

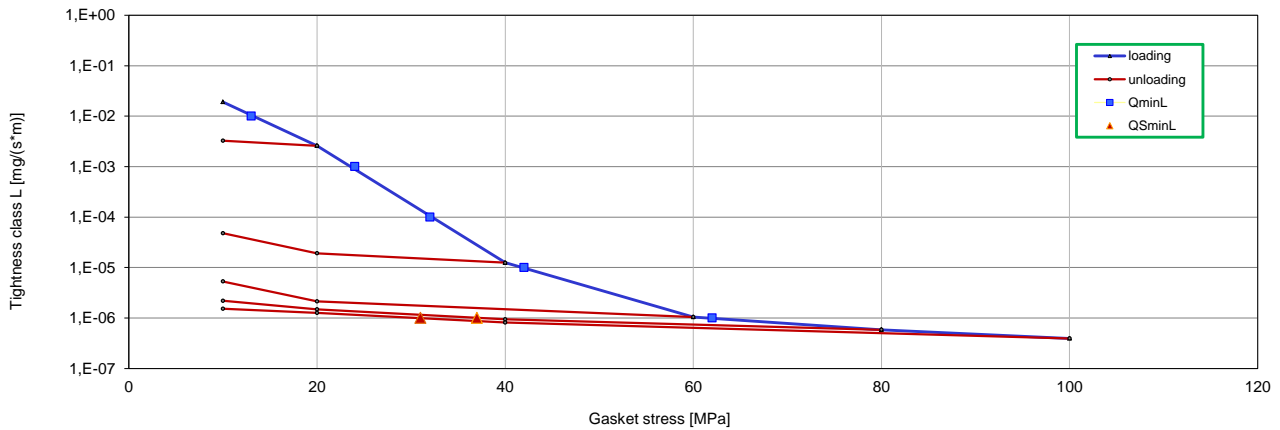
Company	SPETECH sp. z o.o.
Gasket Type	SPETOBAR® BAS® 358
Dimensions [mm]	92 x 49 x 2
Calculation type EN 1591-1	a) flat gasket; EN 1514-1

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 $Q_{min/L}$ and after off-loading $Q_{Smin/L}$ at room temperature (RT)

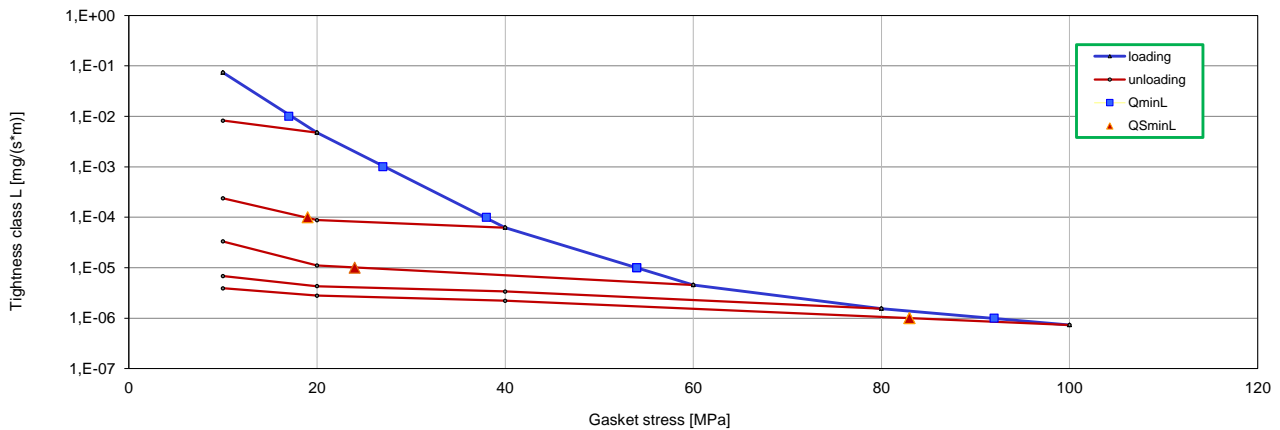
Internal pressure [bar]		10											
L [mg/(s*m)]	$Q_{min/L}$ [MPa]	$Q_{Smin/L}$ [MPa] for effective gasket stress											
		$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]	$Q_A = 100$ [MPa]	$Q_A = 120$ [MPa]	$Q_A = 140$ [MPa]	$Q_A = 160$ [MPa]			
10^{-0}	10		10	10	10	10	10						
10^{-1}	10		10	10	10	10	10						
10^{-2}	13		10	10	10	10	10						
10^{-3}	24			10	10	10	10						
10^{-4}	32				10	10	10						
10^{-5}	42					10	10						
10^{-6}	62						37	31					

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 $Q_{min/L}$ 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											
		$Q_A = 10$ [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}	17		10	10	10	10	10						
10^{-3}	27			10	10	10	10						
10^{-4}	38				19	10	10						
10^{-5}	54					24	10						
10^{-6}	92							83					

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



Parameters at RT						
Gasket stress [MPa]	Unloading modulus of elasticity EG [MPa]	Gasket or sealing element thickness e _G [mm]	Creep relaxation factor P _{QR} [-]	Gasket thickness change due to creep Δe _{Gc} [mm]	Maximum surface pressure Q _{smax} [MPa]	Static friction factor μ _G [-]
1		1,911			200	0,25
20	1034	1,741				
30	1575	1,708	0,93	0,018		
40	2139	1,683				
50	2721	1,662				
60	3211	1,644	0,96	0,020		
80	3926	1,614				
100	4363	1,584				
120	4723	1,556				
140	5049	1,529				
160	5283	1,503				
180	5458	1,477				
200	5489	1,452	0,97	0,050		

Parameters at 100°C						
Gasket stress [MPa]	Unloading modulus of elasticity EG [MPa]	Gasket or sealing element thickness e _G [mm]	Creep relaxation factor P _{QR} [-]	Gasket thickness change due to creep Δe _{Gc} [mm]	Maximum surface pressure Q _{smax} [MPa]	Static friction factor μ _G [-]
1		1,897			60	0,25
20	1171	1,669				
30	1885	1,618	0,73	0,068		
40	2487	1,555				
50	2889	1,477				
60	3235	1,393	0,63	0,186		

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	35	80	500	20	1,6	-	0,05
100	-	70	500	20	1,6	-	-

b _{Gref} [mm]	19,5	e _{Gref} [mm]	1,9
------------------------	------	------------------------	-----

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]
2,0	2900	20

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

Factors acc. to:

AD 2000-Merkblatt B7 August 2007

k ₀ k ₀ [N/mm]	k ₁ [mm]	k ₀ k ₀ [N/mm]
15*b _D	1,4*b _D	

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

Factors acc. to:

WUDT-UC-WO-0/19

σ _m [MPa]	σ _r [MPa]	b [1]		
		20oC	100oC	
20,4	4*p ₀	1,0	1,4	

[Q_{max} - see maximal applicable gasket stress Q_{smax} 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 [%]

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]	