LABORATORY OF SEALING MATERIALS
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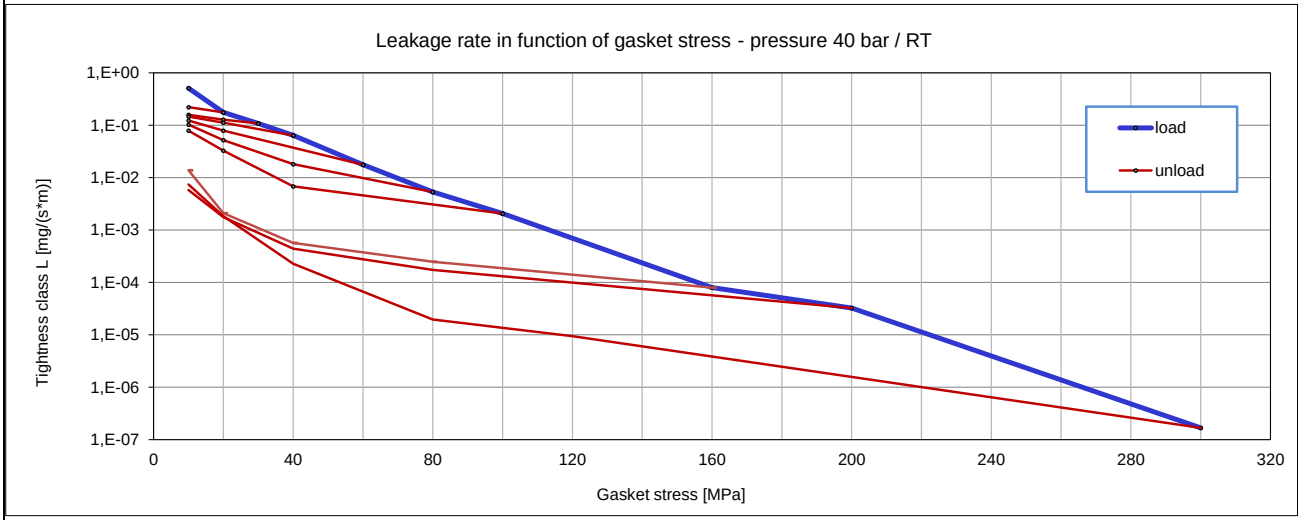
Company	**SPETECH sp. z o.o.**		
Gasket Type	**SPETORING LENS W.Nr 1.7362**		
Dimensions [mm]	**DN50 PN63**		
Stiffness (kN/mm)	**500**		
Calculation type EN 1591-1	**c) lens gasket;**	**DIN 2696**	**lenticular**
Notes:			

