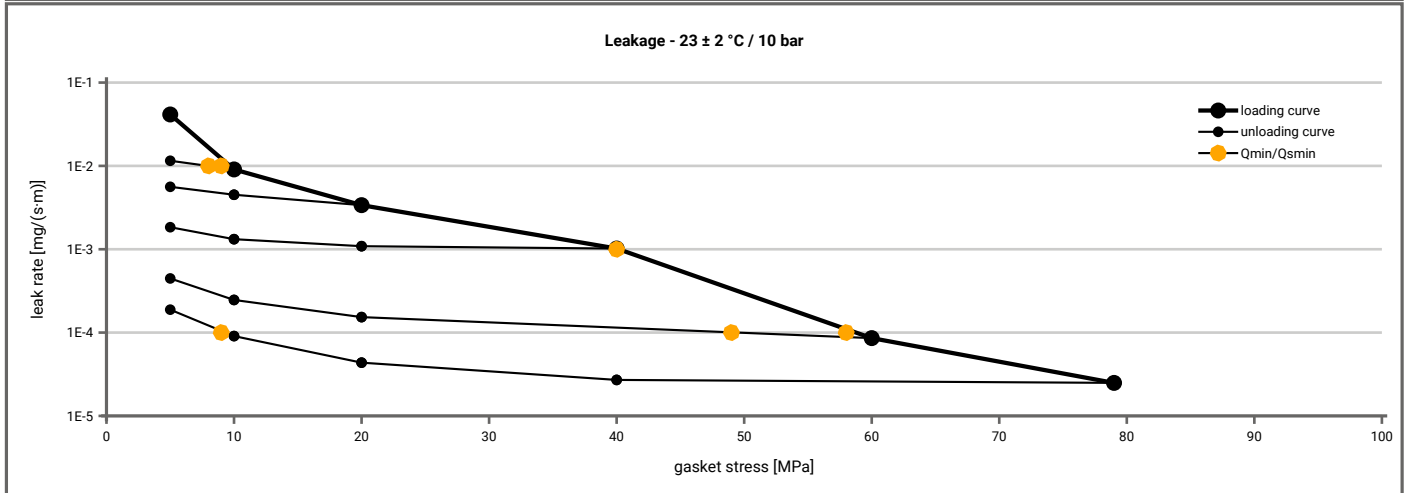


<b>Manufacturer address</b>	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to <b>DIN EN 13555</b> <b>2005-2</b>
<b>Product name</b>	novaphit MST with inner eyelet / novaphit MST with inner eyelet and XP-Technology	
<b>Product dimensions</b>	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

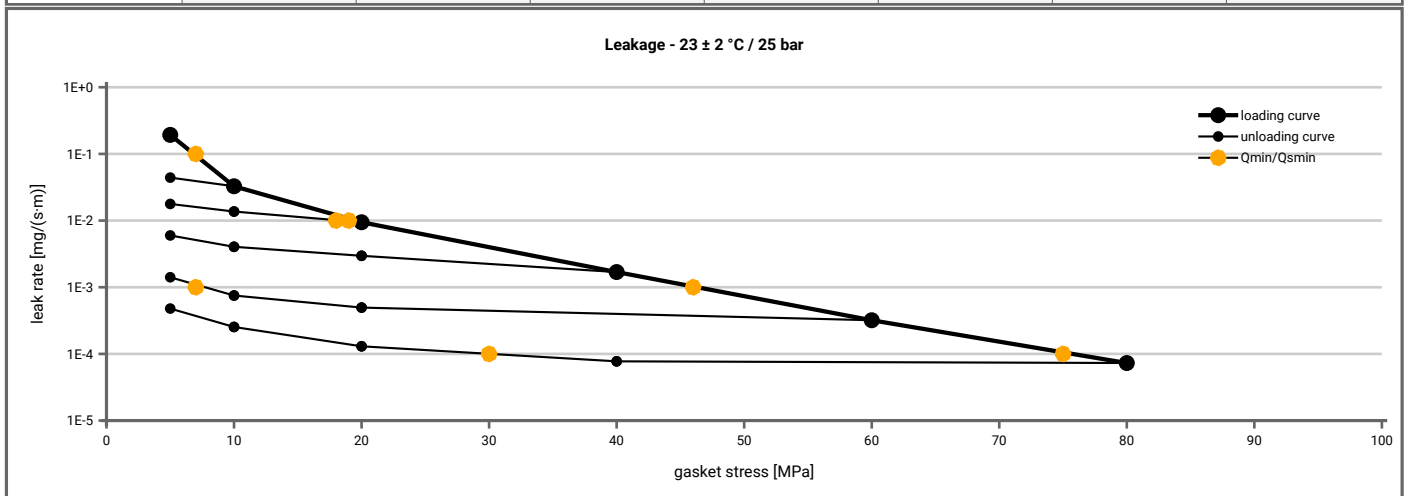
Minimum stress to seal  $Q_{min(L)}$  (at assembly),  $Q_{smin(L)}$  (after off-loading) for  $p = 10 \text{ bar}$  ( $T = 23 \pm 2 \text{ }^\circ\text{C}$ )

