

**Table 293: Muons in Solid carbon dioxide (dry ice; CO<sub>2</sub>)**

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.49989	1.563	85.0	0.43387	3.0000	0.2000	2.0000	3.4513	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]	
				[MeV cm <sup>2</sup> /g]				
10.0 MeV	$4.704 \times 10^1$	7.057				7.057	$7.841 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	5.508				5.508	$1.432 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	4.304				4.304	$2.679 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.341				3.341	$5.353 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	2.854				2.854	$8.612 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	2.145				2.145	$2.529 \times 10^1$	
100. MeV	$1.764 \times 10^2$	2.017				2.017	$3.493 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.886				1.886	$5.554 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.812				1.812	$8.811 \times 10^1$	
300. MeV	$3.917 \times 10^2$	1.787			0.000	1.787	$1.438 \times 10^2$	
303. MeV	$3.950 \times 10^2$	1.787			0.000	1.787	<i>Minimum ionization</i>	
400. MeV	$4.945 \times 10^2$	1.795			0.000	1.795	$1.997 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.866	0.000		0.000	1.866	$4.182 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.896	0.000		0.000	1.897	$5.245 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.946	0.000		0.001	1.947	$7.325 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.999	0.001	0.000	0.001	2.001	$1.036 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	2.060	0.001	0.001	0.001	2.063	$1.528 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.101	0.002	0.001	0.002	2.106	$2.007 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.196	0.004	0.003	0.004	2.207	$3.857 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.225	0.005	0.005	0.005	2.240	$4.757 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.268	0.007	0.008	0.007	2.290	$6.522 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.312	0.011	0.013	0.009	2.345	$9.110 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.359	0.019	0.023	0.013	2.415	$1.331 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.392	0.027	0.034	0.017	2.470	$1.740 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.468	0.061	0.081	0.034	2.644	$3.303 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.491	0.079	0.107	0.042	2.719	$4.049 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.526	0.116	0.161	0.058	2.862	$5.482 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.563	0.174	0.247	0.083	3.067	$7.507 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.604	0.275	0.392	0.124	3.395	$1.060 \times 10^5$	
400. GeV	$4.001 \times 10^5$	2.634	0.379	0.543	0.165	3.722	$1.342 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.705	0.813	1.172	0.334	5.025	$2.263 \times 10^5$	
927. GeV	$9.270 \times 10^5$	2.720	0.955	1.377	0.388	5.441	<i>Muon critical energy</i>	
1.00 TeV	$1.000 \times 10^6$	2.728	1.037	1.497	0.420	5.683	$2.637 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.764	1.489	2.143	0.595	6.991	$3.271 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.802	2.181	3.133	0.862	8.978	$4.026 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.846	3.342	4.781	1.320	12.289	$4.975 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.877	4.523	6.451	1.786	15.638	$5.695 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.955	9.300	13.178	3.728	29.160	$7.539 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.980	11.714	16.565	4.728	35.988	$8.155 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	3.019	16.532	23.316	6.787	49.654	$9.097 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.061	23.817	33.496	9.949	70.324	$1.011 \times 10^6$	
30.0 TeV	$3.000 \times 10^7$	3.110	35.946	50.437	15.437	104.930	$1.126 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	3.144	48.136	67.432	21.069	139.781	$1.209 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.231	97.010	135.468	44.687	280.396	$1.407 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.259	121.509	169.526	56.926	351.220	$1.471 \times 10^6$	