

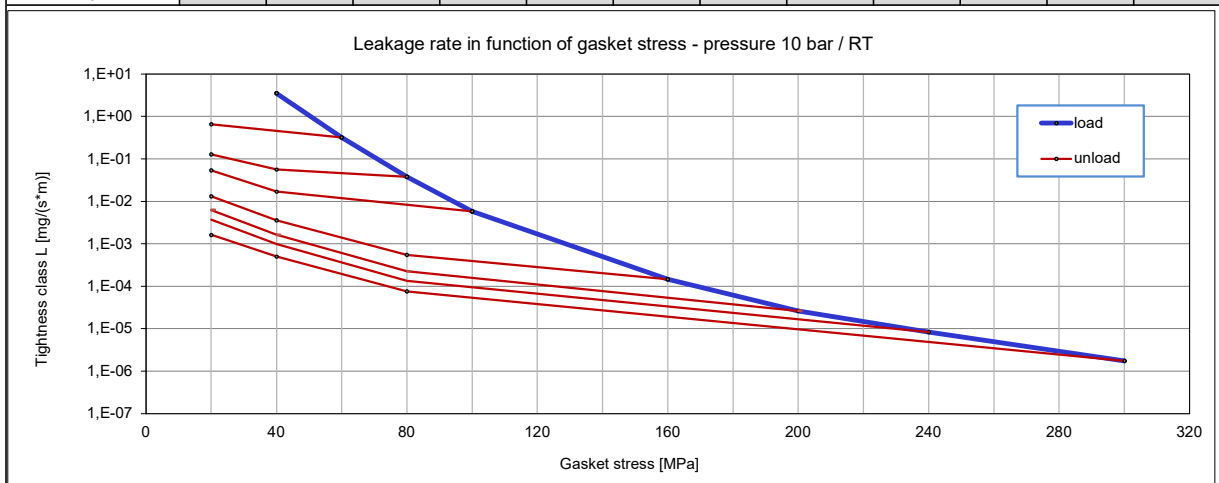
	<b>LABORATORY OF SEALING MATERIALS</b> 43-382 Bielsko-Biala, ul. Szyprow 17 tel. +48 33 8184133 e-mail: lbmu@spetech.com.pl www.laboratory.spetech.eu			 www.tuv.com 250/41/5952  LB - 12402
	Company	SPETECH sp. z o.o.		
Gasket Type	DRYFLEX® TUI 810			
Dimensions [mm]	69 x 53 x 3,6 (DN40 PN40)			
Calculation type EN 1591-1	a) flat gasket;	EN 1514-6	NR	
Notes:	Rev.1 (10-02-2021)			

**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<sub>min/L</sub> and after off-loading Q<sub>Smin/L</sub> at room temperature (RT)

Internal pressure [bar]		10										
L [mg/(s·m)]	Q <sub>min/L</sub> [MPa]	Q <sub>Smin/L</sub> [MPa] for effective gasket stress										
		Q <sub>A</sub> = 60 [MPa]	Q <sub>A</sub> = 80 [MPa]	Q <sub>A</sub> = 100 [MPa]	Q <sub>A</sub> = 160 [MPa]	Q <sub>A</sub> = 200 [MPa]	Q <sub>A</sub> = 240 [MPa]	Q <sub>A</sub> = 300 [MPa]				
10 <sup>0</sup>	51	20	20	20	20	20	20	20				
10 <sup>-1</sup>	71		26	20	20	20	20	20				
10 <sup>-2</sup>	94			70	24	20	20	20				
10 <sup>-3</sup>	128				67	50	40	28				
10 <sup>-4</sup>	168					126	97	75				
10 <sup>-5</sup>	235						230	198				
10 <sup>-6</sup>												
10 <sup>-7</sup>												

