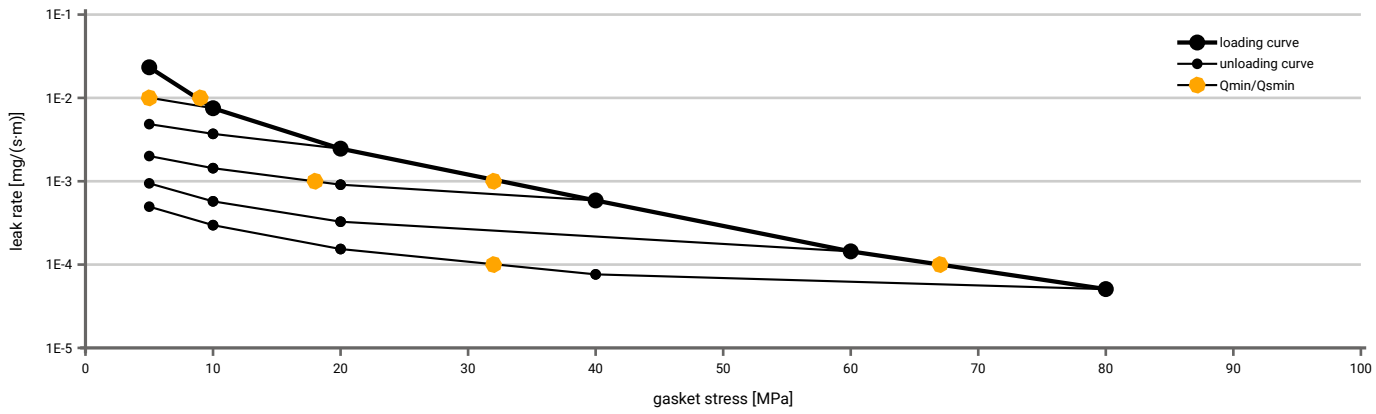
Manufacturer address	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to **DIN EN 13555 2005-2**
Product name	novaphit MST / novaphit MST with XP-Technology	
Product dimensions	92 x 49 x 3 mm (DIN EN 1514-1 1997-8)	

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

L [mg/(s·m)]	$Q_{min(L)}$ [MPa]	$Q_{smin(L)}$ [MPa]					
		Q_A = 5.2 [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	9		5	5	5	5	5
1E-3	33				18	5	5
1E-4	67						33
1E-5							
1E-6							
1E-7							
1E-8							

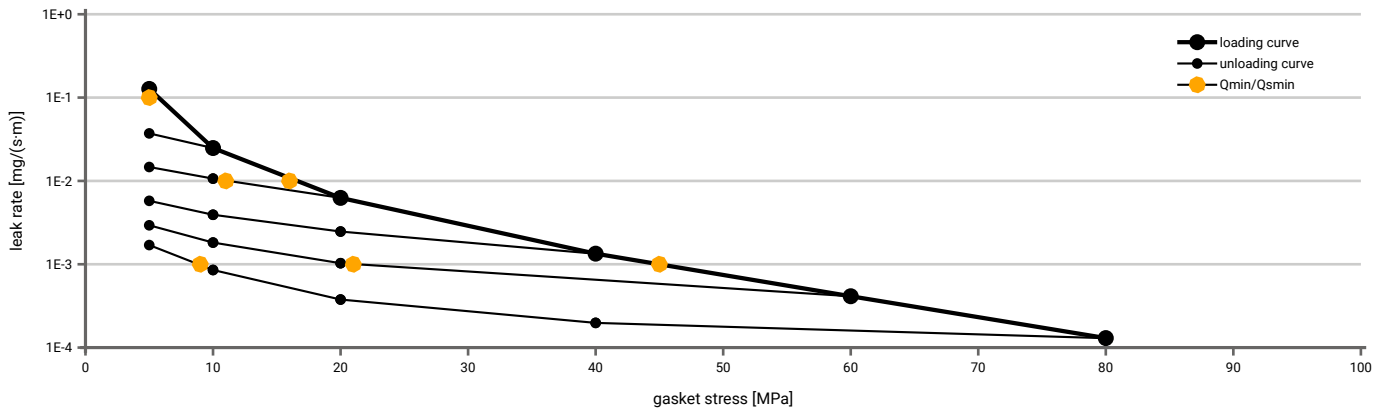
Leakage - 23 ± 2 °C / 10 bar



Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 25 bar (T = 23 ± 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-0	5		5	5	5	5	5
1E-1	6		5	5	5	5	5
1E-2	17			11	5	5	5
1E-3	45					21	9
1E-4							
1E-5							
1E-6							
1E-7							
1E-8							

