

## Muons in rutherfordium (Rf)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	a	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
104 (Rf)	[267.12179(4)]	??	1047.0	0.26960	3.0000	0.6157	3.0000	6.4898	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	$4.704 \times 10^1$	3.537				3.537	$1.673 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	2.847				2.847	$2.945 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.285				2.285	$5.320 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.818				1.818	$1.029 \times 10^1$		
40.0 MeV	$1.003 \times 10^2$	1.577				1.577	$1.623 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.223				1.223	$4.587 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.161				1.161	$6.270 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.105				1.105	$9.816 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.084				1.084	$1.531 \times 10^2$		
209. MeV	$2.968 \times 10^2$	1.084	0.000			1.084		<i>Minimum ionization</i>	
300. MeV	$3.917 \times 10^2$	1.097	0.000		0.000	1.098	$2.450 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.124	0.000		0.000	1.125	$3.350 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.220	0.001		0.000	1.222	$6.752 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.255	0.002		0.000	1.258	$8.364 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.310	0.003		0.000	1.314	$1.147 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.368	0.005	0.000	0.001	1.374	$1.593 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.431	0.009	0.003	0.001	1.445	$2.302 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.474	0.013	0.006	0.001	1.496	$2.981 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.569	0.031	0.025	0.003	1.629	$5.534 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.597	0.042	0.035	0.004	1.679	$6.743 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.637	0.064	0.059	0.005	1.765	$9.065 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.676	0.099	0.097	0.007	1.880	$1.236 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.716	0.162	0.173	0.011	2.064	$1.743 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.743	0.229	0.257	0.014	2.245	$2.207 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.803	0.518	0.628	0.027	2.979	$3.750 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.822	0.672	0.829	0.034	3.358	$4.382 \times 10^4$		
116. GeV	$1.165 \times 10^5$	1.834	0.799	0.996	0.039	3.670		<i>Muon critical energy</i>	
140. GeV	$1.401 \times 10^5$	1.849	0.986	1.242	0.047	4.126	$5.456 \times 10^4$		
200. GeV	$2.001 \times 10^5$	1.877	1.477	1.898	0.067	5.321	$6.734 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.910	2.315	2.992	0.100	7.319	$8.331 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.933	3.180	4.127	0.134	9.375	$9.536 \times 10^4$		
800. GeV	$8.001 \times 10^5$	1.988	6.747	8.778	0.270	17.785	$1.258 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.006	8.578	11.157	0.339	22.083	$1.359 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.034	12.243	15.901	0.480	30.660	$1.512 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.064	17.844	23.140	0.694	43.744	$1.675 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.098	27.187	35.166	1.061	65.514	$1.861 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.122	36.647	47.320	1.433	87.525	$1.993 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.183	74.757	96.166	2.974	176.082	$2.308 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.203	93.947	120.716	3.765	220.633	$2.410 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.233	132.222	169.703	5.387	309.548	$2.562 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.266	189.944	243.494	7.872	443.578	$2.723 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.303	286.131	366.251	12.161	666.849	$2.906 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.331	382.657	489.291	16.549	890.829	$3.035 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.398	768.729	981.778	34.853	1787.760	$3.346 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.420	961.880	1228.240	44.300	2236.842	$3.445 \times 10^5$		