

## Muons in magnesium fluoride MgF<sub>2</sub>

	$\langle Z/A \rangle$	$\rho$ [g/cm <sup>3</sup> ]	$I$ [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
	0.48153	3.000	134.3	0.07934	3.6485	0.1369	2.8630	3.7105	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	$4.704 \times 10^1$	6.389				6.389		$8.702 \times 10^{-1}$	
14.0 MeV	$5.616 \times 10^1$	4.999				4.999		$1.585 \times 10^0$	
20.0 MeV	$6.802 \times 10^1$	3.915				3.915		$2.957 \times 10^0$	
30.0 MeV	$8.509 \times 10^1$	3.046				3.046		$5.893 \times 10^0$	
40.0 MeV	$1.003 \times 10^2$	2.606				2.607		$9.464 \times 10^0$	
80.0 MeV	$1.527 \times 10^2$	1.965				1.965		$2.769 \times 10^1$	
100. MeV	$1.764 \times 10^2$	1.846				1.846		$3.822 \times 10^1$	
140. MeV	$2.218 \times 10^2$	1.727				1.727		$6.072 \times 10^1$	
200. MeV	$2.868 \times 10^2$	1.661				1.661		$9.628 \times 10^1$	
297. MeV	$3.884 \times 10^2$	1.640			0.000	1.640			<i>Minimum ionization</i>
300. MeV	$3.917 \times 10^2$	1.640			0.000	1.640		$1.570 \times 10^2$	
400. MeV	$4.945 \times 10^2$	1.650			0.000	1.650		$2.179 \times 10^2$	
800. MeV	$8.995 \times 10^2$	1.722	0.000		0.000	1.723		$4.551 \times 10^2$	
1.00 GeV	$1.101 \times 10^3$	1.753	0.000		0.000	1.754		$5.701 \times 10^2$	
1.40 GeV	$1.502 \times 10^3$	1.803	0.000	0.000	0.001	1.805		$7.948 \times 10^2$	
2.00 GeV	$2.103 \times 10^3$	1.858	0.001	0.000	0.001	1.861		$1.122 \times 10^3$	
3.00 GeV	$3.104 \times 10^3$	1.921	0.001	0.001	0.001	1.924		$1.650 \times 10^3$	
4.00 GeV	$4.104 \times 10^3$	1.964	0.002	0.001	0.002	1.969		$2.163 \times 10^3$	
8.00 GeV	$8.105 \times 10^3$	2.061	0.005	0.004	0.004	2.074		$4.136 \times 10^3$	
10.0 GeV	$1.011 \times 10^4$	2.091	0.006	0.006	0.005	2.108		$5.092 \times 10^3$	
14.0 GeV	$1.411 \times 10^4$	2.134	0.009	0.010	0.006	2.160		$6.965 \times 10^3$	
20.0 GeV	$2.011 \times 10^4$	2.177	0.015	0.017	0.009	2.218		$9.705 \times 10^3$	
30.0 GeV	$3.011 \times 10^4$	2.224	0.024	0.029	0.013	2.290		$1.414 \times 10^4$	
40.0 GeV	$4.011 \times 10^4$	2.256	0.034	0.043	0.017	2.350		$1.845 \times 10^4$	
80.0 GeV	$8.011 \times 10^4$	2.328	0.076	0.103	0.033	2.542		$3.479 \times 10^4$	
100. GeV	$1.001 \times 10^5$	2.351	0.099	0.136	0.041	2.628		$4.253 \times 10^4$	
140. GeV	$1.401 \times 10^5$	2.385	0.146	0.204	0.057	2.792		$5.729 \times 10^4$	
200. GeV	$2.001 \times 10^5$	2.420	0.219	0.312	0.081	3.033		$7.790 \times 10^4$	
300. GeV	$3.001 \times 10^5$	2.460	0.346	0.494	0.122	3.421		$1.089 \times 10^5$	
400. GeV	$4.001 \times 10^5$	2.488	0.476	0.683	0.162	3.810		$1.366 \times 10^5$	
730. GeV	$7.296 \times 10^5$	2.548	0.921	1.329	0.298	5.097			<i>Muon critical energy</i>
800. GeV	$8.001 \times 10^5$	2.557	1.019	1.470	0.327	5.374		$2.246 \times 10^5$	
1.00 TeV	$1.000 \times 10^6$	2.580	1.299	1.876	0.412	6.166		$2.593 \times 10^5$	
1.40 TeV	$1.400 \times 10^6$	2.614	1.861	2.682	0.583	7.741		$3.171 \times 10^5$	
2.00 TeV	$2.000 \times 10^6$	2.650	2.725	3.916	0.845	10.136		$3.846 \times 10^5$	
3.00 TeV	$3.000 \times 10^6$	2.693	4.171	5.969	1.294	14.127		$4.679 \times 10^5$	
4.00 TeV	$4.000 \times 10^6$	2.723	5.641	8.049	1.750	18.163		$5.301 \times 10^5$	
8.00 TeV	$8.000 \times 10^6$	2.798	11.582	16.422	3.650	34.452		$6.874 \times 10^5$	
10.0 TeV	$1.000 \times 10^7$	2.822	14.583	20.636	4.628	42.670		$7.395 \times 10^5$	
14.0 TeV	$1.400 \times 10^7$	2.860	20.573	29.037	6.640	59.109		$8.188 \times 10^5$	
20.0 TeV	$2.000 \times 10^7$	2.900	29.626	41.702	9.730	83.958		$9.035 \times 10^5$	
30.0 TeV	$3.000 \times 10^7$	2.947	44.691	62.781	15.087	125.507		$1.000 \times 10^6$	
40.0 TeV	$4.000 \times 10^7$	2.981	59.827	83.924	20.583	167.314		$1.069 \times 10^6$	
80.0 TeV	$8.000 \times 10^7$	3.064	120.517	168.563	43.614	335.759		$1.235 \times 10^6$	
100. TeV	$1.000 \times 10^8$	3.091	150.940	210.930	55.542	420.504		$1.288 \times 10^6$	