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]					
		$Q_A = 5$ [MPa]	$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]
1E-0	5		5	5	5	5	5
1E-1	5		5	5	5	5	5
1E-2	10		8	5	5	5	5
1E-3	40					5	5
1E-4	59					49	9
1E-5							
1E-6							
1E-7							
1E-8							



Minimum stress to seal  $Q_{min(L)}$  (at assembly),  $Q_{smin(L)}$  (after off-loading) for  $p = 25 \text{ bar}$  ( $T = 23 \pm 2 \text{ }^\circ\text{C}$ )

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]					
		$Q_A = 5$ [MPa]	$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]
1E-0	5		5	5	5	5	5
1E-1	7		5	5	5	5	5
1E-2	20			19	5	5	5
1E-3	46					8	5
1E-4	76						30
1E-5							
1E-6							
1E-7							
1E-8							



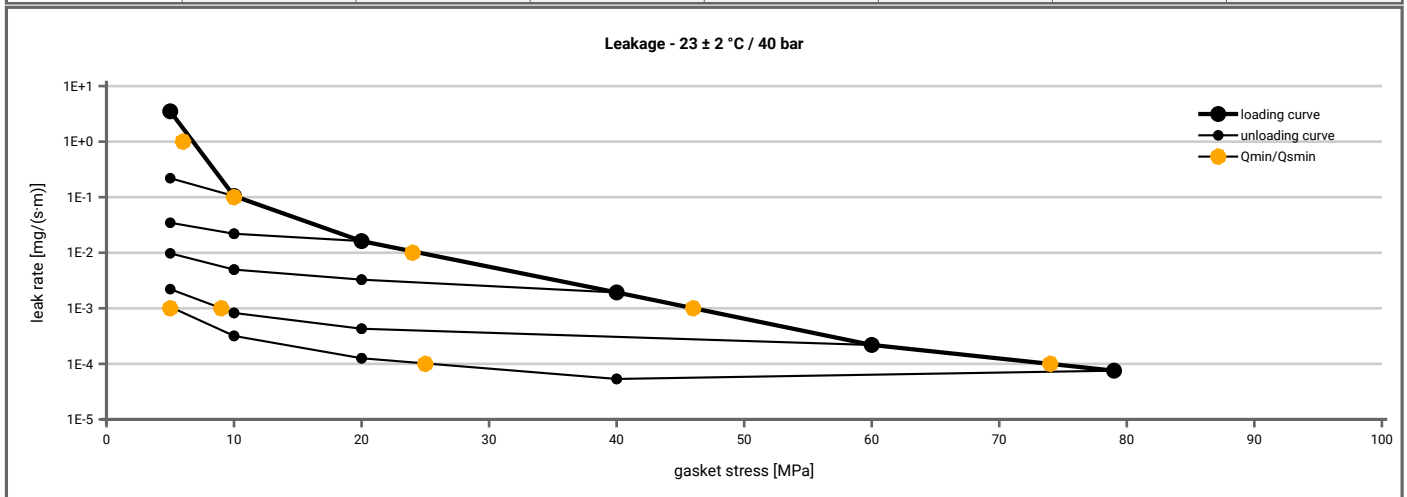
Note: the content of darkened cells was not determined respectively is unnecessary

