

**Table 315: Muons in Roentgenium**

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	a	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
111 (Rg)	[280.164 (5)]	??	1143.0	0.28162	3.0000	0.6672	3.0000	6.6477	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	$4.704 \times 10^1$	3.505				3.505	$1.703 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	2.832				2.832	$2.983 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.280				2.280	$5.367 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.819				1.819	$1.034 \times 10^1$		
40.0 MeV	$1.003 \times 10^2$	1.579				1.579	$1.627 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.227				1.228	$4.582 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.167				1.167	$6.258 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.111				1.111	$9.786 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.091	0.000			1.091	$1.525 \times 10^2$		
207. MeV	$2.943 \times 10^2$	1.091	0.000			1.091	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.105	0.000		0.000	1.106	$2.438 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.133	0.000		0.000	1.134	$3.331 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.234	0.001		0.000	1.236	$6.699 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.271	0.002		0.000	1.273	$8.293 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.327	0.003		0.000	1.331	$1.136 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.387	0.005	0.000	0.001	1.394	$1.576 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.453	0.009	0.003	0.001	1.467	$2.274 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.497	0.014	0.007	0.001	1.520	$2.943 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.595	0.034	0.026	0.003	1.658	$5.453 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.624	0.045	0.037	0.004	1.711	$6.640 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.664	0.069	0.062	0.005	1.801	$8.917 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.704	0.108	0.103	0.007	1.923	$1.214 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.745	0.177	0.184	0.010	2.118	$1.709 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.773	0.250	0.274	0.014	2.312	$2.161 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.834	0.564	0.672	0.027	3.099	$3.651 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.853	0.731	0.887	0.034	3.507	$4.258 \times 10^4$		
111. GeV	$1.108 \times 10^5$	1.861	0.821	1.003	0.037	3.724	<i>Muon critical energy</i>		
140. GeV	$1.401 \times 10^5$	1.880	1.073	1.330	0.047	4.333	$5.282 \times 10^4$		
200. GeV	$2.001 \times 10^5$	1.909	1.608	2.034	0.067	5.620	$6.496 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.942	2.520	3.208	0.100	7.772	$8.004 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.966	3.461	4.426	0.133	9.987	$9.137 \times 10^4$		
800. GeV	$8.001 \times 10^5$	2.022	7.342	9.418	0.269	19.053	$1.199 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.041	9.333	11.973	0.338	23.686	$1.293 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.069	13.319	17.064	0.478	32.933	$1.436 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.099	19.411	24.835	0.692	47.039	$1.587 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.134	29.571	37.745	1.057	70.509	$1.760 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.159	39.857	50.793	1.428	94.239	$1.882 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.220	81.292	103.230	2.963	189.708	$2.175 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.240	102.156	129.585	3.750	237.734	$2.269 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.271	143.769	182.174	5.366	333.582	$2.411 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.304	206.520	261.392	7.840	478.059	$2.560 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.343	311.086	393.174	12.112	718.717	$2.730 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.371	416.017	525.259	16.482	960.132	$2.849 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.439	835.699	1053.956	34.711	1926.808	$3.138 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.461	1045.660	1318.540	44.120	2410.784	$3.230 \times 10^5$		