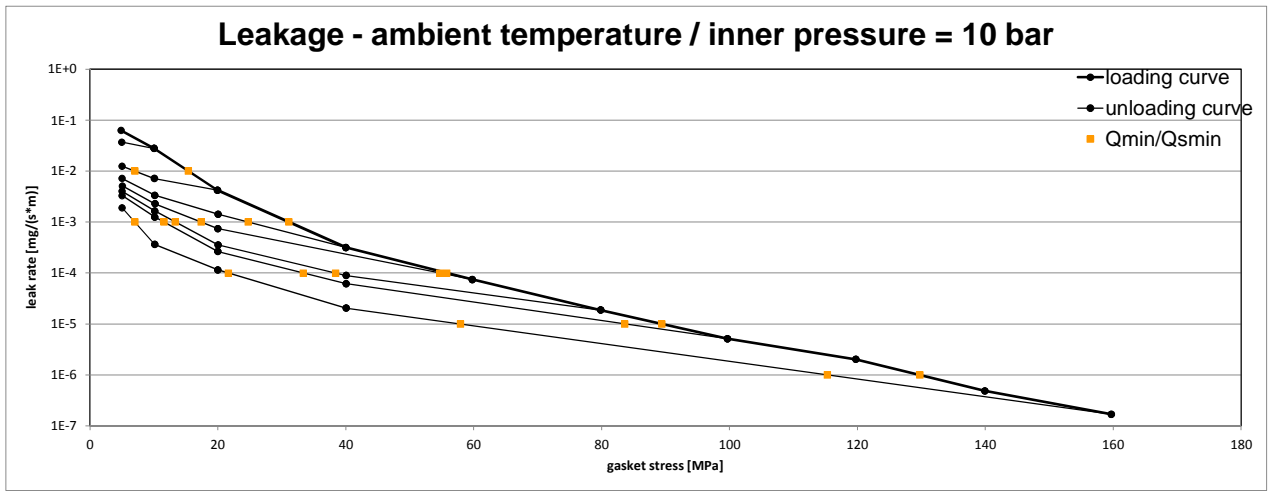
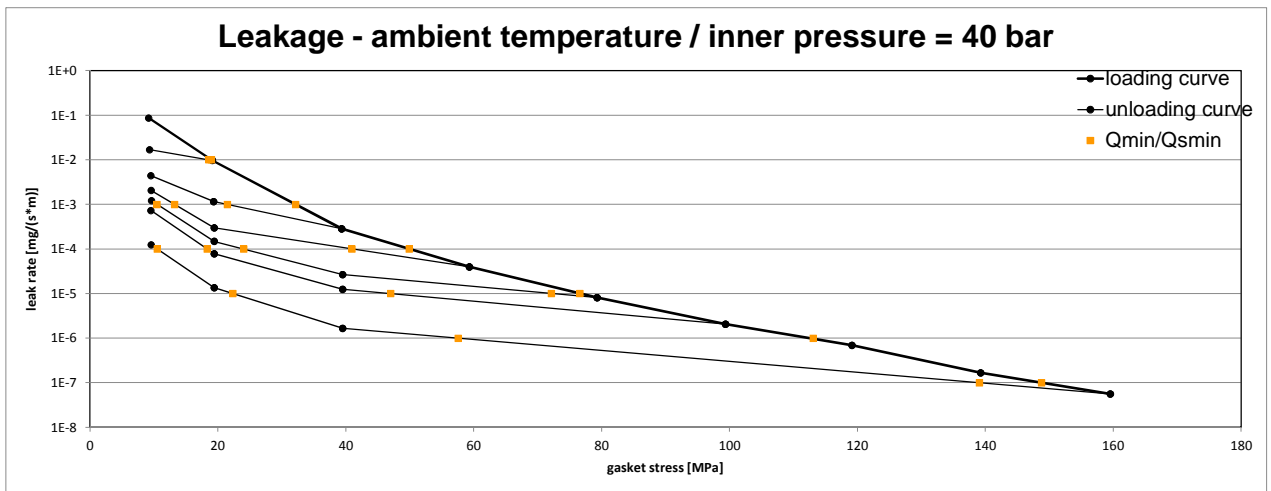


Company Address	Kempchen Dichtungstechnik GmbH, Im Waldteich 21, 46147 Oberhausen, Germany
Gasket Type	Grooved gasket B7A / B9A / B15A Graphite (1.4541 / 0,5 mm; D = 1,0g/cm ³)
Sealing element dimensions [mm]	53 / 69 x 92 x 4,90 (WN 145 / DIN1514-6)