Leakage - 23 ± 2 °C / 25 bar



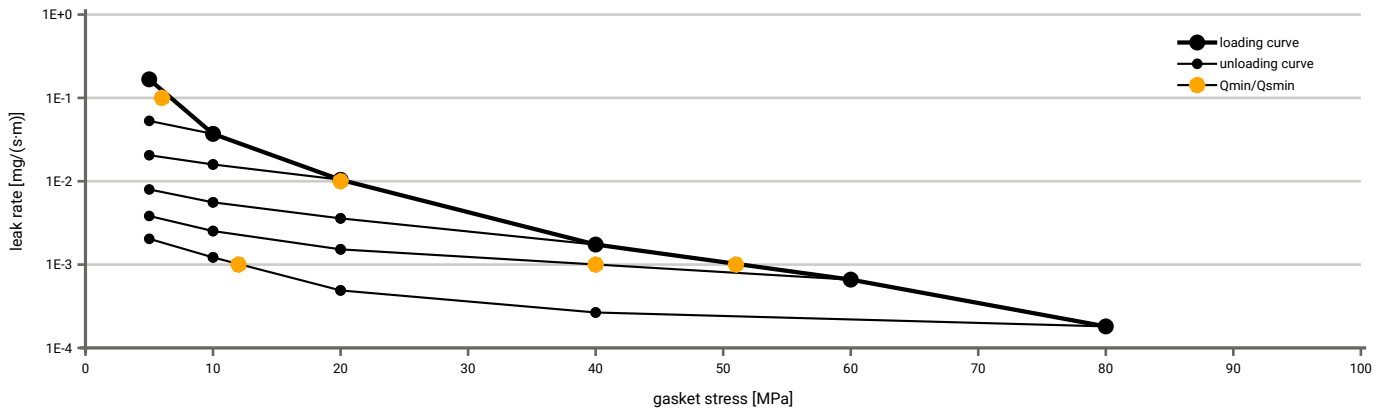
Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **2**	Creation date of this sheet: **2013-01-14**

Manufacturer address	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to **DIN EN 13555 2005-2**
Product name	novaphit MST / novaphit MST with XP-Technology	
Product dimensions	92 x 49 x 3 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 ± 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-0	5		5	5	5	5	5
1E-1	7		5	5	5	5	5
1E-2	21				5	5	5
1E-3	52					40	12
1E-4							
1E-5							
1E-6							
1E-7							
1E-8							

