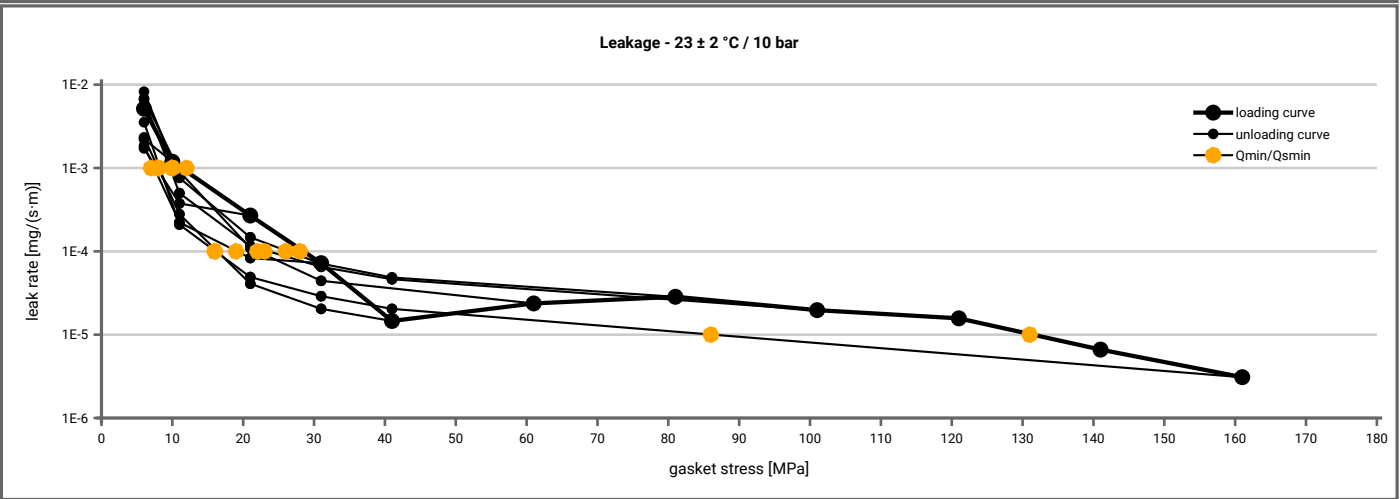
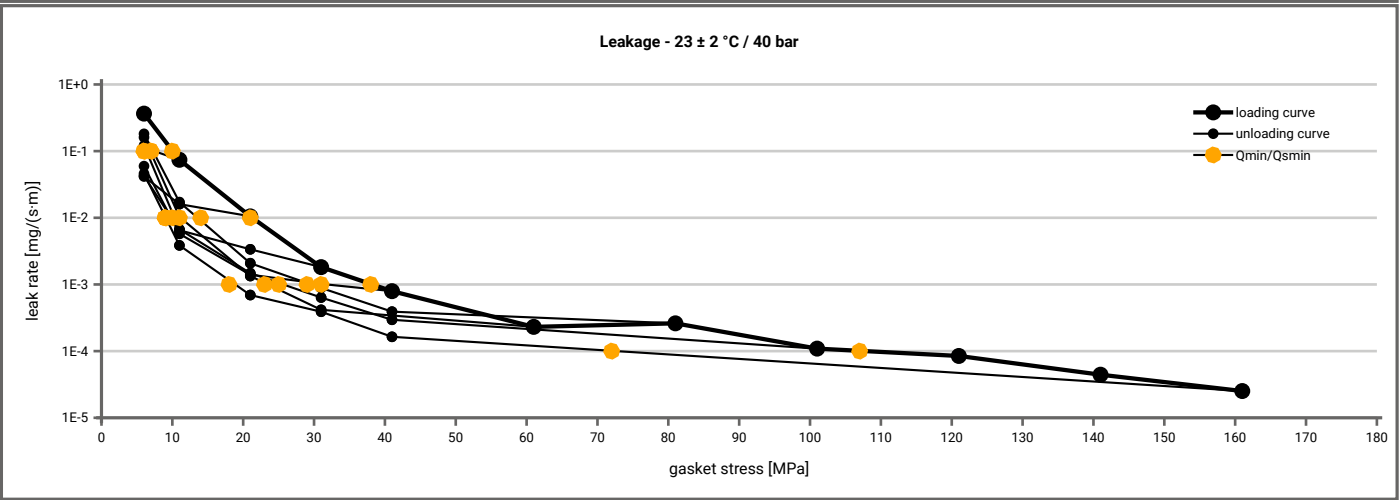


