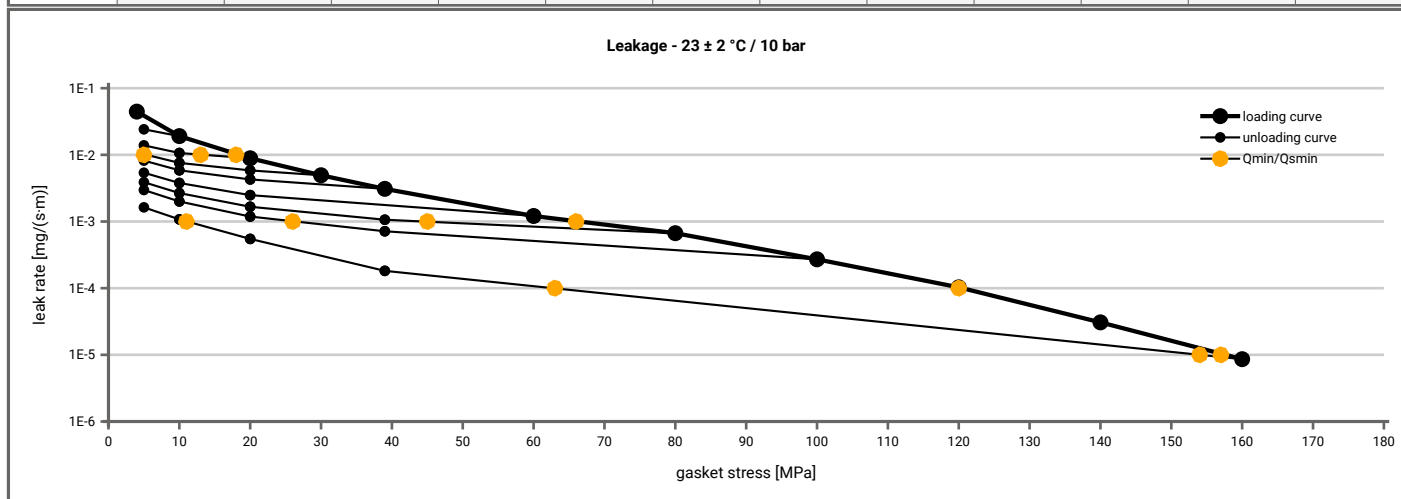
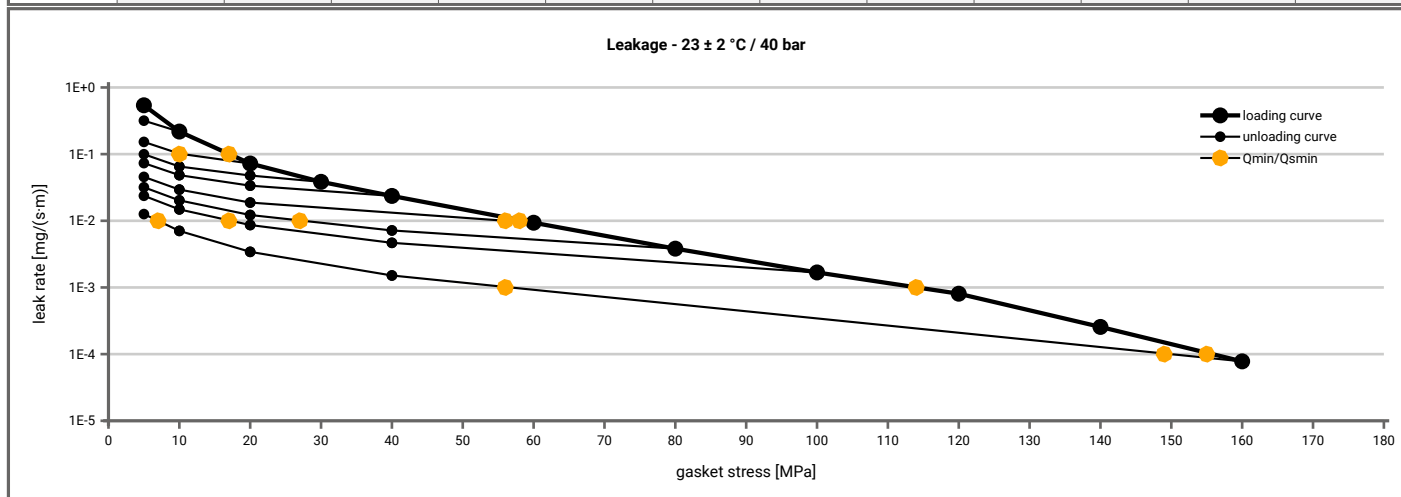


Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to DIN EN 13555 2014-7
Product name	Sigraseal V20010M2	
Product dimensions	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

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	18			14	5	5	5	5	5			5
1E-3	66							45	27			11
1E-4	121											63
1E-5	158											154
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 ($T = 23 \pm 2$ °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	17			10	5	5	5	5	5			5
1E-2	59						56	27	17			7
1E-3	114											57
1E-4	156											150
1E-5												
1E-6												
1E-7												
1E-8												

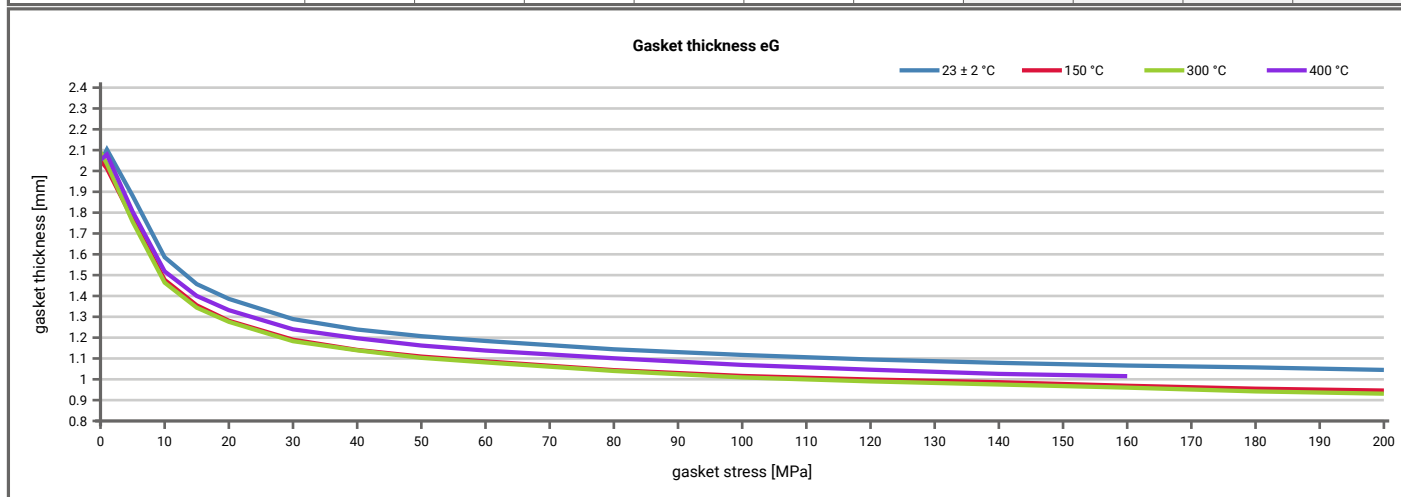


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: 1	Creation date of this sheet: 2015-03-23
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Manufacturer address	SGL Carbon GmbH, Werner-von-Siemens-Straße 16, 86405 Meitingen, DE	According to DIN EN 13555 2014-7
Product name	Sigraseal V20010M2	
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]	0.99	3	0.96	11	0.94	15	0.94	16		
Stress level 2 [50 MPa]	0.99	4	0.98	10	0.98	10	0.95	21		
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	34	0.99	13		
Q_{smax}	200 MPa		200 MPa		200 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	2.044	0	2.051	0	2.091	0	2.053		
1	0	2.103	0	2.012	0	2.034	0	2.079		
5	89	1.881	100	1.769	120	1.757	144	1.805		
10	217	1.586	220	1.477	242	1.464	264	1.518		
15	347	1.457	389	1.355	378	1.344	367	1.400		
20	505	1.386	440	1.281	510	1.276	471	1.332		
30	624	1.289	633	1.190	610	1.183	643	1.240		
40	990	1.239	1011	1.141	1382	1.139	1259	1.197		
50	1555	1.207	1385	1.109	1245	1.103	1384	1.162		
60	1960	1.184	1860	1.086	1835	1.081	1829	1.138		
80	2353	1.144	2080	1.044	2124	1.040	2627	1.101		
100	3033	1.117	2565	1.016	2495	1.009	2699	1.069		
120	4182	1.095	4604	0.999	3222	0.990	3565	1.046		
140	4880	1.079	5885	0.986	5167	0.975	3712	1.026		
160	6572	1.066	5534	0.969	5729	0.960	5115	1.015		
180	8581	1.057	5108	0.955	4918	0.942				
200	8964	1.045	7480	0.946	5654	0.931				



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