 2019-09-09

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to DIN EN 13555 2014-7
Product name	Sigraflex Universal Pro V20010C2I-P	
Product dimensions	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 25$ bar ($T = 23 \pm 2$ °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	16			8	5	5	5	5	5			5
1E-3	32					18	8	6	5			5
1E-4	63							25	17			9
1E-5	98								90			26
1E-6	136											90
1E-7												
1E-8												



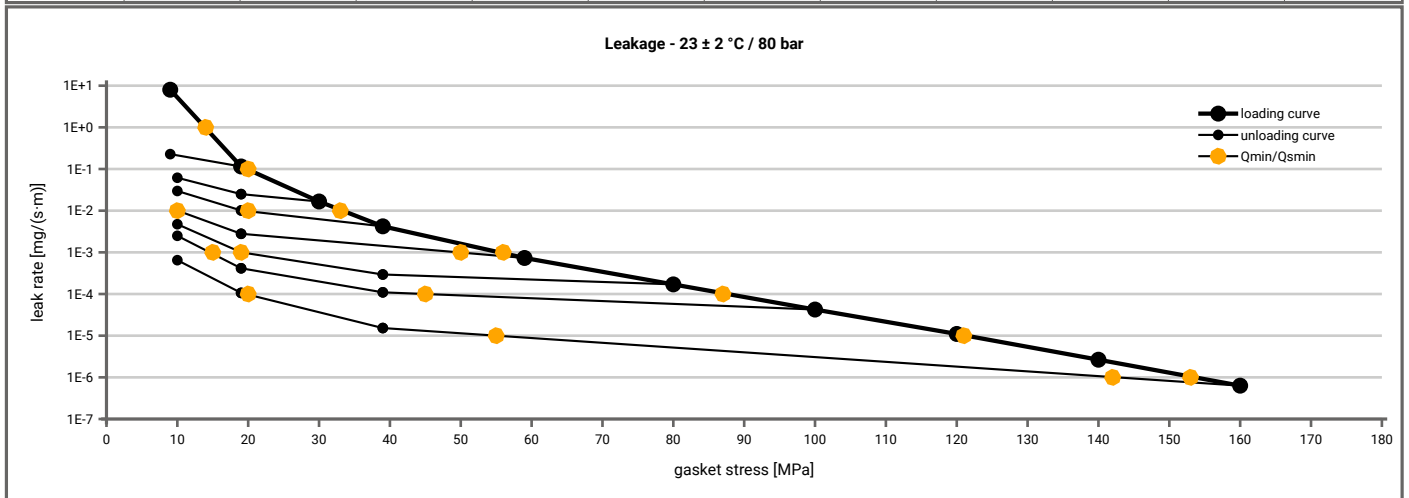
Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 40$ bar ($T = 23 \pm 2$ °C)												
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]										
		$Q_A = 5$ [MPa]	$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 30$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [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	16			8	5	5	5	5	5			5
1E-3	36					31	13	6	5			5
1E-4	68							36	20			8
1E-5	101											31
1E-6	137											103
1E-7												
1E-8												



Note: the content of darkened cells was not determined respectively is unnecessary Rev.-No.: 3 Creation date of this sheet: 2019-09-09

Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to DIN EN 13555 2014-7
Product name	Sigraflex Universal Pro V20010C2I-P	
Product dimensions	92 x 49 x 2 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 ($T = 23 \pm 2$ °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+1	10		10	10	10	10	10	10			10
1E-0	15		10	10	10	10	10	10			10
1E-1	21			10	10	10	10	10			10
1E-2	34				20	10	10	10			10
1E-3	56					51	20	15			10
1E-4	88							46			21
1E-5	121										56
1E-6	154										143
1E-7											
1E-8											



Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to DIN EN 13555 2014-7
Product name	Sigraflex Universal Pro V20010C2I-P	
Product dimensions	92 x 49 x 2 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]	0.97	8	0.94	16	0.89	29	0.84	40		
Stress level 2 [50 MPa]	0.99	4	0.97	15	0.95	21	0.91	40		
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	13	0.98	23		
Q_{smax}	200 MPa		200 MPa		160 MPa		140 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	1.991	0	1.994	0	1.976	0	2.016		
1	0	1.923	0	1.919	0	1.933	0	1.942		
20	434	1.300	569	1.260	547	1.279	624	1.248		
30	815	1.200	1031	1.181	1033	1.220	770	1.183		
40	1067	1.149	1086	1.134	1170	1.171	1092	1.135		
50	1077	1.107	1289	1.099	1339	1.134	1314	1.102		
60	1645	1.081	1367	1.070	1550	1.107	2018	1.080		
80	2628	1.046	3210	1.038	3184	1.074	2216	1.042		
100	2376	1.013	2859	1.010	2985	1.046	2383	1.011		
120	4666	0.996	3119	0.988	3266	1.024	3101	0.991		
140	4920	0.977	4768	0.970	4307	1.006	4254	0.974		
160	7545	0.969	6044	0.959	5494	0.990				
180	11340	0.958	8753	0.947						
200	9902	0.945	7804	0.934						

