

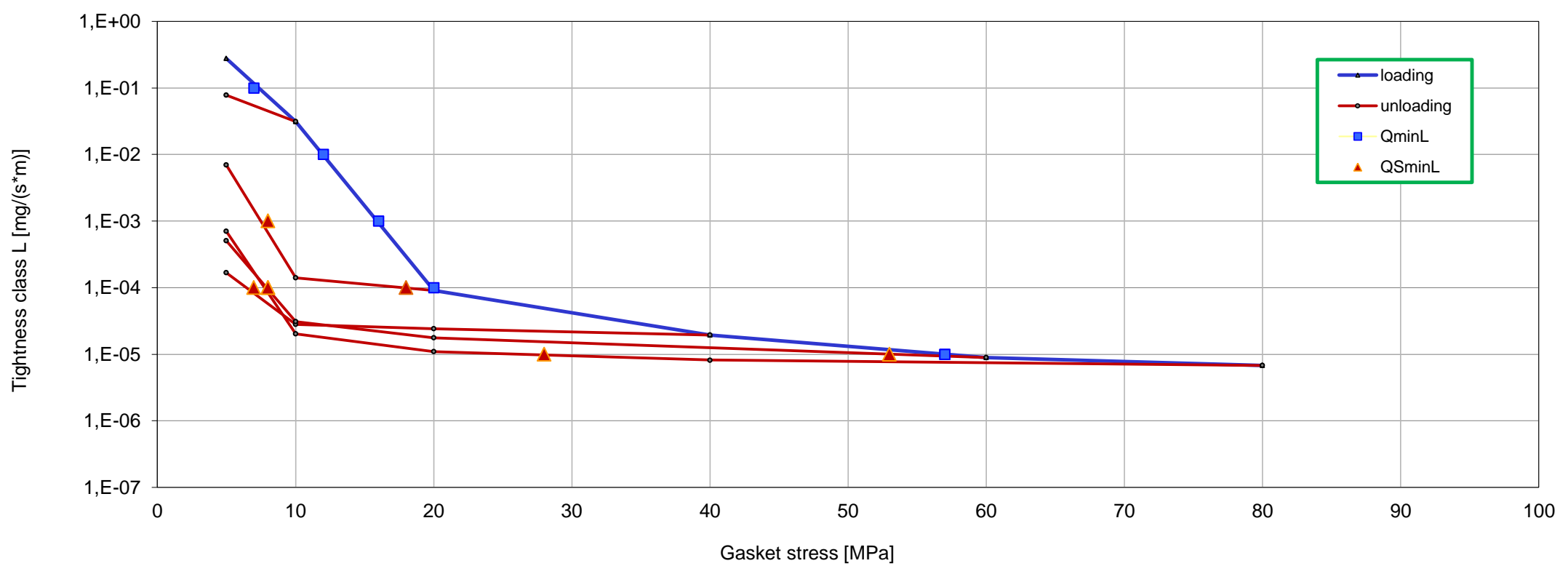
Company	SPETECH sp. z o.o.
Gasket Type	SPETOFLON® FL 160
Dimensions [mm]	92 x 49 x 3
Calculation type EN 1591-1	a) flat gasket; EN 1514-1

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]	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}	5	5	5	5	5	5							
10^{-1}	7	5	5	5	5	5							
10^{-2}	12		5	5	5	5							
10^{-3}	16		8	5	5	5							
10^{-4}	20		18	7	8	8							
10^{-5}	57				53	28							
10^{-6}													

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


Parameters at RT

Gasket stress [MPa]	Unloading modulus of elasticity	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]					
1		2,835			80	0,05
20	2408	2,737				
30	3101	2,665	0,81	0,048		
40	3738	2,468				
50	4094	2,246	0,72	0,115		
60	4546	2,069				
80	5539	1,799	0,71	0,191		

Parameters at 150°C

Gasket stress [MPa]	Unloading modulus of elasticity	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]					
1		2,857			50	0,05
20	919	1,588				
30	1278	1,251	0,27	0,183		
40	1593	1,088				
50	1979	0,986	0,22	0,323		

Parameters at 230°C

Gasket stress [MPa]	Unloading modulus of elasticity	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]					
1		2,820			40	0,05
20	678	1,278				
30	902	1,054	0,17	0,206		
40	1127	0,934	0,15	0,284		

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 _i /P	g _c	c ₁
0...20	10	50	600	20	1,3	0,9	0,00
100	-	35	500	20	1,3	0,7	-
200	-	20	400	20	1,3	0,5	-
bGref [mm]		19,5		eGref [mm]		2,8	

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]
2,8	3800	26,2

[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 _D [N/mm]	k ₁ [mm]	k ₀ k _θ [N/mm]
25,0*bD	1,5*bD	*bD

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

Factors acc. to:

WUDT-UC-WO-O/19

σ _m [MPa]	σ _r [MPa]	b [1]		
		20°C	100°C	200°C
26,5	5,5*p0	1,1	1,8	2,6

[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 [%]
6	30

Factors acc. to:

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

Temperature [°C]	Creep Relaxation [%]
20	33
100	79
200	95

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=100V	[Ω]	> 1E12
Volume resistance R _v at U=100V	[Ω]	> 1E12
Surface resistivity ρ _s at U=100V	[Ω]	> 1,1E13
Volume resistivity ρ _v at U=100V	[Ωm]	> 4,95E11