Factors acc. to EN 13555 to use in calculation standard EN 1591-1:2009/ :2013

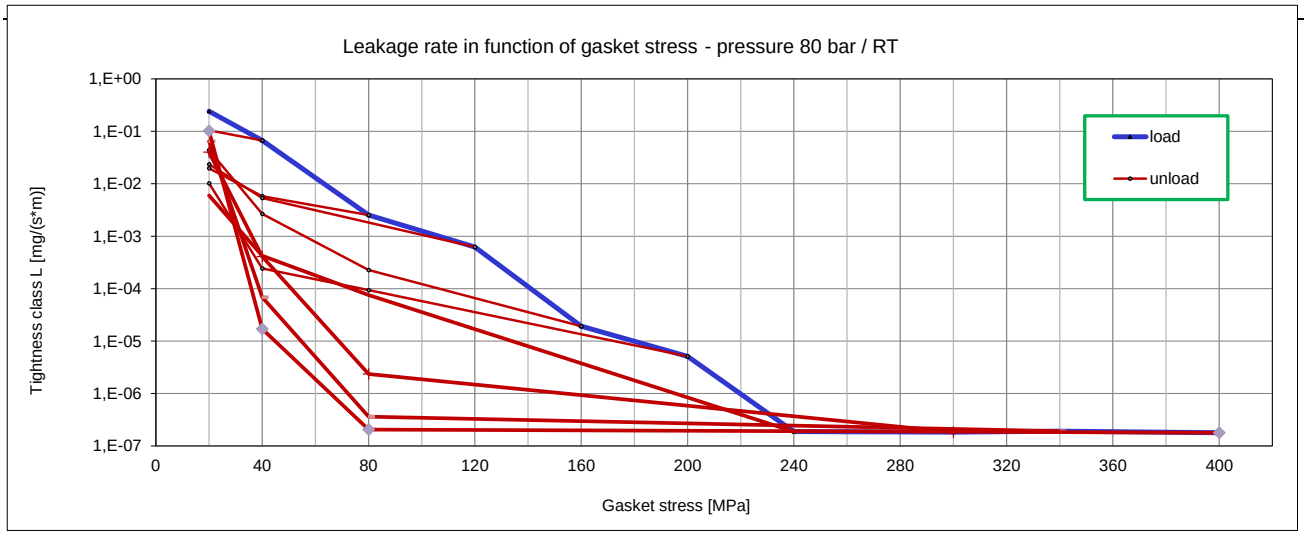
Minimum level of surface pressure required for leakage rate class L on assembly Qmin/L and after off-loading QSmin/L at room temperature (RT)

Internal pressure [bar]	**40**											
L [mg/(s*m)]	$Q_{min/L}$ [MPa]	$Q_{Smin/L}$ [MPa] for effective gasket stress										
		Q_A =20 [MPa]	Q_A = 30 [MPa]	Q_A = 40 [MPa]	Q_A = 60 [MPa]	Q_A = 80 [MPa]	Q_A = 100 [MPa]	Q_A = 160 [MPa]	Q_A = 200 [MPa]	Q_A = 300 [MPa]		
10^{-0}	10	10	10	10	10	10	10	10	10	10		
10^{-1}	**32**			**24**	**15**	**11**	10	10	10	10		
10^{-2}	**70**					**60**	**35**	**12**	10	10		
10^{-3}	**113**							**32**	**38**	**26**		
10^{-4}	**157**							**145**	**120**	**53**		
10^{-5}	**223**									**117**		
10^{-6}	**267**									**220**		
10^{-7}												



Minimum level of surface pressure required for leakage rate class L on assembly Qmin/L and after off-loading QSmin/L at room temperature (RT)

