

## Muons in a-150 tissue-equivalent plastic

$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
0.54903	1.127	65.1	0.10783	3.4442	0.1329	2.6234	3.1100	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	$4.704 \times 10^1$	8.022				8.022	$6.880 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	6.253				6.253	$1.259 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	4.881				4.881	$2.357 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.784				3.784	$4.717 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	3.230				3.230	$7.596 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	2.418				2.418	$2.236 \times 10^1$	
100. MeV	$1.764 \times 10^2$	2.264				2.264	$3.093 \times 10^1$	
140. MeV	$2.218 \times 10^2$	2.106				2.106	$4.933 \times 10^1$	
200. MeV	$2.868 \times 10^2$	2.015				2.015	$7.857 \times 10^1$	
300. MeV	$3.917 \times 10^2$	1.978			0.000	1.979	$1.288 \times 10^2$	
324. MeV	$4.161 \times 10^2$	1.978			0.000	1.978	<i>Minimum ionization</i>	
400. MeV	$4.945 \times 10^2$	1.983			0.000	1.983	$1.793 \times 10^2$	
800. MeV	$8.995 \times 10^2$	2.054	0.000		0.000	2.055	$3.776 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	2.087	0.000		0.000	2.088	$4.741 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	2.141	0.000		0.001	2.142	$6.631 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	2.201	0.000	0.000	0.001	2.203	$9.391 \times 10^2$	
3.00 GeV	$3.104 \times 10^3$	2.269	0.001	0.001	0.001	2.272	$1.386 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	2.316	0.001	0.001	0.002	2.320	$1.821 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.425	0.003	0.003	0.004	2.435	$3.499 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.458	0.004	0.004	0.005	2.471	$4.314 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.506	0.006	0.007	0.007	2.526	$5.914 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.555	0.010	0.011	0.009	2.585	$8.261 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.607	0.016	0.019	0.014	2.656	$1.207 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.643	0.022	0.028	0.018	2.712	$1.580 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.726	0.051	0.069	0.035	2.881	$3.008 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.752	0.066	0.091	0.043	2.952	$3.694 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.791	0.098	0.136	0.059	3.085	$5.019 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.831	0.148	0.209	0.084	3.272	$6.907 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.876	0.234	0.332	0.126	3.569	$9.832 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.909	0.323	0.461	0.168	3.861	$1.252 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.987	0.694	0.998	0.340	5.019	$2.158 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	3.013	0.886	1.276	0.427	5.602	$2.535 \times 10^5$	
1.16 TeV	$1.159 \times 10^6$	3.030	1.038	1.494	0.498	6.060	<i>Muon critical energy</i>	
1.40 TeV	$1.400 \times 10^6$	3.052	1.273	1.828	0.606	6.759	$3.185 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	3.093	1.867	2.676	0.878	8.515	$3.974 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	3.142	2.865	4.088	1.346	11.440	$4.984 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	3.176	3.880	5.520	1.821	14.398	$5.761 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	3.261	7.995	11.290	3.803	26.350	$7.785 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	3.289	10.077	14.197	4.824	32.387	$8.468 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	3.332	14.232	19.988	6.928	44.481	$9.518 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	3.378	20.520	28.725	10.162	62.785	$1.065 \times 10^6$	
30.0 TeV	$3.000 \times 10^7$	3.431	30.991	43.259	15.777	93.459	$1.195 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	3.470	41.521	57.841	21.542	124.374	$1.287 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.564	83.733	116.221	45.750	249.269	$1.510 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.596	104.894	145.447	58.303	312.240	$1.581 \times 10^6$	