

**Table 242: Muons in Rubber butyl (C<sub>4</sub>H<sub>8</sub>)<sub>n</sub>**

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.57034	0.920	56.5	0.12108	3.4296	0.1347	2.5154	2.9915	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	$4.704 \times 10^1$	8.483				8.483	$6.498 \times 10^{-1}$		
14.0 MeV	$5.616 \times 10^1$	6.609				6.609	$1.190 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	5.155				5.155	$2.230 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	3.994				3.994	$4.465 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	3.407				3.407	$7.193 \times 10^0$		
80.0 MeV	$1.527 \times 10^2$	2.549				2.549	$2.119 \times 10^1$		
100. MeV	$1.764 \times 10^2$	2.385				2.386	$2.932 \times 10^1$		
140. MeV	$2.218 \times 10^2$	2.218				2.218	$4.680 \times 10^1$		
200. MeV	$2.868 \times 10^2$	2.120				2.120	$7.458 \times 10^1$		
300. MeV	$3.917 \times 10^2$	2.080			0.000	2.080	$1.223 \times 10^2$		
328. MeV	$4.211 \times 10^2$	2.079			0.000	2.079	<i>Minimum ionization</i>		
400. MeV	$4.945 \times 10^2$	2.084			0.000	2.084	$1.704 \times 10^2$		
800. MeV	$8.995 \times 10^2$	2.155	0.000		0.000	2.156	$3.592 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	2.189	0.000		0.000	2.190	$4.513 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	2.244	0.000		0.001	2.245	$6.316 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	2.305	0.000	0.000	0.001	2.307	$8.950 \times 10^2$		
3.00 GeV	$3.104 \times 10^3$	2.375	0.001	0.000	0.001	2.377	$1.322 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	2.423	0.001	0.001	0.002	2.427	$1.738 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	2.535	0.003	0.003	0.004	2.544	$3.343 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	2.569	0.004	0.004	0.005	2.581	$4.123 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	2.618	0.006	0.006	0.007	2.637	$5.655 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	2.669	0.009	0.010	0.009	2.697	$7.904 \times 10^3$		
30.0 GeV	$3.011 \times 10^4$	2.723	0.015	0.018	0.014	2.769	$1.156 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	2.760	0.021	0.026	0.018	2.825	$1.513 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.847	0.047	0.063	0.035	2.992	$2.887 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.873	0.061	0.084	0.043	3.062	$3.547 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.913	0.091	0.126	0.060	3.190	$4.827 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.955	0.137	0.193	0.085	3.370	$6.656 \times 10^4$		
300. GeV	$3.001 \times 10^5$	3.002	0.216	0.307	0.127	3.654	$9.505 \times 10^4$		
400. GeV	$4.001 \times 10^5$	3.036	0.299	0.427	0.170	3.931	$1.214 \times 10^5$		
800. GeV	$8.001 \times 10^5$	3.118	0.644	0.925	0.343	5.029	$2.111 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	3.144	0.822	1.183	0.430	5.580	$2.489 \times 10^5$		
1.28 TeV	$1.281 \times 10^6$	3.174	1.074	1.543	0.557	6.348	<i>Muon critical energy</i>		
1.40 TeV	$1.400 \times 10^6$	3.185	1.182	1.697	0.611	6.675	$3.143 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	3.228	1.736	2.485	0.884	8.334	$3.946 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	3.278	2.665	3.799	1.355	11.098	$4.983 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	3.314	3.612	5.132	1.834	13.892	$5.787 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	3.402	7.450	10.502	3.831	25.186	$7.895 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	3.432	9.393	13.208	4.860	30.894	$8.611 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	3.476	13.272	18.599	6.982	42.329	$9.713 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	3.524	19.144	26.732	10.243	59.643	$1.090 \times 10^6$		
30.0 TeV	$3.000 \times 10^7$	3.579	28.924	40.262	15.907	88.672	$1.227 \times 10^6$		
40.0 TeV	$4.000 \times 10^7$	3.619	38.762	53.838	21.722	117.941	$1.324 \times 10^6$		
80.0 TeV	$8.000 \times 10^7$	3.717	78.203	108.188	46.153	236.262	$1.559 \times 10^6$		
100. TeV	$1.000 \times 10^8$	3.750	97.977	135.397	58.825	295.949	$1.635 \times 10^6$		