

**Table 265: Muons in Titanium dioxide (TiO<sub>2</sub>)**

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.47572	4.260	179.5	0.08569	3.3267	-0.0119	3.1647	3.9522	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]	
10.0 MeV	$4.704 \times 10^1$	6.055				6.055	$9.212 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	4.746				4.746	$1.675 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	3.723				3.723	$3.118 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	2.902				2.902	$6.202 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	2.486				2.486	$9.950 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	1.867				1.867	$2.910 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.754				1.755	$4.017 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.641				1.641	$6.386 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.579				1.580	$1.013 \times 10^2$	
288. MeV	$3.788 \times 10^2$	1.562			0.000	1.562	<i>Minimum ionization</i>	
300. MeV	$3.917 \times 10^2$	1.562			0.000	1.562	$1.651 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.573	0.000		0.000	1.574	$2.289 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.649	0.000		0.000	1.650	$4.771 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.682	0.000		0.000	1.683	$5.971 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.734	0.001	0.000	0.001	1.735	$8.310 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.791	0.001	0.001	0.001	1.794	$1.171 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.856	0.002	0.001	0.001	1.861	$1.718 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	1.901	0.003	0.002	0.002	1.908	$2.248 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.003	0.007	0.007	0.004	2.020	$4.278 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.034	0.009	0.009	0.004	2.057	$5.259 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.078	0.014	0.015	0.006	2.114	$7.176 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.123	0.022	0.025	0.009	2.178	$9.970 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.171	0.035	0.044	0.013	2.262	$1.447 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.203	0.050	0.064	0.017	2.333	$1.882 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.276	0.113	0.153	0.032	2.574	$3.512 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.298	0.146	0.201	0.040	2.686	$4.272 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.331	0.214	0.302	0.056	2.903	$5.704 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.366	0.322	0.460	0.079	3.228	$7.663 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.406	0.506	0.727	0.119	3.758	$1.053 \times 10^5$	
400. GeV	$4.001 \times 10^5$	2.434	0.697	1.004	0.158	4.293	$1.302 \times 10^5$	
516. GeV	$5.156 \times 10^5$	2.458	0.923	1.332	0.204	4.918	<i>Muon critical energy</i>	
800. GeV	$8.001 \times 10^5$	2.502	1.487	2.146	0.319	6.455	$2.057 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.524	1.894	2.733	0.401	7.553	$2.343 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.558	2.712	3.903	0.569	9.742	$2.808 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.594	3.965	5.692	0.823	13.075	$3.338 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.635	6.061	8.666	1.261	18.624	$3.976 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.665	8.189	11.675	1.705	24.236	$4.445 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.739	16.784	23.785	3.552	46.862	$5.611 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.764	21.122	29.878	4.503	58.267	$5.993 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.801	29.782	42.029	6.458	81.069	$6.573 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	2.840	42.865	60.343	9.458	115.507	$7.190 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	2.887	64.624	90.816	14.656	172.983	$7.893 \times 10^5$	
40.0 TeV	$4.000 \times 10^7$	2.920	86.474	121.373	19.985	230.752	$8.391 \times 10^5$	
80.0 TeV	$8.000 \times 10^7$	3.002	174.071	243.696	42.297	463.067	$9.591 \times 10^5$	
100. TeV	$1.000 \times 10^8$	3.029	217.970	304.922	53.845	579.766	$9.976 \times 10^5$	