Rev.-No.: 2

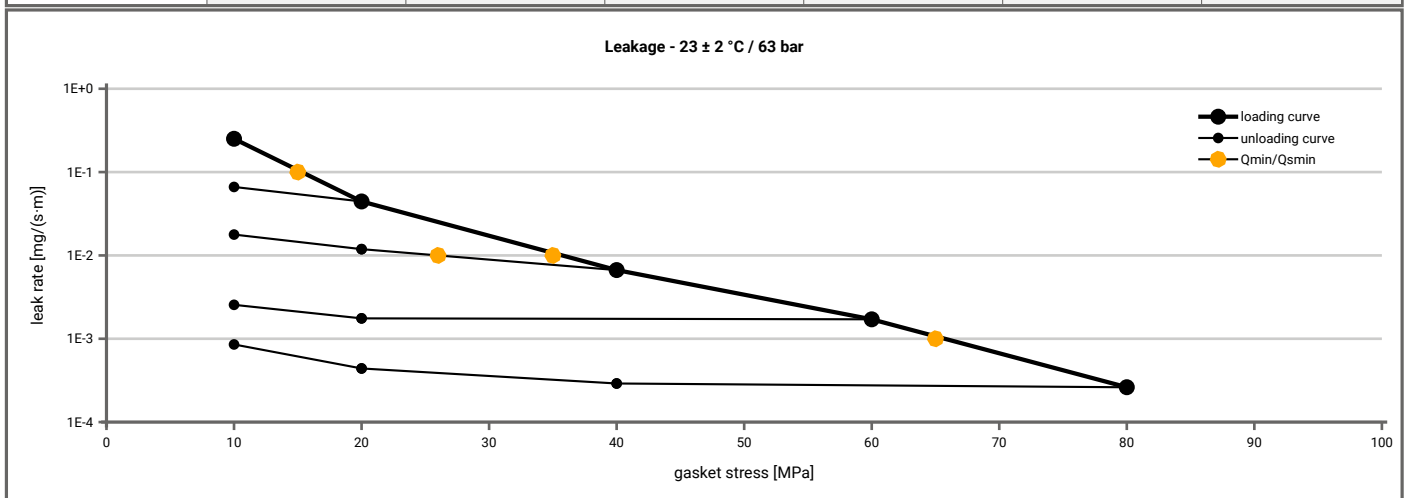
Creation date of this sheet: 2013-01-14

<b>Manufacturer address</b>	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to <b>DIN EN 13555</b> <b>2005-2</b>
<b>Product name</b>	novaphit MST with inner eyelet / novaphit MST with inner eyelet and XP-Technology	
<b>Product dimensions</b>	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 40$ bar ( $T = 23 \pm 2$ °C)							
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]					
		$Q_A = 5$ [MPa]	$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]
1E+1	5		5	5	5	5	5
1E+0	7		5	5	5	5	5
1E-1	10			5	5	5	5
1E-2	25				5	5	5
1E-3	46					9	5
1E-4	75						25
1E-5							
1E-6							
1E-7							
1E-8							



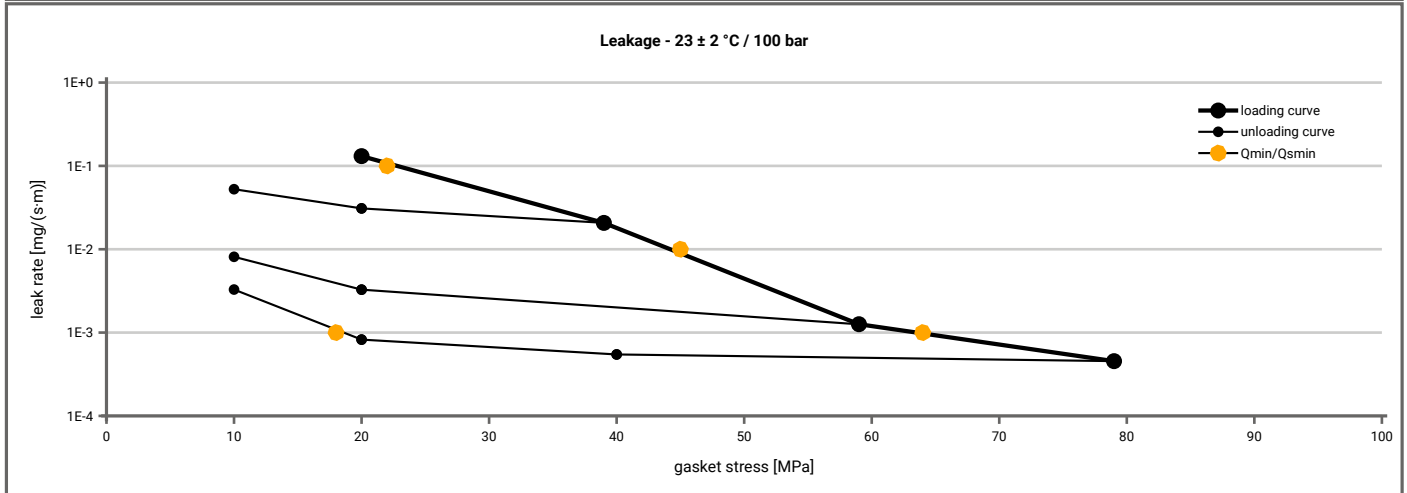
Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 63$ bar ( $T = 23 \pm 2$ °C)						
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]				
		$Q_A = 10$ [MPa]	$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]
1E-0	10		10	10	10	10
1E-1	15		10	10	10	10
1E-2	36			26	10	10
1E-3	66					10
1E-4						
1E-5						
1E-6						
1E-7						
1E-8						