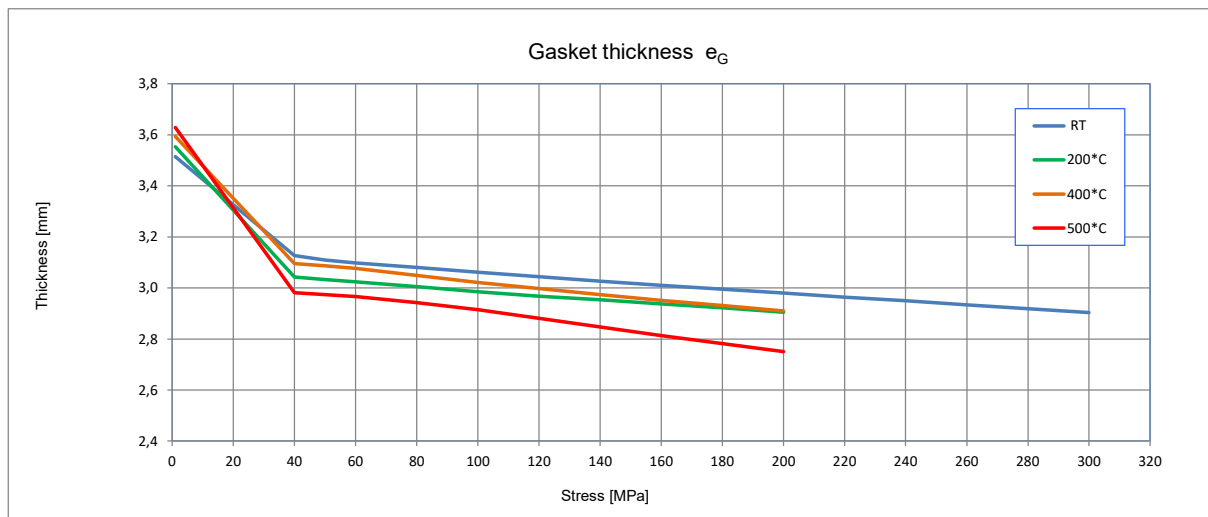


Temperature		RT						
Gasket stress	E <sub>G</sub>	e <sub>G</sub>	C= 500 kN/mm		C=1500 kN/mm		Q <sub>Smax</sub>	μ <sub>G</sub>
			P <sub>QR</sub>	Δe <sub>Gc</sub>	P <sub>QR</sub>	Δe <sub>Gc</sub>		
[MPa]	[MPa]	[mm]	[-]	[mm]	[-]	[mm]	[MPa]	[-]
1		3,514					300	0,17
40	16288	3,126						
50	17991	3,109	0,98	0,003				
60	19980	3,098						
80	22019	3,079						
100	23833	3,062	0,97	0,010				
120	27087	3,044						
140	28533	3,026						
160	31654	3,011						
180	34063	2,995						
200	34359	2,979						
220	36144	2,964						
240	37459	2,949						
260	38543	2,934						
280	42579	2,919						
300	43357	2,903	0,99	0,013				

Temperature		200°C						
Gasket stress	E <sub>G</sub>	e <sub>G</sub>	C= 500 kN/mm		C=1500 kN/mm		Q <sub>Smax</sub>	μ <sub>G</sub>
			P <sub>QR</sub>	Δe <sub>Gc</sub>	P <sub>QR</sub>	Δe <sub>Gc</sub>		
[MPa]	[MPa]	[mm]	[-]	[mm]	[-]	[mm]	[MPa]	[-]
1		3,554					200	0,18
40	14990	3,043						
50	16197	3,033	0,88	0,018				
60	16802	3,024						
80	20174	3,005						
100	22173	2,985	0,92	0,024				
120	24823	2,968						
140	27168	2,953						
160	29544	2,938						
180	31686	2,922						
200	33606	2,905	0,93	0,045				

Temperature		400°C						Q <sub>smax</sub>	μ <sub>G</sub>
Gasket stress	E <sub>G</sub>	e <sub>G</sub>	C= 500 kN/mm		C=1500 kN/mm				
			P <sub>QR</sub>	Δe <sub>Gc</sub>	P <sub>QR</sub>	Δe <sub>Gc</sub>			
[MPa]	[MPa]	[mm]	[-]	[mm]	[-]	[mm]	[MPa]	[-]	
1		3,594					200	0,16	
40	12609	3,096							
50	14196	3,087	0,76	0,037					
60	15084	3,076							
80	17046	3,049							
100	18694	3,022	0,90	0,030					
120	21464	2,997							
140	23418	2,974							
160	23685	2,952							
180	26627	2,931							
200	27279	2,910	0,91	0,056					

