

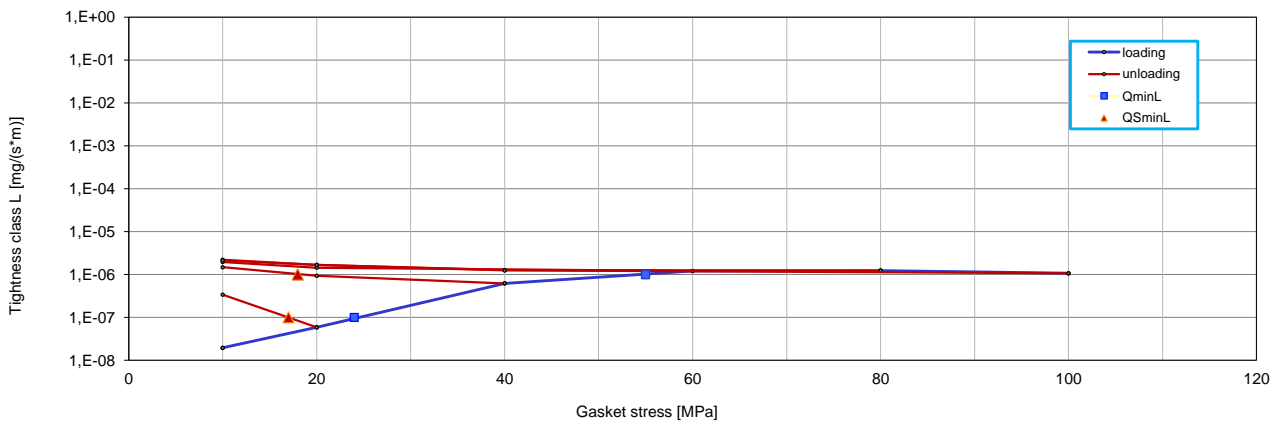
Company	SPETECH sp. z o.o.
Gasket Type	SPETOFLON® FU MPL® 12
Dimensions [mm]	92 x 50 x 2
Calculation type EN 1591-1	a) flat gasket; EN 1514-1

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 QSmín/L at room temperature (RT)

Internal pressure [bar]		10											
L [mg/(s*m)]	Q _{min/L} [MPa]	Q _{Smin/L} [MPa] for effective gasket stress											
		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	10		10	10	10	10	10						
10 ⁻¹	10		10	10	10	10	10						
10 ⁻²	10		10	10	10	10	10						
10 ⁻³	10		10	10	10	10	10						
10 ⁻⁴	10		10	10	10	10	10						
10 ⁻⁵	10		10	10	10	10	10						
10 ⁻⁶	55		10	18									
10 ⁻⁷	24												

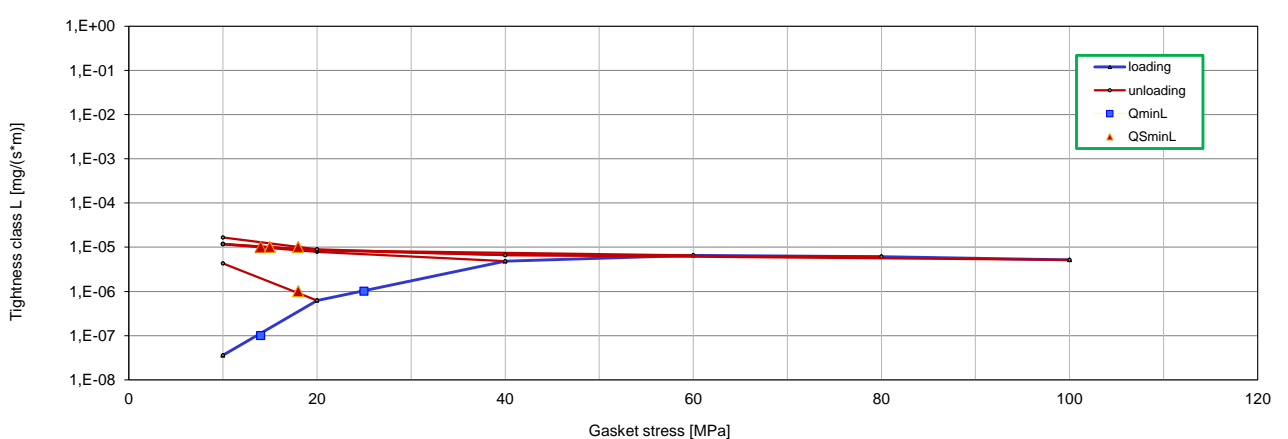
Leakage rate as a function of gasket stress - pressure 10 bar / RT



