

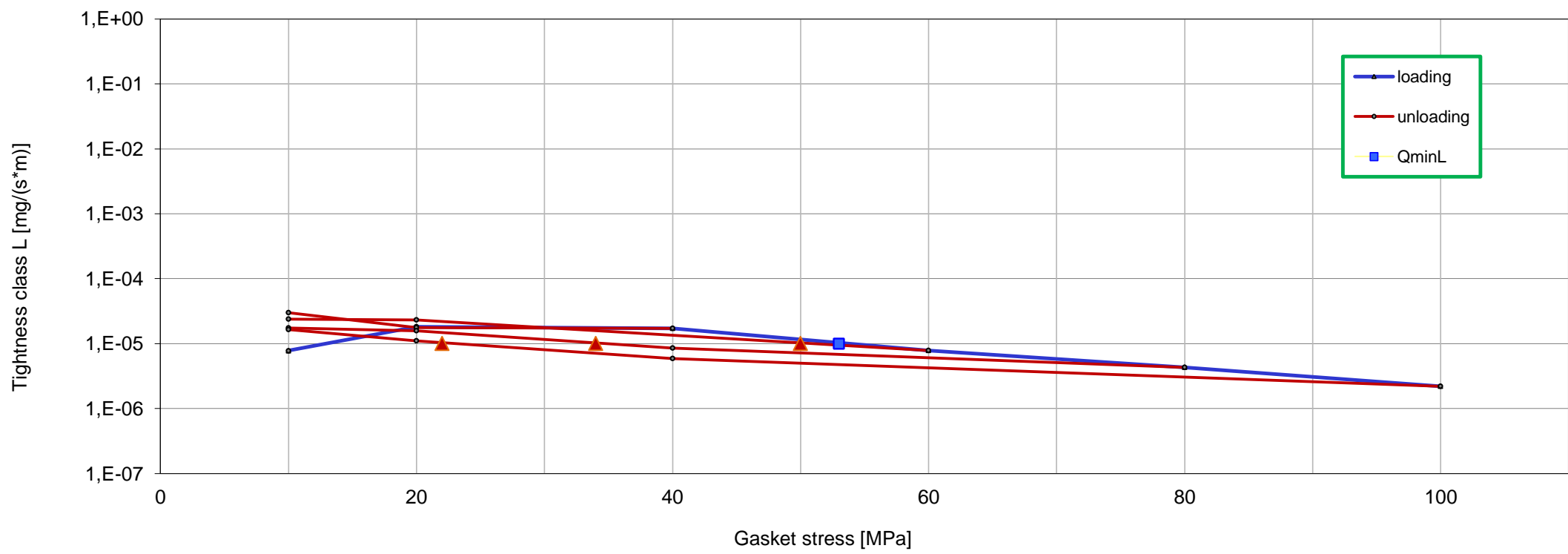
Company	SPETECH sp. z o.o.
Gasket Type	DRYFLEX® PTFE
Dimensions [mm]	70 x 54 x 3,6
Calculation type EN 1591-1	a) flat gasket; EN 1514-6

**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]	<b>40</b>											
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]	$Q_A = 180$ [MPa]	$Q_A = 200$ [MPa]
$10^{-0}$	10				10	10	10					
$10^{-1}$	10				10	10	10					
$10^{-2}$	10				10	10	10					
$10^{-3}$	10				10	10	10					
$10^{-4}$	10				10	10	10					
$10^{-5}$	<b>53</b>				<b>50</b>	<b>34</b>	<b>22</b>					
$10^{-6}$												
$10^{-7}$												

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


**Parameters at RT**

Gasket stress [MPa]	Unloading modulus of elasticity $E_G$ [MPa]	Gasket or sealing element thickness $e_G$ [mm]	Creep relaxation factor $P_{QR}$ [-]	Gasket thickness change due to creep $\Delta e_{Gc}$ [mm]	Maximum surface pressure $Q_{smax}$ [MPa]	Static friction factor $\mu_G$ [-]
1		3,511			200	0,05
20	452	3,120				
30	701	3,092	0,99	0,001		
40	907	3,074				
50	695	3,060				
60	1290	3,049				
80	1541	3,028				
100	1778	3,006	0,99	0,003		
120	2035	2,986				
140	2393	2,968				
160	2666	2,951				
180	2921	2,938				
200	3167	2,925	1,00	0,002		