Temperature		500°C						Q <sub>smax</sub>	μ <sub>G</sub>
Gasket stress	E <sub>G</sub>	e <sub>G</sub>	C= 500 kN/mm		C=1500 kN/mm				
			P <sub>QR</sub>	Δe <sub>Gc</sub>	P <sub>QR</sub>	Δe <sub>Gc</sub>			
[MPa]	[MPa]	[mm]	[-]	[mm]	[-]	[mm]	[MPa]	[-]	
1		3,628					200	-	
40	12838	2,982							
50	14909	2,974	0,79	0,033					
60	15564	2,966							
80	18388	2,942							
100	21111	2,914	0,88	0,036					
120	25497	2,881							
140	27088	2,847							
160	29029	2,813							
180	30551	2,782							
200	32025	2,751	0,88	0,073					



Description:	E <sub>G</sub>	Modulus of elasticity	Q <sub>smax</sub>	Maximum surface pressure
	e <sub>G</sub>	Gasket or sealing element thickness	μ <sub>G</sub>	Static friction factor
	P <sub>QR</sub>	Creep relaxation factor	C	Stiffness
	Δe <sub>Gc</sub>	Gasket thickness change due to creep		

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

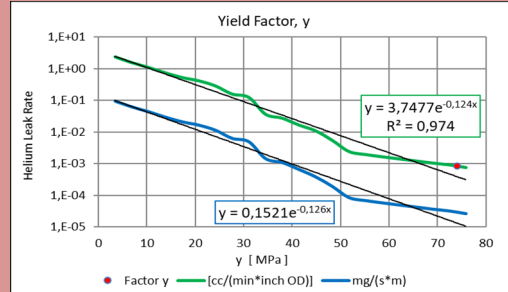
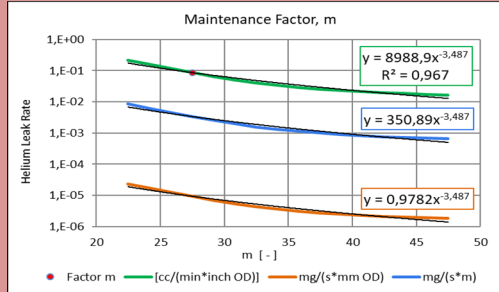
T [°C]	Q <sub>min</sub> [MPa]	Q <sub>max, ref</sub> [MPa]	E <sub>0</sub> [MPa]	K <sub>1</sub>	Q <sub>i</sub> /P	g <sub>c</sub>	c <sub>1</sub>
20	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-
400	-	-	-	-	-	-	-
500	-	-	-	-	-	-	-

bGref [mm]	8,0	eGref [mm]	3,8
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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

Tightness class	ASTM F3149	PVRC Tightness class		EN 13555		
		T2	T3	L0,01	L0,001	
Factor m	[-]	27,5	< 22,0	23,4	22,0	-
Factor y	[MPa]	74,0			51,0	-
	[psi]	10700				



NOTE: Maintenance values [m] less than 2.0 are typically not used in ASME designs except for elastomeric gaskets (Classification D2000).  
 Gasket dimensions acc. to EN 1514-6 PN40 DN40.  
 The given coefficient values are read from the test curves, not from the trend line.

[omax - see maximal applicable gasket stress Qsmax acc. EN 1591-1:2009/2013](#)

**Factors acc. to:**

AD 2000-Merkblatt B7 August 2007

$k_0k_D$ [N/mm]	k1 [mm]	$k_0k_9$ [N/mm]
NDA	NDA	NDA

[omax - see maximal applicable gasket stress Qsmax acc. EN 1591-1:2009/2013](#)

**Factors acc. to:**

WUDT-UC-WO-O/19

$\sigma_m$ [MPa]	$\sigma_r$ [MPa]	b [1]				
		20oC	100oC	200oC		
NDA	NDA	NDA	NDA	NDA	NDA	NDA

[omax - see maximal applicable gasket stress Qsmax 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	[Ω]	NDA
Volume resistance $R_v$ at U=10V	[Ω]	NDA
Surface resistivity $\rho_s$ at U=10V	[Ω]	NDA
Volume resistivity $\rho_v$ at U=10V	[Ωm]	NDA