

## Muons in rubber natural [(C<sub>5</sub>H<sub>8</sub>)<sub>n</sub>]

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.55785	0.920	59.8	0.15058	3.2879	0.1512	2.4815	3.1272	0.00
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	8.239				8.239	$6.694 \times 10^{-1}$		
14.0 MeV	$5.616 \times 10^1$	6.420				6.420	$1.225 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	5.009				5.009	$2.296 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	3.882				3.882	$4.596 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	3.312				3.312	$7.403 \times 10^0$		
80.0 MeV	$1.527 \times 10^2$	2.481				2.481	$2.180 \times 10^1$		
100. MeV	$1.764 \times 10^2$	2.323				2.323	$3.015 \times 10^1$		
140. MeV	$2.218 \times 10^2$	2.161				2.161	$4.809 \times 10^1$		
200. MeV	$2.868 \times 10^2$	2.067				2.067	$7.659 \times 10^1$		
300. MeV	$3.917 \times 10^2$	2.029			0.000	2.029	$1.256 \times 10^2$		
324. MeV	$4.161 \times 10^2$	2.028			0.000	2.028	<i>Minimum ionization</i>		
400. MeV	$4.945 \times 10^2$	2.033			0.000	2.034	$1.748 \times 10^2$		
800. MeV	$8.995 \times 10^2$	2.106	0.000		0.000	2.106	$3.682 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	2.139	0.000		0.000	2.140	$4.624 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	2.194	0.000		0.001	2.195	$6.469 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	2.254	0.000	0.000	0.001	2.256	$9.163 \times 10^2$		
3.00 GeV	$3.104 \times 10^3$	2.323	0.001	0.000	0.001	2.326	$1.352 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	2.371	0.001	0.001	0.002	2.375	$1.778 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	2.481	0.003	0.003	0.004	2.490	$3.417 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	2.514	0.004	0.004	0.005	2.527	$4.215 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	2.563	0.006	0.006	0.007	2.581	$5.780 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	2.612	0.009	0.010	0.009	2.641	$8.076 \times 10^3$		
30.0 GeV	$3.011 \times 10^4$	2.665	0.015	0.018	0.014	2.712	$1.181 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	2.702	0.021	0.026	0.018	2.767	$1.546 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.786	0.048	0.064	0.035	2.933	$2.948 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.812	0.062	0.085	0.043	3.002	$3.621 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.851	0.092	0.127	0.060	3.130	$4.926 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.892	0.138	0.195	0.085	3.311	$6.789 \times 10^4$		
300. GeV	$3.001 \times 10^5$	2.939	0.219	0.311	0.127	3.595	$9.686 \times 10^4$		
400. GeV	$4.001 \times 10^5$	2.971	0.302	0.431	0.169	3.874	$1.236 \times 10^5$		
800. GeV	$8.001 \times 10^5$	3.051	0.650	0.935	0.342	4.978	$2.145 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	3.077	0.830	1.196	0.429	5.533	$2.526 \times 10^5$		
1.24 TeV	$1.245 \times 10^6$	3.103	1.052	1.512	0.539	6.206	<i>Muon critical energy</i>		
1.40 TeV	$1.400 \times 10^6$	3.117	1.194	1.715	0.609	6.634	$3.185 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	3.159	1.752	2.511	0.882	8.305	$3.992 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	3.208	2.690	3.837	1.352	11.087	$5.031 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	3.243	3.645	5.183	1.830	13.901	$5.835 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	3.330	7.515	10.605	3.821	25.272	$7.938 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	3.358	9.475	13.338	4.847	31.018	$8.651 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	3.402	13.385	18.780	6.962	42.530	$9.748 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	3.448	19.304	26.992	10.213	59.958	$1.093 \times 10^6$		
30.0 TeV	$3.000 \times 10^7$	3.503	29.162	40.653	15.860	89.177	$1.229 \times 10^6$		
40.0 TeV	$4.000 \times 10^7$	3.542	39.077	54.359	21.657	118.635	$1.326 \times 10^6$		
80.0 TeV	$8.000 \times 10^7$	3.638	78.823	109.235	46.005	237.701	$1.560 \times 10^6$		
100. TeV	$1.000 \times 10^8$	3.669	98.748	136.706	58.634	297.758	$1.635 \times 10^6$		