

Company Address	Klinger GmbH, Rich.-Klinger-Straße 37, 65510 Idstein
Gasket Type	KLINGERSIL® C-4500
Thickness e <sub>GO</sub> [mm]	2 mm

Minimum stress to seal $Q_{min/L}$ (at assembly), $Q_{Smin/L}$ (after off-loading) for p = 10 bar									
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]
10 <sup>-0</sup>									
10 <sup>-1</sup>		7	<5	<5	<5	<5	<5		
10 <sup>-2</sup>	18		8	<5	<5	<5	<5		
10 <sup>-3</sup>	28			7	<5	<5	<5		
10 <sup>-4</sup>	40			38	8	<5	<5		
10 <sup>-5</sup>	55				30	11	8		
10 <sup>-6</sup>	79					67	35		
10 <sup>-7</sup>									
10 <sup>-8</sup>									

Minimum stress to seal $Q_{min/L}$ (at assembly), $Q_{Smin/L}$ (after off-loading) for p = 40 bar									
L [mg/(s*m)]	$Q_{min/L}$ [MPa]	$Q_{Smin/L}$ [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 <sup>-0</sup>									
10 <sup>-1</sup>	18	<10	<10	<10	<10	<10			
10 <sup>-2</sup>	26		<10	<10	<10	<10			
10 <sup>-3</sup>	34		13	<10	<10	<10			
10 <sup>-4</sup>	44			<10	<10	<10			
10 <sup>-5</sup>	56			35	16	12			
10 <sup>-6</sup>	94								
10 <sup>-7</sup>									
10 <sup>-8</sup>									

Relaxation ratio $P_{QR}$ for stiffness $C = 500$ kN/mm						
Gasket stress [MPa]	t <sub>room</sub> [20 °C]	t 1 [100 °C]	t 2 [175 °C]	t 3 [200 °C]	t 4 [250 °C]	t 5 [300 °C]
Stress level 1 [ 25 MPa]		0,85	0,78	0,8	0,73	0,57
Stress level 2 [ 40 MPa]		0,88	0,86	0,86	0,8	0,69
$Q_{Smax}$ [200 MPa]		0,87	0,79	0,8	0,77	0,74

Maximal applicable gasket stress $Q_{Smax}$					
$Q_{Smax}$ [MPa] – ambient temperature	$Q_{Smax}$ [MPa] – temperature 1 [100 °C]	$Q_{Smax}$ [MPa] – temperature 2 [175 °C]	$Q_{Smax}$ [MPa] – temperature 3 [200 °C]	$Q_{Smax}$ [MPa] – temperature 4 [250 °C]	$Q_{Smax}$ [MPa] – temperature 5 [300 °C]
> 200	> 200	> 200	> 200	> 200	> 200

Sekant unloading modulus of the gasket $E_c$ [MPa]						
Gasket stress [MPa]	t <sub>room</sub> [20 °C]	t 1 [100 °C]	t 2 [175 °C]	t 3 [200 °C]	t 4 [250 °C]	t 5 [300 °C]
20	1018	1813	1560	1826	1998	2620
30	1712	1752	2487	2730	3257	4440
40	1831	2009	2604	2766	3162	4295
50	2344	2117	3221	2767	3261	5312
60	3050	3115	3180	2898	3899	3883
80	4621	3755	3669	3236	3511	4850
100	4764	3587	4187	3831	4006	4559
120	4393	4260	3445	3967	4125	5029
140	4914	4897	4503	3920	4065	5054
160	5578	4757	4314	4394	4214	5726
180			4447	3914	4786	5665
200						6071
220						
225						

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

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