Minimum level of surface pressure required for leakage rate class L on assembly Qmin/L and after off-loading QSmín/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 = 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	10		10	10	10	10	10						
10 ⁻¹	10		10	10	10	10	10						
10 ⁻²	10		10	10	10	10	10						
10 ⁻³	10		10	10	10	10	10						
10 ⁻⁴	10		10	10	10	10	10						
10 ⁻⁵	10		10	14	15	15	18						
10 ⁻⁶	25		18										
10 ⁻⁷	14												

Leakage rate as a function of gasket stress - pressure 40 bar / RT



Parameters at RT						
Gasket stress [MPa]	Unloading modulus of elasticity EG	Gasket or sealing element thickness e_G	Creep relaxation factor P_{QR}	Gasket thickness change due to creep Δe_{Gc}	Maximum surface pressure Q_{smax}	Static friction factor μ_G
	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		2,177			100	0,05
15			0,89	0,014		
20	881	1,578				
30	1712	1,554	0,97	0,008		
40	2383	1,540				
50	2915	1,522	0,94	0,025		
60	3377	1,483				
80	4352	1,367				
100	4241	1,277	0,90	0,084		

Parameters at 100°C						
Gasket stress [MPa]	Unloading modulus of elasticity EG	Gasket or sealing element thickness e_G	Creep relaxation factor P_{QR}	Gasket thickness change due to creep Δe_{Gc}	Maximum surface pressure Q_{smax}	Static friction factor μ_G
	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		2,182			50	0,05
15			0,69	0,04		
20	1774	1,396				
30	2454	1,250	0,52	0,121		
40	2856	1,131				
50	3144	1,039	0,43	0,239		

Parameters at 175°C						
Gasket stress [MPa]	Unloading modulus of elasticity EG	Gasket or sealing element thickness e_G	Creep relaxation factor P_{QR}	Gasket thickness change due to creep Δe_{Gc}	Maximum surface pressure Q_{smax}	Static friction factor μ_G
	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		2,185			40	0,05
15			0,45	0,069		
20	1214	1,115				
30	1528	0,995	0,33	0,169		
40	1796	0,931	0,30	0,235		

Parameters at 250°C						
Gasket stress [MPa]	Unloading modulus of elasticity EG	Gasket or sealing element thickness e_G	Creep relaxation factor P_{QR}	Gasket thickness change due to creep Δe_{Gc}	Maximum surface pressure Q_{smax}	Static friction factor μ_G
	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		2,145			30	0,05
15			0,31	0,087		
20	813	0,969				
30	1026	0,888	0,23	0,194		

Factors acc. to EN 13555 to use in calculation standard EN 1591-1:2001

T [°C]	Q _{min} [MPa]	Q _{max, ref} [MPa]	E ₀ [MPa]	K ₁	Q/P	g _c	c ₁
0...20	10	50	600	20	1,3	1,0	
100	-	35	500	20	1,3	0,9	
200	-	20	400	20	1,3	0,8	
bGref [mm]	19,0		eGref [mm]		2,2		

Factors acc. to:

EN 13445-3 : Unfired pressure vessels - Part 3: Design
 EN 13480-3:2002 Metallic industrial piping - Part 3: Design and calculation
 ASME Code s. VIII Boiler & Pressure Vessel Code

m	y [psi]	y [MPa]
2,50	2100	14,5

[o_{max} - see maximal applicable gasket stress Q_{max} acc. EN 1591-1:2009/2013](#)

Factors acc. to:

AD 2000-Merkblatt B7 August 2007

k ₀ k _D [N/mm]	k ₁ [mm]	k ₀ k _θ [N/mm]
18*b _D	2*b _D	

[o_{max} - see maximal applicable gasket stress Q_{max} acc. EN 1591-1:2009/2013](#)

Factors acc. to:

WUDT-UC-WO-O/19

σ _m [MPa]	σ _r [MPa]	b [1]		
		20oC	100oC	200oC
13,5	5*p ₀	1,1	1,8	2,6

[o_{max} - see maximal applicable gasket stress Q_{max} acc. EN 1591-1:2009/2013](#)

Factors acc. to:

ASTM F36-2003 Standard Test Method for Compressibility and Recovery of Gasket Materials
 Procedure J

Compressibility [%]	Recovery [%]
-	-

Factors acc. to:

ASTM F38-00 Standard Test Methods for Creep Relaxation of a Gasket Material (Method B)

Temperature [°C]	Creep Relaxation [%]
20	-
100	-
200	-

Factors acc. to:

EN 61340-2-3 Electrostatics - Part 2-3: Methods of test for determining the resistance and resistivity of solid planar materials used to avoid electrostatic charge accumulation

Surface resistance R _s at U=10V	[Ω]	-
Volume resistance R _v at U=10V	[Ω]	-
Surface resistivity ρ _s at U=10V	[Ω]	-
Volume resistivity ρ _v at U=10V	[Ωm]	-