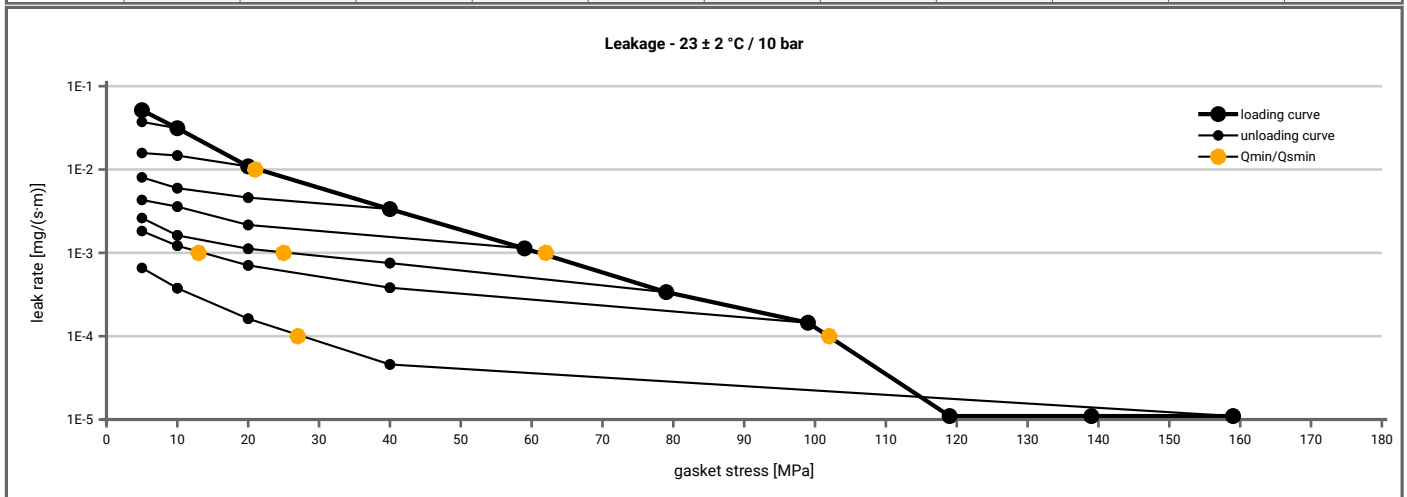
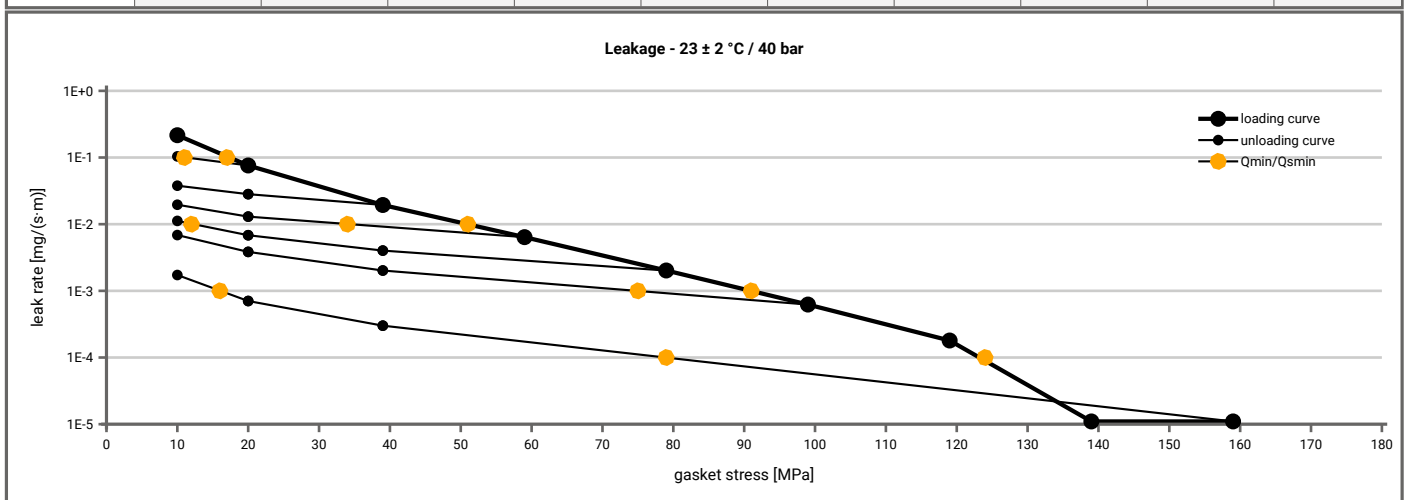


Manufacturer address	KLINGER GmbH, Richard Klinger Str. 37, 65510 Idstein, DE	According to DIN EN 13555 2005-2
Product name	KLINGER® Graphite Laminate PSM150B	
Product dimensions	92 x 49 x 1.5 mm (DIN EN 1514-1 1997-8)	

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	21				5	5	5	5			5
1E-3	62							26	14		5
1E-4	103										28
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	17		11	10	10	10	10	10			10
1E-2	52					35	12	10			10
1E-3	92							76			16
1E-4	124										80
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 PSM150B	
Product dimensions	92 x 49 x 1.5 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]	0.99	4	0.95	13	0.92	21				
Stress level 2 [50 MPa]	0.99	4	0.96	19	0.94	27				
P_{QR} and Δe_{Gc} at maximum gasket stress to be applied Q_{smax}										
P_{QR} at Q_{smax}	1.00	0	0.99	18	0.98	37				
Q_{smax}	220 MPa		220 MPa		220 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	1.455	0	1.455	0	1.455				
1	0	1.466	0	1.463	0	1.446				
20	510	1.092	504	1.051	656	1.037				
30	800	1.011	845	0.983	702	0.965				
40	1217	0.964	1213	0.939	1142	0.923				
50	1578	0.934	1523	0.909	1623	0.896				
60	1945	0.911	2006	0.888	2076	0.876				
80	2591	0.879	2693	0.857	2770	0.844				
100	3341	0.857	3488	0.836	3200	0.822				
120	4911	0.842	4003	0.819	3681	0.806				
140	4456	0.827	4746	0.807	4409	0.794				
160	5538	0.817	5409	0.797	5068	0.784				
180	5629	0.807	5422	0.787	5319	0.774				
200	6198	0.800	5945	0.779	5455	0.765				
220	6620	0.791	6356	0.771	6174	0.757				