Manufacturer address	KLINGER Kempchen GmbH, Im Waldteich 21, 46147 Oberhausen, DE	According to DIN EN 13555 2014-7
Product name	Spiral wound gasket SpV2I - Graphite (1.4541 / 0,5 mm; D = 1,0g/ccm)	
Product dimensions	68 x 56 x 4.85 mm (DIN EN 1514-2 2014-8)	

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]										
		$Q_A = 6$ [MPa]	$Q_A = 11$ [MPa]	$Q_A = 21$ [MPa]	$Q_A = 31$ [MPa]	$Q_A = 41$ [MPa]	$Q_A = 61$ [MPa]	$Q_A = 81$ [MPa]	$Q_A = 101$ [MPa]	$Q_A = 121$ [MPa]	$Q_A = 141$ [MPa]	$Q_A = 161$ [MPa]
1E-0	6		6	6	6	6	6	7	7			7
1E-1	6		6	6	6	6	6	7	7			7
1E-2	6		6	6	6	6	6	7	7			7
1E-3	12			8	8	8	11	11	10			9
1E-4	29				19	17	22	27	24			16
1E-5	132											86
1E-6												
1E-7												

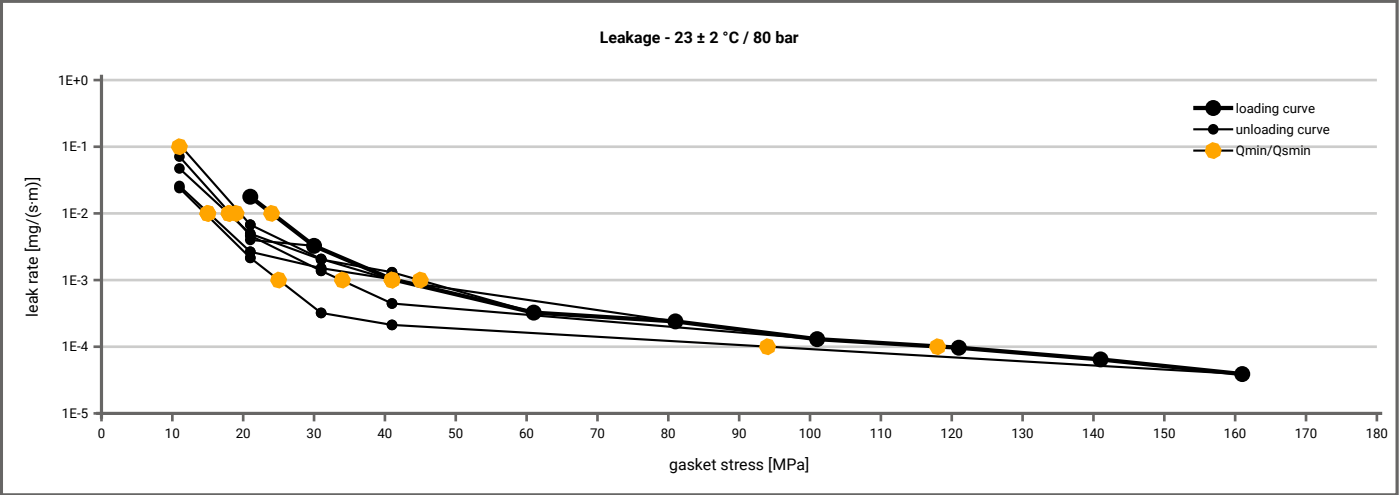


Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 40$ bar ($T = 23 \pm 2$ °C)												
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]										
		$Q_A = 6$ [MPa]	$Q_A = 11$ [MPa]	$Q_A = 21$ [MPa]	$Q_A = 31$ [MPa]	$Q_A = 41$ [MPa]	$Q_A = 61$ [MPa]	$Q_A = 81$ [MPa]	$Q_A = 101$ [MPa]	$Q_A = 121$ [MPa]	$Q_A = 141$ [MPa]	$Q_A = 161$ [MPa]
1E-0	6		6	6	6	6	6	6	6			6
1E-1	10		7	6	6	6	7	7	6			6
1E-2	21				10	10	11	14	10			9
1E-3	38					32	24	30	26			19
1E-4	108											73
1E-5												
1E-6												
1E-7												



