CENTELLEN® GASKET FACTORS

Fibre Reinforced Gasket Materials

	DIN 28090/DIN 28091							ASME	
	Thick-ness	σ_{VO}	$\sigma_{Vu/0,1}$	σ_{BO} (7.2.2)					
	mm	MPa	MPa	MPa	MPa	MPa	MPa	"m"	"y" stress
		25°C	25°C	50°C	100°C	200°C	300°C	factor	MPa
CENTELLEN® WS 3820	1.0	200	15	170	60	35	–	2.4	15
	2.0	200	18	55	33	20	–	2.8	15
	3.0	50	22	30	20	18	–	4.8	15
CENTELLEN® HD 3822	1.0	200	10	200	121	66	–	1.6	20
	2.0	200	18	152	72	52	–	3.3	20
	3.0	90	21	80	52	38	–	3.4	20

Centellen® WS 3820

Maximum permissible surface pressure under operating condition Q_{Smax}				
	Temperature	23°C	100°C	250°C
CENTELLEN® WS 3820	Q_{Smax} / MPa	200	200	140

Centellen® WS 3820

Secant unloading modulus of the gasket E_G (MPa) and gasket thickness e_G (mm)						
Surface pressure	Temperature 23°C		Temperature 100°C		Temperature 250°C	
	e_G	E_G	e_G	E_G	e_G	E_G
MPa	mm	MPa	mm	MPa	mm	MPa
1	2.012	-	2.010	-	2.019	-
20	1.896	1673	1.879	1979	1.873	2719
30	1.869	2538	1.856	2574	1.856	3462
40	1.849	3433	1.818	3133	1.828	3755
50	1.831	4122	1.763	3507	1.793	3847
60	1.814	4724	1.709	4132	1.757	4050
80	1.783	5431	1.606	4417	1.681	4260
100	1.754	5899	1.520	4709	1.621	4275
120	1.727	6284	1.452	4901	1.573	4650
140	1.703	6567	1.398	5171	1.534	4906
160	1.680	6845	1.355	5335	1.499	5159
180	1.659	7075	1.319	5440	1.470	5518
200	1.640	7335	1.288	5530	1.445	5758

Centellen® WS 3820

P_{QR} values for stiffness 500 kN/mm, gasket thickness 2mm			
Temperature	23°C	100°C	250°C
Q_A / MPa	P_{QR} / -	P_{QR} / -	P_{QR} / -
20	0.99	0.94	0.75
50	0.98	0.83	0.62
200	0.99	0.85	0.61

Centellen® WS 3820

Minimum stress to seal for tightness class L $Q_{min(L)}$ at assembly/ $Q_{Smin(L)}$ after off-loading 40 bar						
L	$Q_{min(L)}$	$Q_{Smin(L)}$ MPa				
mg/ s x m	MPa	Q_A= 20 MPa	Q_A= 40 MPa	Q_A= 60 MPa	Q_A= 80 MPa	Q_A= 100 MPa
10^{-0}	14	< 10	< 10	< 10	< 10	< 10
10^{-1}	25	x	< 10	< 10	< 10	< 10
10^{-2}	38	x	16	< 10	< 10	< 10
10^{-3}	47	x	x	< 10	< 10	< 10
10^{-4}	55	x	x	18	< 10	< 10
10^{-5}	67	x	x	x	< 10	< 10
10^{-6}	95	x	x	x	x	90
10^{-7}	x	x	x	x	x	x

Centellen® HD 3822

Maximum permissible surface pressure under operating condition Q_{Smax}				
	Temperature	23°C	100°C	250°C
CENTELLEN®HD 3822	Q_{Smax} / MPa	200	200	200

Centellen® HD 3822

P_{QR} values for stiffness 500 kN/mm, gasket thickness 2mm			
Temperature Q_A / MPa	23°C P_{QR} / -	100°C P_{QR} / -	250°C P_{QR} / -
20	0.94	0.85	0.61
50	0.96	0.90	0.74
200	0.98	0.89	0.78

Centellen® HD 3822

Minimum stress to seal for tightness class L $Q_{min(L)}$ at assembly/ $Q_{Smin(L)}$ after off-loading 40 bar						
L	$Q_{min(L)}$	$Q_{Smin(L)}$ MPa				
mg/ s x m	MPa	Q_A= 20 MPa	Q_A= 40 MPa	Q_A= 60 MPa	Q_A= 80 MPa	Q_A= 100 MPa
10^{-1}	22	x	< 10	< 10	< 10	< 10
10^{-2}	33	x	< 10	< 10	< 10	< 10
10^{-3}	43	x	x	< 10	< 10	< 10
10^{-4}	54	x	x	18	< 10	< 10
10^{-5}	71	x	x	x	28	< 10
10^{-6}	103	x	x	x	x	90