Muons in silicon dioxide (fused quartz) (SiO_2)

$\langle Z/A \rangle$	ρ [g/cm^3]	I [eV]	a	$k = m_s$	x_0	x_1	$\overline{C}$	δ_0
0.49930	2.200	139.2	0.08408	3.5064	0.1500	3.0140	4.0560	0.00

T	p [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm^2]
		[MeV cm^2/g]					
10.0 MeV	4.704×10^1	6.591				6.591	8.438×10^{-1}
14.0 MeV	5.616×10^1	5.158				5.158	1.537×10^0
20.0 MeV	6.802×10^1	4.041				4.041	2.866×10^0
30.0 MeV	8.509×10^1	3.145				3.145	5.710×10^0
40.0 MeV	1.003×10^2	2.691				2.691	9.170×10^0
80.0 MeV	1.527×10^2	2.030				2.030	2.682×10^1
100. MeV	1.764×10^2	1.908				1.908	3.701×10^1
140. MeV	2.218×10^2	1.786				1.786	5.878×10^1
200. MeV	2.868×10^2	1.719				1.719	9.315×10^1
288. MeV	3.788×10^2	1.699			0.000	1.699	*Minimum ionization*
300. MeV	3.917×10^2	1.699			0.000	1.699	1.518×10^2
400. MeV	4.945×10^2	1.711			0.000	1.711	2.105×10^2
800. MeV	8.995×10^2	1.789	0.000		0.000	1.790	4.391×10^2
1.00 GeV	1.101×10^3	1.823	0.000		0.000	1.824	5.497×10^2
1.40 GeV	1.502×10^3	1.877	0.001	0.000	0.001	1.879	7.657×10^2
2.00 GeV	2.103×10^3	1.936	0.001	0.000	0.001	1.939	1.080×10^3
3.00 GeV	3.104×10^3	2.003	0.001	0.001	0.001	2.007	1.586×10^3
4.00 GeV	4.104×10^3	2.049	0.002	0.002	0.002	2.055	2.078×10^3
8.00 GeV	8.105×10^3	2.154	0.005	0.005	0.004	2.168	3.967×10^3
10.0 GeV	1.011×10^4	2.186	0.007	0.007	0.005	2.204	4.881×10^3
14.0 GeV	1.411×10^4	2.232	0.010	0.011	0.006	2.259	6.673×10^3
20.0 GeV	2.011×10^4	2.277	0.016	0.018	0.009	2.321	9.291×10^3
30.0 GeV	3.011×10^4	2.326	0.026	0.032	0.013	2.398	1.353×10^4
40.0 GeV	4.011×10^4	2.360	0.037	0.047	0.017	2.461	1.764×10^4
80.0 GeV	8.011×10^4	2.435	0.083	0.113	0.033	2.665	3.324×10^4
100. GeV	1.001×10^5	2.459	0.108	0.148	0.041	2.757	4.062×10^4
140. GeV	1.401×10^5	2.494	0.159	0.222	0.057	2.932	5.468×10^4
200. GeV	2.001×10^5	2.530	0.239	0.339	0.081	3.190	7.429×10^4
300. GeV	3.001×10^5	2.572	0.376	0.537	0.122	3.607	1.038×10^5
400. GeV	4.001×10^5	2.601	0.519	0.744	0.162	4.026	1.300×10^5
708. GeV	7.083×10^5	2.660	0.971	1.400	0.289	5.321	*Muon critical energy*
800. GeV	8.001×10^5	2.673	1.109	1.599	0.328	5.708	2.130×10^5
1.00 TeV	1.000×10^6	2.696	1.413	2.038	0.412	6.560	2.457×10^5
1.40 TeV	1.400×10^6	2.731	2.026	2.914	0.584	8.255	2.999×10^5
2.00 TeV	2.000×10^6	2.769	2.965	4.255	0.845	10.835	3.632×10^5
3.00 TeV	3.000×10^6	2.813	4.537	6.485	1.294	15.130	4.409×10^5
4.00 TeV	4.000×10^6	2.845	6.135	8.744	1.750	19.474	4.991×10^5
8.00 TeV	8.000×10^6	2.922	12.593	17.837	3.650	37.002	6.456×10^5
10.0 TeV	1.000×10^7	2.947	15.855	22.413	4.628	45.844	6.941×10^5
14.0 TeV	1.400×10^7	2.986	22.366	31.535	6.641	63.528	7.679×10^5
20.0 TeV	2.000×10^7	3.028	32.207	45.288	9.731	90.254	8.467×10^5
30.0 TeV	3.000×10^7	3.077	48.579	68.177	15.089	134.921	9.368×10^5
40.0 TeV	4.000×10^7	3.112	65.025	91.135	20.584	179.856	1.001×10^6
80.0 TeV	8.000×10^7	3.198	130.975	183.039	43.614	360.826	1.155×10^6
100. TeV	1.000×10^8	3.226	164.033	229.042	55.540	451.842	1.204×10^6