

## Muons in ethyl cellulose ( $[\text{C}_{12}\text{H}_{22}\text{O}_5]_n$ )

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.54405	1.130	69.3	0.11077	3.4098	0.1683	2.6527	3.2415	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	$4.704 \times 10^1$	7.886				7.886	$7.003 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	6.149				6.149	$1.281 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	4.801				4.801	$2.398 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.723				3.723	$4.796 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	3.178				3.178	$7.723 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	2.385				2.385	$2.272 \times 10^1$	
100. MeV	$1.764 \times 10^2$	2.235				2.235	$3.140 \times 10^1$	
140. MeV	$2.218 \times 10^2$	2.080				2.080	$5.005 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.990				1.990	$7.965 \times 10^1$	
300. MeV	$3.917 \times 10^2$	1.955			0.000	1.955	$1.305 \times 10^2$	
318. MeV	$4.105 \times 10^2$	1.954			0.000	1.955	<i>Minimum ionization</i>	
400. MeV	$4.945 \times 10^2$	1.960			0.000	1.961	$1.816 \times 10^2$	
800. MeV	$8.995 \times 10^2$	2.032	0.000		0.000	2.033	$3.821 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	2.065	0.000		0.000	2.066	$4.796 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	2.120	0.000		0.001	2.121	$6.706 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	2.179	0.001	0.000	0.001	2.181	$9.494 \times 10^2$	
3.00 GeV	$3.104 \times 10^3$	2.247	0.001	0.001	0.001	2.250	$1.400 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.294	0.001	0.001	0.002	2.299	$1.840 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.403	0.003	0.003	0.004	2.413	$3.533 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.436	0.004	0.004	0.005	2.449	$4.355 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.484	0.006	0.007	0.007	2.504	$5.970 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.532	0.010	0.011	0.009	2.563	$8.337 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.584	0.016	0.020	0.014	2.634	$1.218 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.620	0.023	0.029	0.018	2.690	$1.594 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.702	0.053	0.071	0.034	2.861	$3.033 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.728	0.069	0.094	0.043	2.933	$3.723 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.766	0.101	0.141	0.059	3.068	$5.056 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.806	0.153	0.216	0.084	3.259	$6.953 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.851	0.241	0.344	0.126	3.562	$9.887 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.883	0.333	0.477	0.168	3.861	$1.258 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.961	0.717	1.031	0.339	5.048	$2.161 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.986	0.915	1.318	0.426	5.645	$2.536 \times 10^5$	
1.12 TeV	$1.119 \times 10^6$	2.999	1.033	1.487	0.479	5.998	<i>Muon critical energy</i>	
1.40 TeV	$1.400 \times 10^6$	3.025	1.314	1.889	0.604	6.832	$3.179 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	3.066	1.928	2.764	0.875	8.634	$3.959 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	3.114	2.957	4.221	1.341	11.634	$4.953 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	3.148	4.005	5.700	1.815	14.668	$5.717 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	3.232	8.249	11.655	3.789	26.926	$7.700 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	3.260	10.396	14.654	4.806	33.117	$8.369 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	3.302	14.681	20.631	6.903	45.517	$9.395 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.348	21.165	29.646	10.124	64.283	$1.050 \times 10^6$	
30.0 TeV	$3.000 \times 10^7$	3.401	31.962	44.645	15.717	95.725	$1.177 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	3.439	42.818	59.694	21.458	127.409	$1.267 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.533	86.347	119.940	45.559	255.379	$1.484 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.564	108.169	150.100	58.056	319.888	$1.554 \times 10^6$	