L [mg/(s*m)]	Q _{min/L} [MPa]	Minimum stress to seal Q _{min/L} (at assembly), Q _{Smin/L} (after off-loading) for p = 10 bar									
		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	
10 ⁰	5		5	5	5	5	5			5	
10 ⁻¹	5		5	5	5	5	5			5	
10 ⁻²	15		7	5	5	5	5			5	
10 ⁻³	31			25	17	13	12			7	
10 ⁻⁴	56				55	38	33			22	
10 ⁻⁵	89						84			58	
10 ⁻⁶	130									115	



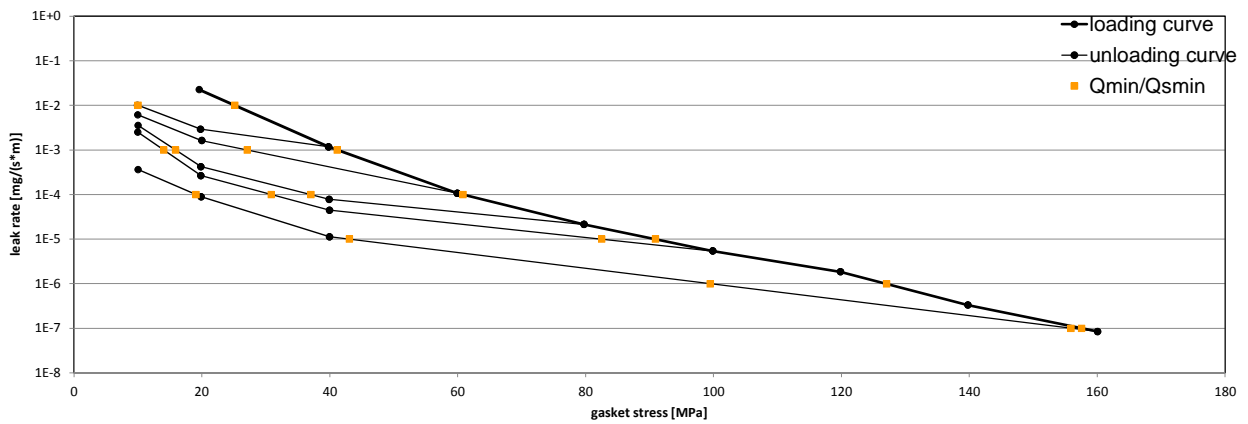
L [mg/(s*m)]	Q _{min/L} [MPa]	Minimum stress to seal Q _{min/L} (at assembly), Q _{Smin/L} (after off-loading) for p = 40 bar								
		Q _{Smin/L} [MPa]								
		Q _A = 20 MPa	Q _A = 40 MPa	Q _A = 60 MPa	Q _A = 80 MPa	Q _A = 100 MPa	Q _A = 120 MPa	Q _A = 140 MPa	Q _A = 160 MPa	
10 ⁰	10	9	9	9	9	9			9	
10 ⁻¹	10	9	9	9	9	9			9	
10 ⁻²	19	19	9	9	9	9			9	
10 ⁻³	32		21	13	10	9			9	
10 ⁻⁴	50			41	24	18			11	
10 ⁻⁵	77				72	47			22	
10 ⁻⁶	113								58	
10 ⁻⁷	149								139	



Company Address	Kempchen Dichtungstechnik GmbH, Im Waldteich 21, 46147 Oberhausen, Germany
Gasket Type	Grooved gasket B7A / B9A / B15A Graphite (1.4541 / 0,5 mm; D = 1,0g/cm ³)
Sealing element dimensions [mm]	53 / 69 x 92 x 4,90 (WN 145 / DIN1514-6)

L [mg/(s*m)]	Q _{min/L} [MPa]	Minimum stress to seal Q _{min/L} (at assembly), Q _{Smin/L} (after off-loading) for p = 80 bar									
		Q _{Smin/L} [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			
10 ⁰	20	20	20	20	20			20			
10 ⁻¹	20	20	20	20	20			20			
10 ⁻²	25	10	20	20	20			20			
10 ⁻³	41		27	16	14			20			
10 ⁻⁴	61			37	31			19			
10 ⁻⁵	91				83			43			
10 ⁻⁶	127							99			
10 ⁻⁷	158							156			

Leakage - ambient temperature / inner pressure = 80 bar



Note: the content of darkened cells was not determined respectively is unnecessary

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Center of Sealing Technologies, Bürgerkamp 3, 48565 Steinfurt, Germany

