

### Muons in carbon (compact) (C)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
6 (C)	[12.0107(8)]	2.265	78.0	0.26142	2.8697	-0.0178	2.3415	2.8680	0.12
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	7.116				7.116	$7.772 \times 10^{-1}$		
14.0 MeV	$5.616 \times 10^1$	5.549				5.549	$1.420 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	4.331				4.331	$2.658 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	3.355				3.355	$5.318 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	2.861				2.861	$8.567 \times 10^0$		
80.0 MeV	$1.527 \times 10^2$	2.126				2.127	$2.531 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.991				1.992	$3.505 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.854				1.854	$5.597 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.775				1.775	$8.917 \times 10^1$		
300. MeV	$3.917 \times 10^2$	1.745			0.000	1.745	$1.462 \times 10^2$		
317. MeV	$4.096 \times 10^2$	1.745			0.000	1.745	<i>Minimum ionization</i>		
400. MeV	$4.945 \times 10^2$	1.751			0.000	1.751	$2.034 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.819	0.000		0.000	1.820	$4.275 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.850	0.000		0.000	1.851	$5.365 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.900	0.000		0.001	1.901	$7.496 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	1.955	0.000	0.000	0.001	1.957	$1.060 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	2.018	0.001	0.001	0.001	2.021	$1.563 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	2.062	0.001	0.001	0.002	2.066	$2.052 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	2.161	0.003	0.003	0.004	2.171	$3.935 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	2.191	0.004	0.004	0.005	2.204	$4.849 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	2.234	0.006	0.007	0.007	2.254	$6.643 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	2.278	0.010	0.011	0.009	2.308	$9.272 \times 10^3$		
30.0 GeV	$3.011 \times 10^4$	2.326	0.016	0.019	0.013	2.374	$1.354 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	2.359	0.022	0.028	0.018	2.427	$1.770 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.434	0.050	0.068	0.034	2.587	$3.364 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.458	0.065	0.089	0.042	2.655	$4.127 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.493	0.097	0.134	0.059	2.783	$5.598 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.529	0.145	0.206	0.084	2.964	$7.687 \times 10^4$		
300. GeV	$3.001 \times 10^5$	2.571	0.230	0.327	0.125	3.253	$1.091 \times 10^5$		
400. GeV	$4.001 \times 10^5$	2.600	0.317	0.453	0.167	3.538	$1.385 \times 10^5$		
800. GeV	$8.001 \times 10^5$	2.672	0.681	0.981	0.338	4.671	$2.366 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.695	0.869	1.254	0.424	5.242	$2.770 \times 10^5$		
1.06 TeV	$1.057 \times 10^6$	2.701	0.922	1.330	0.449	5.402	<i>Muon critical energy</i>		
1.40 TeV	$1.400 \times 10^6$	2.730	1.248	1.797	0.602	6.377	$3.461 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.768	1.830	2.630	0.871	8.100	$4.294 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.812	2.806	4.016	1.335	10.970	$5.351 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.844	3.799	5.422	1.807	13.873	$6.160 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.921	7.821	11.088	3.773	25.603	$8.250 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.947	9.855	13.942	4.785	31.529	$8.953 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.986	13.913	19.628	6.871	43.398	$1.003 \times 10^6$		
20.0 TeV	$2.000 \times 10^7$	3.027	20.052	28.206	10.076	61.362	$1.119 \times 10^6$		
30.0 TeV	$3.000 \times 10^7$	3.076	30.273	42.478	15.640	91.467	$1.251 \times 10^6$		
40.0 TeV	$4.000 \times 10^7$	3.111	40.549	56.796	21.350	121.806	$1.346 \times 10^6$		
80.0 TeV	$8.000 \times 10^7$	3.197	81.720	114.122	45.316	244.356	$1.573 \times 10^6$		
100. TeV	$1.000 \times 10^8$	3.225	102.350	142.820	57.740	306.136	$1.646 \times 10^6$		