Note: the content of darkened cells was not determined respectively is unnecessary      Rev.-No.: 2      Creation date of this sheet: 2013-01-14

<b>Manufacturer address</b>	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to <b>DIN EN 13555</b> <b>2005-2</b>
<b>Product name</b>	novaphit MST with inner eyelet / novaphit MST with inner eyelet and XP-Technology	
<b>Product dimensions</b>	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for $p = 100$ bar ( $T = 23 \pm 2$ °C)					
L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]			
		$Q_A = 20$ [MPa]	$Q_A = 40$ [MPa]	$Q_A = 60$ [MPa]	$Q_A = 80$ [MPa]
1E-0	20		10	10	10
1E-1	23		10	10	10
1E-2	45			10	10
1E-3	64				19
1E-4					
1E-5					
1E-6					
1E-7					
1E-8					



<b>Manufacturer address</b>	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to <b>DIN EN 13555</b> <b>2005-2</b>
<b>Product name</b>	novaphit MST with inner eyelet / novaphit MST with inner eyelet and XP-Technology	
<b>Product dimensions</b>	92 x 49 x 2 mm (DIN EN 1514-1 1997-8)	

Relaxation ratio $P_{QR}$ for stiffness $C = 500$ [kN/mm]										
Gasket stress	23 ± 2 °C		Temperature 1 [100 °C]		Temperature 2 [200 °C]		Temperature 3 [300 °C]		Temperature 4 [400 °C]	
	$P_{QR}$	$\Delta e_{Gc}$ [µm]	$P_{QR}$	$\Delta e_{Gc}$ [µm]	$P_{QR}$	$\Delta e_{Gc}$ [µm]	$P_{QR}$	$\Delta e_{Gc}$ [µm]	$P_{QR}$	$\Delta e_{Gc}$ [µm]
Stress level 1 [30 MPa]	0.99	4	0.92	21	0.89	28	0.89	29	0.89	28
Stress level 2 [50 MPa]	0.99	4	0.90	42	0.89	46	0.89	48	0.88	50
$P_{QR}$ and $\Delta e_{Gc}$ at maximum gasket stress to be applied $Q_{smax}$										
$P_{QR}$ at $Q_{smax}$	1.00	0	0.99	18	0.98	37	0.98	46	0.97	59
$Q_{smax}$	220 MPa		220 MPa		220 MPa		220 MPa		200 MPa	

Sekant unloading modulus of the gasket $E_G$ [MPa] and gasket thickness $e_G$ [mm]										
Gasket stress [MPa]	23 ± 2 °C		Temperature 1 [100 °C]		Temperature 2 [200 °C]		Temperature 3 [300 °C]		Temperature 4 [400 °C]	
	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]	$E_G$ [MPa]	$e_G$ [mm]
0	0	1.885	0	1.915	0	1.960	0	1.900	0	1.960
1	0	1.856	0	1.906	0	1.872	0	1.913	0	1.910
20	601	1.133	569	1.107	617	1.070	501	1.066	494	1.060
30	652	1.060	916	1.014	828	1.002	848	1.020	729	1.017
40	973	1.012	1602	0.965	1192	0.948	1182	0.960	1103	0.967
50	1428	0.974	2270	0.945	1579	0.922	2318	0.935	1729	0.933
60	2603	0.950	1839	0.921	2165	0.902	1865	0.910	1923	0.905
80	2285	0.901	2387	0.883	2757	0.866	2206	0.871	2407	0.867
100	2810	0.867	3294	0.866	3701	0.843	2874	0.847	2889	0.843
120	4044	0.852	4146	0.848	4274	0.829	3720	0.829	3233	0.822
140	5110	0.836	4595	0.834	4902	0.813	4621	0.809	3482	0.806
160	6048	0.826	5306	0.823	5596	0.803	5669	0.779	4201	0.791
180	6552	0.817	5971	0.812	6623	0.795	5993	0.773	5061	0.777
200	7050	0.806	6702	0.794	6812	0.776	6320	0.764	5933	0.762
220	6898	0.795	6899	0.780	6343	0.767	5898	0.755		