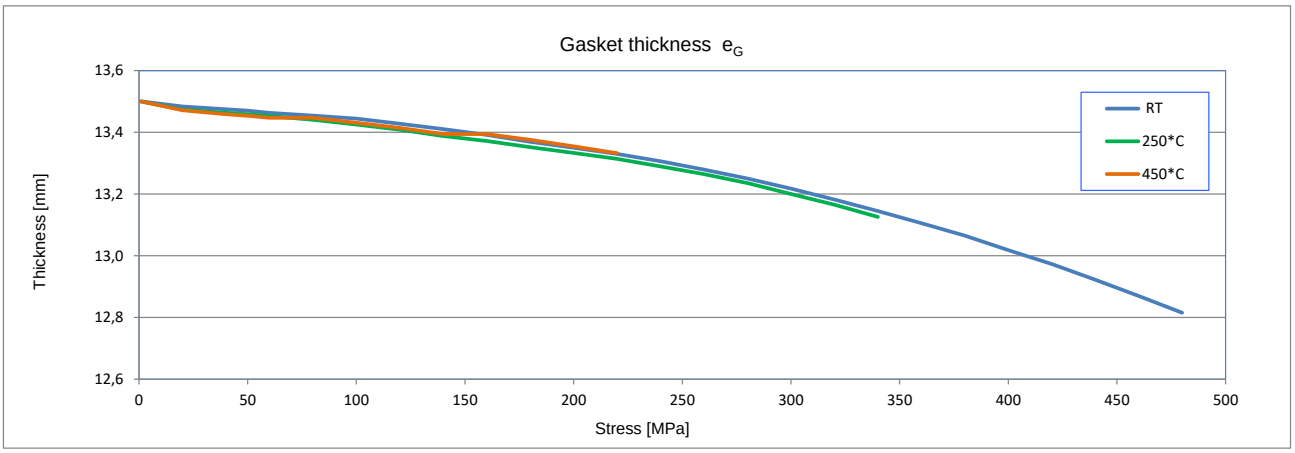
Internal pressure [bar]	**80**										
L [mg/(s*m)]	$Q_{min/L}$ [MPa]	$Q_{Smin/L}$ [MPa] for effective gasket stress									
		Q_A = 20 [MPa]	Q_A = 40 [MPa]	Q_A = 80 [MPa]	Q_A = 120 [MPa]	Q_A = 160 [MPa]	Q_A = 200 [MPa]	Q_A = 240 [MPa]	Q_A = 300 [MPa]	Q_A = 340 [MPa]	Q_A = 400 [MPa]	
10^{-0}	20		20	20	20	20	20	20	20	20	20	
10^{-1}	**33**		**22**	20	20	20	20	20	20	20	20	
10^{-2}	**63**			**32**	**31**	**31**	20	20	**26**	**25**	**25**	
10^{-3}	**107**				**102**	**56**	**32**	**33**	**37**	**32**	**31**	
10^{-4}	**141**					**106**	**78**	**52**	**51**	**38**	**36**	
10^{-5}	**180**						**172**	**68**	**68**	**55**	**45**	
10^{-6}	**220**							**154**	**155**	**72**	**66**	
10^{-7}												



Temperature	RT					
Gasket stress	E_G	eG	C=500 kN/mm		Q_{smax}	μ_G
			P_{QR}	Δ_{eGc}		
[MPa]	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		13,500				
20		13,484				
30		13,479				
40		13,475				
50		13,470	0,99	0,001		
60		13,463				
80		13,454				
100		13,445	0,99	0,003		
120		13,428				
140		13,410				
160		13,392				
180		13,369				
200		13,350				
220	214000	13,330			**480**	not applicable
240		13,306				
260		13,279				
280		13,250				
300		13,217				
320		13,182				
340		13,145				
360		13,105				
380		13,065				
400		13,018				
420		12,973				
440		12,922				
460		12,870				
480		12,815	0,99	0,014		

Temperature	250*C					
Gasket stress	E_G	eG	C= 500 kN/mm		Q_{smax}	μ_G
			P_{QR}	Δe_{Gc}		
[MPa]	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		13,500				
20		13,474				
30		13,468				
40		13,463				
50		13,458	0,90	0,013		
60		13,453				
80		13,441				
100		13,425	0,93	0,018		
120		13,408				
140		13,388				
160	198500	13,372			**360**	not applicable
180		13,352				
200		13,333				
220		13,314				
240		13,290				
260		13,264				
280		13,235				
300		13,200				
320		13,166				
340		13,126				
360		13,166	0,94	0,053		

Temperature	450*C					
Gasket stress	E_G	e_G	C= 500 kN/mm		Q_{smax}	μ_G
			P_{QR}	Δe_{Gc}		
[MPa]	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		13,500				
20		13,472				
30		13,465				
40		13,459				
50		13,453	0,83	0,022		
60		13,447				
80		13,447				
100	174000	13,431	0,86	0,035	**240**	not applicable
120		13,414				
140		13,394				
160		13,394				
180		13,375				
200		13,354				
220		13,332				
240		13,307	0,88	0,074		


Gasket thickness e_G
Thickness [mm]
13,6
13,4
13,2
13,0
12,8
12,6
0
50
100
150
200
250
300
350
400
450
500
Stress [MPa]
RT
250*C
450*C