

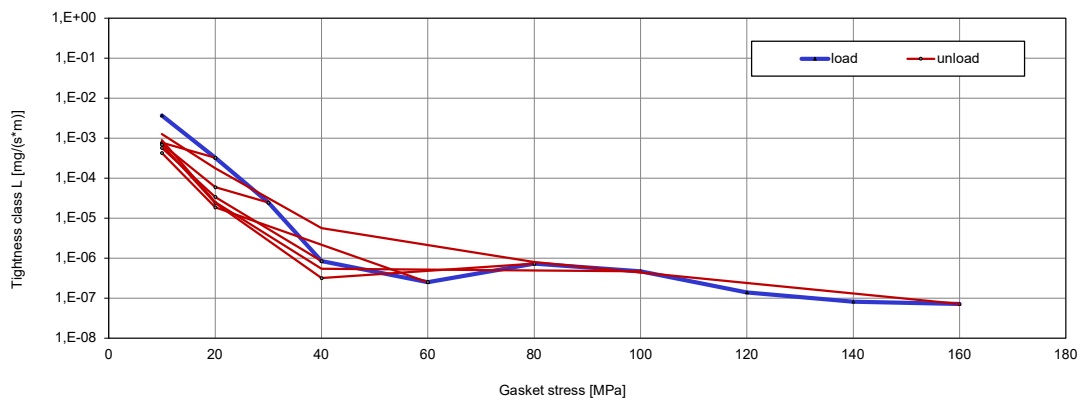
		LABORATORY OF SEALING MATERIALS 43-382 Bielsko-Biala, ul. Szyprów 17 tel. +48 33 8184133 e-mail: lbmu@spetech.com.pl www.laboratory.spetech.eu			 LBQ-12482-25
Company		SPETECH sp. z o.o.			
Gasket Type		SPETOMET® FEB FGC 316L			 TÜV Rheinland CERTIFIED DE BGR PL7 2.0005.05
Dimensions [mm]		85,9 x 56,4 x 4			
Calculation type EN 1591-1		a) flat gasket;			
Notes:	Rev. 0 (22.12.2025)				

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 $Q_{min/L}$ and after off-loading $Q_{Smin/L}$ 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]	$Q_A = 120$ [MPa]	$Q_A = 140$ [MPa]	$Q_A = 160$ [MPa]	
10^{-0}	10	10	10	10	10	10	10			10	
10^{-1}	10	10	10	10	10	10	10			10	
10^{-2}	10	10	10	10	10	10	10			10	
10^{-3}	15	10	10	10	10	10	10			11	
10^{-4}	24		18	16	15	16	16			23	
10^{-5}	33			27	26	24	25			37	
10^{-6}	40			39	47	35	37			75	
10^{-7}	133									150	
10^{-8}											

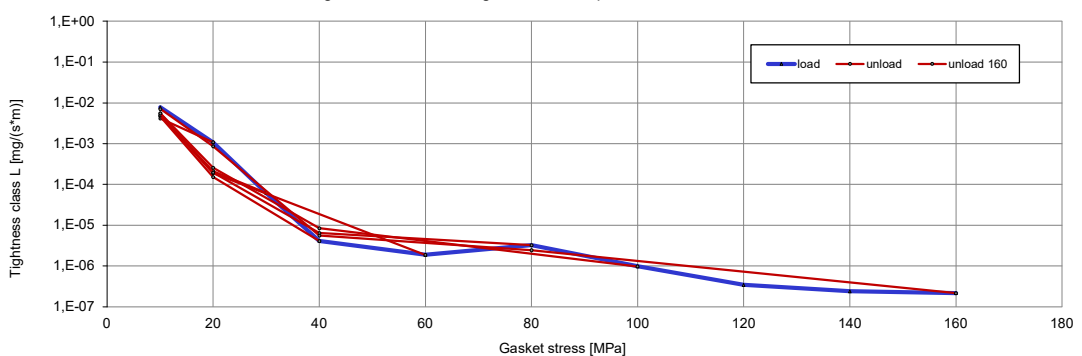
Leakage rate in function of gasket stress - pressure 40 bar He / RT



Minimum level of surface pressure required for leakage rate class L on assembly $Q_{min/L}$ and after off-loading $Q_{Smin/L}$ 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]	$Q_A = 30$ [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	10	10	10	10	10	10			10	
10^{-1}	10	10	10	10	10	10	10			10	
10^{-2}	10	10	10	10	10	10	10			10	
10^{-3}	21		15	15	15	15	15			19	
10^{-4}	29		26	23	26	24	26			29	
10^{-5}	37			35	45	37	39			38	
10^{-6}	100									110	
10^{-7}											

Leakage rate in function of gasket stress - pressure 80 bar He / RT



Temperature RT								
Gasket stress	E _G	e _G	C=500 kN/mm		C=1500 kN/mm		Q _{smax}	μ _G
			P _{QR}	Δe _{Gc}	P _{QR}	Δe _{Gc}		
[MPa]	[MPa]	[mm]	[-]	[μm]	[-]	[μm]	[MPa]	[-]
1		3,505					300	0,10
10	787	2,951						
20	1651	2,714						
30	3276	2,614	0,97	6				
40	4428	2,582						
50	6147	2,562	0,98	5				
60	7902	2,546						
80	11996	2,523						
100	17639	2,507	0,99	6				
120	23484	2,492						
140	26202	2,477						
160	28705	2,463						
180	33353	2,452						
200	35834	2,439						
220	41010	2,428						
240	42142	2,416						
260	43424	2,404						
280	44648	2,398						
300	44602	2,389	0,99	14				
Temperature 200°C								
Gasket stress	E _G	e _G	C=500 kN/mm		C=1500 kN/mm		Q _{smax}	μ _G
			P _{QR}	Δe _{Gc}	P _{QR}	Δe _{Gc}		
[MPa]	[MPa]	[mm]	[-]	[μm]	[-]	[μm]	[MPa]	[-]
1		3,456					300	0,10
10	1088	2,842						
20	2404	2,625						
30	4633	2,558	0,85	29				
40	9077	2,534						
50	14976	2,516	0,93	23				
60	22422	2,503						
80	31251	2,483						
100	38260	2,464	0,95	31				
120	39968	2,447						
140	39854	2,431						
160	40939	2,417						
180	41909	2,404						
200	44410	2,391						
220	49334	2,380						
240	50434	2,368						
260	52080	2,357						
280	58790	2,346						
300	56722	2,339	0,98	46				
Temperature 400°C								
Gasket stress	E _G	e _G	C=500 kN/mm		C=1500 kN/mm		Q _{smax}	μ _G
			P _{QR}	Δe _{Gc}	P _{QR}	Δe _{Gc}		
[MPa]	[MPa]	[mm]	[-]	[μm]	[-]	[μm]	[MPa]	[-]
1		3,468					120	0,10
10	926	2,822						
20	1 762	2,595						
30	3 598	2,536	0,86	27				
40	7 738	2,516						
50	11 655	2,502	0,91	31				
60	21 060	2,493						
80	43 426	2,475						
100	84 366	2,458	0,93	43				
120	88 858	2,441	0,95	42				
Description: E _G Modulus of elasticity Q _{smax} Maximum surface pressure e _G Gasket or sealing element thickness μ _G Static friction factor (based on EN1591-1:2014 Annex E) P _{QR} Creep relaxation factor C Stiffness Δe _{Gc} Gasket thickness change due to creep								