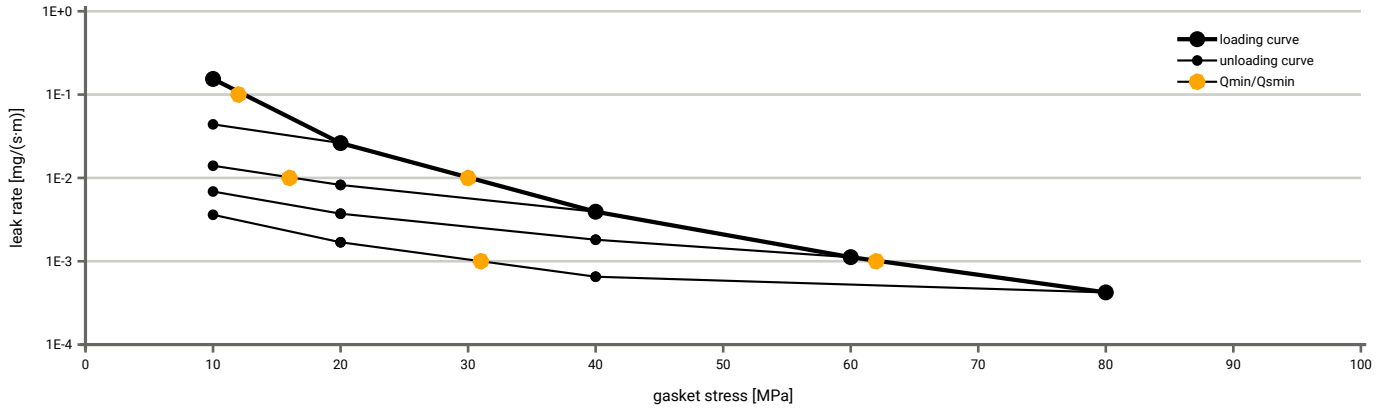
Leakage - 23 ± 2 °C / 40 bar



Minimum stress to seal $Q_{min(L)}$ (at assembly), $Q_{smin(L)}$ (after off-loading) for p = 63 bar (T = 23 ± 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	13		10	10	10	10
1E-2	30			17	10	10
1E-3	62					31
1E-4						
1E-5						
1E-6						
1E-7						
1E-8						

Leakage - 23 ± 2 °C / 63 bar

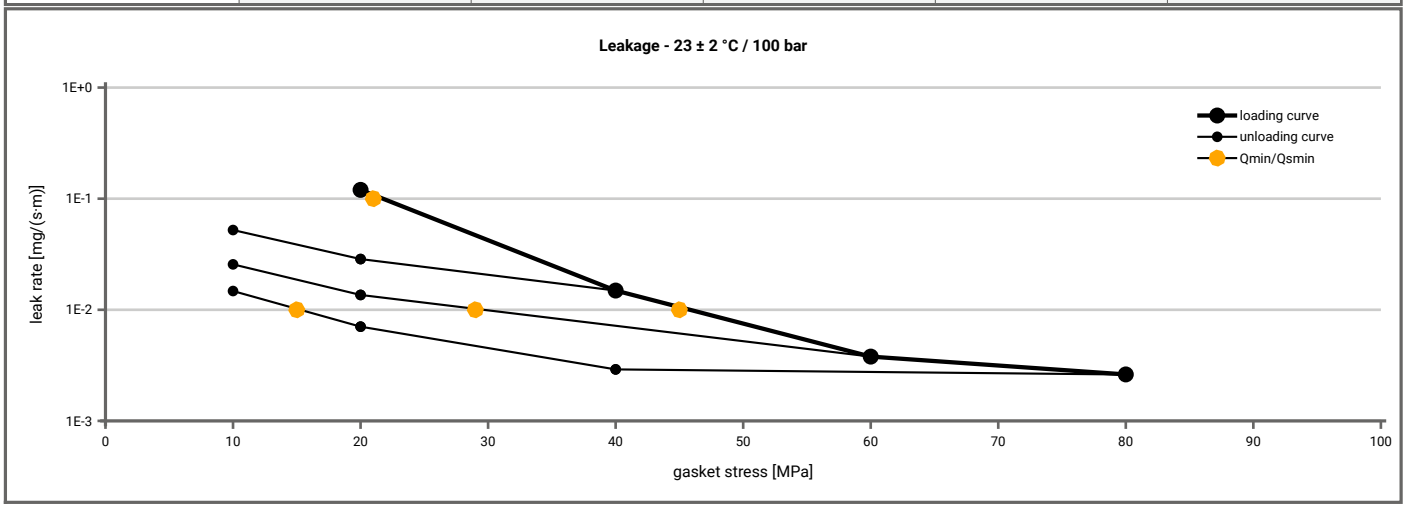


Note: the content of darkened cells was not determined respectively is unnecessary	Rev.-No.: **2**	Creation date of this sheet: **2013-01-14**

Manufacturer address	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to **DIN EN 13555 2005-2**
Product name	novaphit MST / novaphit MST with XP-Technology	
Product dimensions	92 x 49 x 3 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 ± 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	22		10	10	10
1E-2	46			30	16
1E-3					
1E-4					
1E-5					
1E-6					
1E-7					
1E-8					