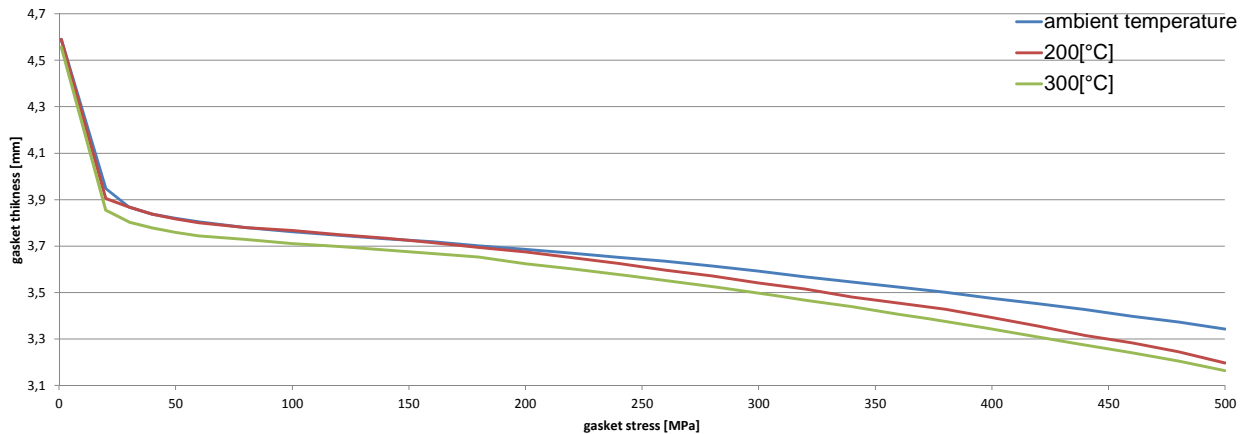
Company Address	Kempchen Dichtungstechnik GmbH, Im Waldteich 21, 46147 Oberhausen, Germany
Gasket Type	Grooved gasket B7A / B9A / B15A Graphite (1.4541 / 0,5 mm; D = 1,0g/cm ³)
Sealing element dimensions [mm]	53 / 69 x 92 x 4,90 (WN 145 / DIN1514-6)

Relaxation ratio P_{QR} for stiffness $C = 500$ kN/mm				
Gasket stress [MPa]	ambient temperature	temperature 1 [200 °C]	temperature 2 [300 °C]	
Stress level 1 [50 MPa]	0,98	0,81	0,91	
Stress level 2 [90 MPa]	0,99	0,99	0,84	
PQR at Q_{Smax}	0,99 at 480 MPa	0,95 at 480 MPa	0,94 at 480 MPa	

Maximal applicable gasket stress Q_{Smax}			
Q_{Smax} [MPa] ambient temperature	Q_{Smax} [MPa] – temperature 1 [200 °C]	Q_{Smax} [MPa] – temperature 2 [300 °C]	
480	480	480	

Sekant unloading modulus of the gasket E_G [MPa] and gasket thickness e_G [mm]						
Gasket stress [MPa]	ambient temperature		temperature 1 [200 °C]		temperature 2 [300 °C]	
	E_G [MPa]	e_G [mm]	E_G [MPa]	e_G [mm]	E_G [MPa]	e_G [mm]
0						
1		4,590		4,590		4,557
20	2952	3,948	2038	3,905	1738	3,854
30	3391	3,868	3583	3,868	3258	3,803
40	4886	3,837	5725	3,838	6029	3,779
50	6967	3,820	6469	3,817	6378	3,760
60	8671	3,805	7746	3,800	7160	3,744
80	8763	3,780	9820	3,780	11041	3,729
100	10132	3,762	13752	3,767	9842	3,711
120	11388	3,746	11489	3,749	10984	3,698
140	12052	3,732	12236	3,735	13372	3,683
160	15263	3,719	12395	3,716	16543	3,668
180	14819	3,702	13248	3,694	17982	3,653
200	14991	3,686	16409	3,675	12889	3,624
220	17937	3,670	15927	3,651	17490	3,602
240	17722	3,652	15776	3,625	18291	3,578
260	19002	3,635	14811	3,597	17200	3,552
280	19357	3,615	16778	3,572	16932	3,526
300	17809	3,592	16302	3,542	15605	3,497
320	17527	3,568	17679	3,516	17608	3,468
340	19876	3,546	16467	3,481	19769	3,440
360	20060	3,524	18640	3,455	17226	3,406
380	20662	3,502	22775	3,429	17734	3,376
400	18344	3,475	18925	3,393	18535	3,344
420	19573	3,453	19208	3,356	17377	3,309
440	22384	3,428	16402	3,316	18796	3,274
460	18620	3,399	19192	3,284	19311	3,242
480	18468	3,373	20796	3,246	19553	3,205

Gasket thickness e_G



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