Parameters at 100°C						
Gasket stress [MPa]	Unloading modulus of elasticity <b>E<sub>G</sub></b>	Gasket or sealing element thickness <b>e<sub>G</sub></b>	Creep relaxation factor <b>P<sub>QR</sub></b>	Gasket thickness change due to creep <b>Δe<sub>Gc</sub></b>	Maximum surface pressure <b>Q<sub>smax</sub></b>	Static friction factor <b>μ<sub>G</sub></b>
	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		3,549			200	0,05
20	709	3,152				
30	1079	3,132	0,88	0,011		
40	1200	3,115				
50	1454	3,099				
60	1558	3,086				
80	1855	3,066				
100	2101	3,050	0,94	0,019		
120	2309	3,033				
140	2602	3,014				
160	2880	2,993				
180	3121	2,970				
200	3331	2,943	0,99	0,006		

Parameters at 250°C						
Gasket stress [MPa]	Unloading modulus of elasticity <b>E<sub>G</sub></b>	Gasket or sealing element thickness <b>e<sub>G</sub></b>	Creep relaxation factor <b>P<sub>QR</sub></b>	Gasket thickness change due to creep <b>Δe<sub>Gc</sub></b>	Maximum surface pressure <b>Q<sub>smax</sub></b>	Static friction factor <b>μ<sub>G</sub></b>
	[MPa]	[mm]	[-]	[mm]	[MPa]	[-]
1		3,569			200	0,05
20	831	3,160				
30	1214	3,131	0,73	0,025		
40	1448	3,108				
50	1768	3,087				
60	1747	3,071				
80	2211	3,048				
100	2376	3,028	0,82	0,056		
120	2812	3,008				
140	3177	2,987				
160	3324	2,967				
180	3884	2,947				
200	4410	2,926	0,98	0,012		

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

T [°C]	Q <sub>min</sub> [MPa]	Q <sub>max, ref</sub> [MPa]	E <sub>0</sub> [MPa]	K <sub>1</sub>	Q <sub>i/P</sub>	g <sub>c</sub>	c <sub>1</sub>
0...20	10	500	16000	-	1,3	0,9	-
100	-	480	16000	-	1,3	0,8	-
200	-	450	16000	-	1,3	0,7	-
300	-	420	16000	-	1,3	0,6	-

b <sub>Gref</sub> [mm]	8,0	e <sub>Gref</sub> [mm]	3,6
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**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]
3,00	2900	20

[σ<sub>max</sub> - see maximal applicable gasket stress Q<sub>smax</sub> acc. EN 1591-1:2009/2013](#)

**Factors acc. to:**

AD 2000-Merkblatt B7 August 2007

k <sub>0</sub> k <sub>D</sub> [N/mm]	k <sub>1</sub> [mm]	k <sub>0</sub> k <sub>θ</sub> [N/mm]
20,0*b <sub>D</sub>	21,1*b <sub>D</sub>	*b <sub>D</sub>

[σ<sub>max</sub> - see maximal applicable gasket stress Q<sub>smax</sub> acc. EN 1591-1:2009/2013](#)

**Factors acc. to:**

WUDT-UC-WO-O/19

σ <sub>m</sub> [MPa]	σ <sub>r</sub> [MPa]	b [1]		
		20°C	100°C	200°C
20,4	5,0*p <sub>0</sub>	1,1	1,1	1,1

[σ<sub>max</sub> - see maximal applicable gasket stress Q<sub>smax</sub> 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 [%]
nda	nda

**Factors acc. to:**

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

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

**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	[ $\Omega$ ]	nda
Volume resistance $R_v$ at U=10V	[ $\Omega$ ]	nda
Surface resistivity $\rho_s$ at U=10V	[ $\Omega$ ]	nda
Volume resistivity $\rho_v$ at U=10V	[ $\Omega m$ ]	nda