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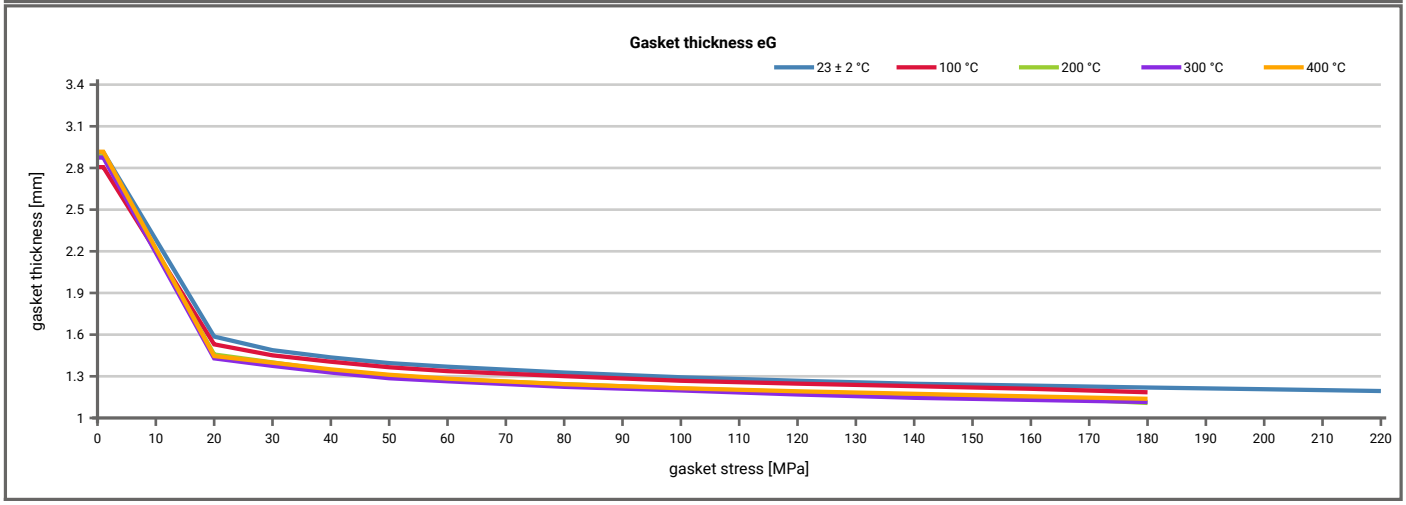
Manufacturer address	Frenzelit GmbH, Frankenhammer, 95460 Bad Berneck, DE	According to **DIN EN 13555 2005-2**
Product name	novaphit MST / novaphit MST with XP-Technology	
Product dimensions	92 x 49 x 3 mm (DIN EN 1514-1 1997-8)	

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}	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**	**P_{QR}**	**Δe_{Gc} [µm]**
Stress level 1 [30 MPa]	0.98	5	0.91	24	0.84	40	0.83	43	0.86	35
Stress level 2 [50 MPa]	0.99	4	0.94	27	0.89	48	0.90	42	0.90	42
P_{QR} and Δe_{Gc} at maximum gasket stress to be applied Q_{smax}										
P_{QR} at Q_{smax}	1.00	0	0.97	45	0.96	60	0.95	83	0.96	60
Q_{smax}	220 MPa		180 MPa		180 MPa		180 MPa		180 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	2.913	0	2.806	0	2.884	0	2.875	0	2.917
1	0	2.913	0	2.806	0	2.884	0	2.875	0	2.917
20	511	1.586	445	1.530	521	1.457	460	1.429	474	1.446
30	738	1.488	711	1.451	837	1.400	673	1.375	814	1.398
40	1149	1.436	1355	1.405	1010	1.342	1052	1.327	1128	1.350
50	1526	1.395	1307	1.365	1564	1.307	1194	1.286	1347	1.311
60	2155	1.369	1685	1.337	1974	1.278	1879	1.264	1872	1.283
80	2677	1.327	2806	1.301	2661	1.244	2310	1.224	2370	1.243
100	3200	1.293	2927	1.268	3013	1.212	3139	1.198	3033	1.214
120	3988	1.268	4075	1.247	3540	1.187	3438	1.169	4071	1.192
140	5237	1.246	5395	1.229	4962	1.168	3968	1.145	5085	1.174
160	5997	1.233	6401	1.210	5583	1.150	4476	1.130	5290	1.155
180	6510	1.219	7321	1.185	5695	1.108	5472	1.115	5711	1.138
200	6711	1.207								
220	6877	1.194								



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