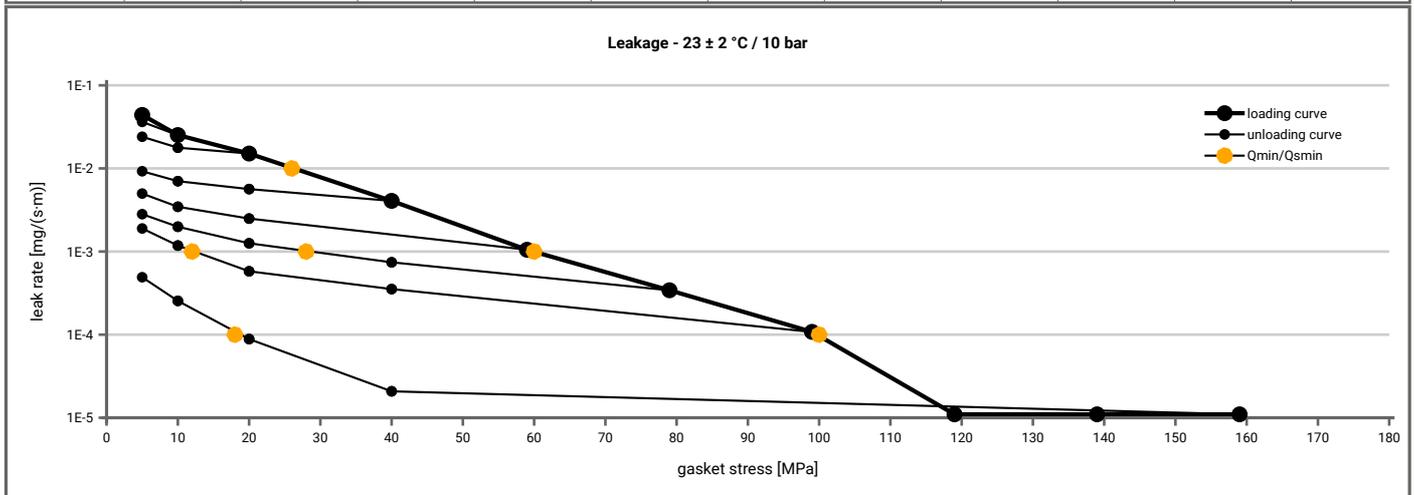
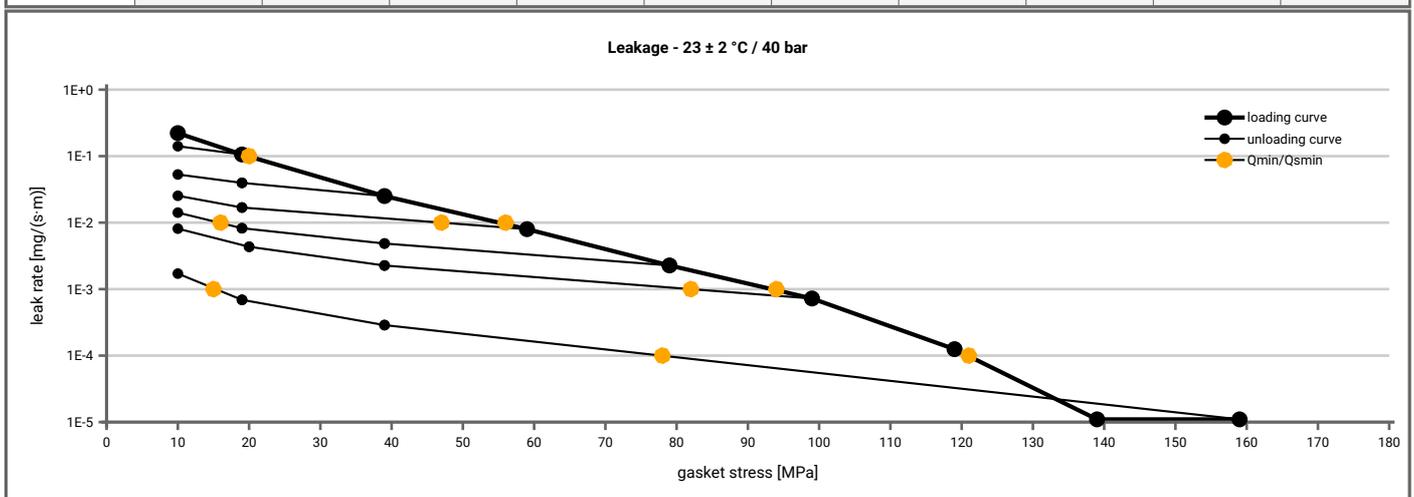


Manufacturer address	KLINGER GmbH, Richard Klinger Str. 37, 65510 Idstein, DE	According to DIN EN 13555 2005-2
Product name	KLINGER® Graphite Laminate PDM200B	
Product dimensions	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

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]	$Q_A = 40$ [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
1E-1	5		5	5	5	5	5	5			5
1E-2	26				5	5	5	5			5
1E-3	61							29	12		5
1E-4	101										19
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 ($T = 23 \pm 2$ °C)											
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]									
		$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [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	21			10	10	10	10	10			10
1E-2	56				48	16	10	10			10
1E-3	94						83				16
1E-4	122										79
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: 2012-03-28

Manufacturer address	KLINGER GmbH, Richard Klinger Str. 37, 65510 Idstein, DE	According to DIN EN 13555 2005-2
Product name	KLINGER® Graphite Laminate PDM200B	
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]		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	0.89	29	0.89	28				
Stress level 2 [50 MPa]	0.99	4	0.94	27	0.92	34				
P_{QR} and Δe_{Gc} at maximum gasket stress to be applied Q_{smax}										
P_{QR} at Q_{smax}	1.00	0	0.98	37	0.97	45				
Q_{smax}	220 MPa		220 MPa		180 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]		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	2.055	0	2.055	0	2.055				
1	0	2.047	0	2.026	0	2.036				
20	531	1.804	541	1.743	608	1.748				
30	765	1.698	774	1.640	801	1.657				
40	1113	1.623	1170	1.566	1066	1.585				
50	1481	1.570	1499	1.517	1367	1.534				
60	1924	1.531	1892	1.480	1746	1.497				
80	2687	1.474	2810	1.426	2422	1.442				
100	3325	1.435	3655	1.389	3357	1.404				
120	4100	1.406	4371	1.360	3983	1.374				
140	4808	1.383	4732	1.338	4679	1.350				
160	5337	1.361	5440	1.318	5244	1.328				
180	6001	1.345	5867	1.299	5706	1.307				
200	6269	1.328	6138	1.282						
220	6824	1.310	7143	1.263						

