

## Muons in lead oxide (PbO)

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.40323	9.530	766.7	0.19645	2.7299	0.0356	3.5456	6.2162	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	$4.704 \times 10^1$	4.046				4.046		$1.411 \times 10^0$	
14.0 MeV	$5.616 \times 10^1$	3.207				3.207		$2.532 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	2.542				2.542		$4.656 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	2.003				2.003		$9.146 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	1.727				1.727		$1.455 \times 10^1$	
80.0 MeV	$1.527 \times 10^2$	1.327				1.327		$4.176 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.256				1.256		$5.729 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.188				1.189		$9.017 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.158				1.158		$1.415 \times 10^2$	
236. MeV	$3.250 \times 10^2$	1.155	0.000			1.155			<i>Minimum ionization</i>
300. MeV	$3.917 \times 10^2$	1.161	0.000		0.000	1.161		$2.279 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.181	0.000		0.000	1.181		$3.133 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.266	0.001		0.000	1.267		$6.398 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.299	0.001		0.000	1.301		$7.955 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.352	0.002		0.001	1.355		$1.096 \times 10^3$	
2.00 GeV	$2.103 \times 10^3$	1.410	0.004	0.001	0.001	1.415		$1.529 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.475	0.007	0.003	0.001	1.486		$2.218 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	1.519	0.010	0.006	0.002	1.537		$2.879 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	1.622	0.024	0.021	0.003	1.669		$5.366 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	1.652	0.031	0.029	0.004	1.717		$6.546 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	1.696	0.048	0.048	0.005	1.798		$8.821 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	1.740	0.074	0.079	0.007	1.902		$1.206 \times 10^4$	
30.0 GeV	$3.011 \times 10^4$	1.787	0.122	0.139	0.011	2.059		$1.711 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	1.817	0.172	0.205	0.014	2.209		$2.180 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	1.885	0.389	0.496	0.028	2.799		$3.785 \times 10^4$	
100. GeV	$1.001 \times 10^5$	1.906	0.503	0.653	0.035	3.098		$4.464 \times 10^4$	
140. GeV	$1.401 \times 10^5$	1.935	0.739	0.976	0.049	3.700		$5.644 \times 10^4$	
152. GeV	$1.523 \times 10^5$	1.942	0.812	1.077	0.053	3.886			<i>Muon critical energy</i>
200. GeV	$2.001 \times 10^5$	1.966	1.108	1.488	0.069	4.632		$7.091 \times 10^4$	
300. GeV	$3.001 \times 10^5$	1.999	1.736	2.343	0.104	6.184		$8.954 \times 10^4$	
400. GeV	$4.001 \times 10^5$	2.023	2.386	3.230	0.138	7.779		$1.039 \times 10^5$	
800. GeV	$8.001 \times 10^5$	2.081	5.066	6.863	0.280	14.291		$1.413 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.100	6.442	8.722	0.352	17.616		$1.539 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.128	9.198	12.428	0.498	24.254		$1.732 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.159	13.412	18.083	0.720	34.376		$1.939 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.194	20.444	27.479	1.101	51.220		$2.176 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.220	27.566	36.975	1.487	68.250		$2.344 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.282	56.267	75.140	3.089	136.780		$2.750 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.303	70.723	94.323	3.911	171.262		$2.880 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.334	99.558	132.598	5.599	240.091		$3.077 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	2.368	143.050	190.253	8.185	343.858		$3.284 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	2.407	215.457	286.175	12.650	516.691		$3.520 \times 10^5$	
40.0 TeV	$4.000 \times 10^7$	2.435	288.110	382.320	17.219	690.086		$3.687 \times 10^5$	
80.0 TeV	$8.000 \times 10^7$	2.505	579.107	767.166	36.296	1385.076		$4.088 \times 10^5$	
100. TeV	$1.000 \times 10^8$	2.528	724.829	959.764	46.149	1733.271		$4.217 \times 10^5$	