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Product name	Spiral wound gasket SpV2I - Graphite (1.4541 / 0,5 mm; D = 1,0g/ccm)	
Product dimensions	68 x 56 x 4.85 mm (DIN EN 1514-2 2014-8)	

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]								
		$Q_A = 21$ [MPa]	$Q_A = 31$ [MPa]	$Q_A = 41$ [MPa]	$Q_A = 61$ [MPa]	$Q_A = 81$ [MPa]	$Q_A = 101$ [MPa]	$Q_A = 121$ [MPa]	$Q_A = 141$ [MPa]	$Q_A = 161$ [MPa]
1E-0	21		21	11	11	11	11			11
1E-1	21		21	11	11	12	11			11
1E-2	24		21	15	18	20	19			15
1E-3	42				45	41	34			25
1E-4	119									94
1E-5										
1E-6										
1E-7										



Manufacturer address	KLINGER Kempchen GmbH, Im Waldteich 21, 46147 Oberhausen, DE	According to DIN EN 13555 2014-7
Product name	Spiral wound gasket SpV2I - Graphite (1.4541 / 0,5 mm; D = 1,0g/ccm)	
Product dimensions	68 x 56 x 4.85 mm (DIN EN 1514-2 2014-8)	

Relaxation ratio P _{QR} for stiffness C = 500 [kN/mm]										
Gasket stress	23 ± 2 °C		Temperature 1 [100 °C]		Temperature 2 [200 °C]		Temperature 3 [300 °C]		Temperature 4 [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 [90 MPa]	0.98	4	0.94	13	0.90	22	0.90	21	0.87	28
Stress level 2 [150 MPa]	0.99	4	0.96	14	0.95	19	0.95	19	0.92	30
P _{QR} and Δe _{Gc} at maximum gasket stress to be applied (Q _{smax})										
P _{QR} at Q _{smax}	1.00	0	1.00	4	0.99	7	0.99	7	0.99	7
Q _{smax}	300 MPa		300 MPa		300 MPa		300 MPa		300 MPa	

Sekant unloading modulus of the gasket E _G [MPa] and gasket thickness e _G [mm]										
Gasket stress [MPa]	23 ± 2 °C		Temperature 1 [100 °C]		Temperature 2 [200 °C]		Temperature 3 [300 °C]		Temperature 4 [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	5.100	0	5.030	0	5.150	0	5.100	0	5.075
1	0	4.988	0	5.044	0	5.086	0	4.961	0	5.035
20	1708	4.557	1520	4.557	1396	4.536	2384	4.497	2017	4.472
30	2591	4.398	2249	4.405	2370	4.372	6036	4.419	4178	4.409
40	3076	4.227	2982	4.242	3221	4.238	8647	4.317	7050	4.308
50	3936	4.083	3934	4.154	3907	4.121	9896	4.190	7030	4.181
60	4388	3.958	4111	4.028	3687	3.990	8609	3.996	6052	4.033
80	4221	3.648	4001	3.720	3866	3.695	8303	3.733	6723	3.683
100	5556	3.524	4773	3.540	4898	3.541	10047	3.602	8285	3.563
120	7082	3.434	5707	3.440	5725	3.451	11422	3.512	11027	3.482
140	8948	3.355	6648	3.350	6719	3.379	12906	3.430	12258	3.421
160	11263	3.279	7955	3.286	7965	3.323	14220	3.354	13886	3.374
180	14859	3.206	9801	3.244	9333	3.270	15060	3.287	14917	3.335
200	21392	3.165	12674	3.227	10544	3.223	15968	3.232	15897	3.300
300	30519	3.134	31729	3.185	26703	3.126	22069	3.065	29270	3.187

