

### Muons in element 117 (Un)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
117 (Un)	[294. (8)]	??	1227.0	0.29274	3.0000	0.7120	3.0000	6.7851	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	$4.704 \times 10^1$	3.439				3.439	$1.749 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	2.789				2.789	$3.051 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	2.251				2.252	$5.468 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	1.800				1.800	$1.049 \times 10^1$		
40.0 MeV	$1.003 \times 10^2$	1.565				1.565	$1.648 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.219				1.219	$4.626 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.159				1.159	$6.312 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.105				1.105	$9.860 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.086	0.000			1.086	$1.535 \times 10^2$		
206. MeV	$2.933 \times 10^2$	1.086	0.000			1.086	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.101	0.000		0.000	1.101	$2.452 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.129	0.000		0.000	1.130	$3.349 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.233	0.001		0.000	1.235	$6.724 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.271	0.002		0.000	1.273	$8.318 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.329	0.003		0.000	1.333	$1.138 \times 10^3$		
2.00 GeV	$2.103 \times 10^3$	1.390	0.005		0.001	1.396	$1.578 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.457	0.009	0.003	0.001	1.470	$2.274 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.502	0.014	0.006	0.001	1.524	$2.942 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.601	0.034	0.025	0.003	1.663	$5.444 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.630	0.045	0.036	0.004	1.716	$6.628 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.671	0.069	0.060	0.005	1.806	$8.898 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.711	0.108	0.101	0.007	1.928	$1.211 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.753	0.177	0.182	0.010	2.123	$1.705 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.780	0.250	0.270	0.014	2.316	$2.156 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	1.842	0.565	0.665	0.027	3.100	$3.645 \times 10^4$		
100. GeV	$1.001 \times 10^5$	1.861	0.732	0.878	0.033	3.506	$4.251 \times 10^4$		
112. GeV	$1.117 \times 10^5$	1.870	0.830	1.003	0.037	3.741	<i>Muon critical energy</i>		
140. GeV	$1.401 \times 10^5$	1.888	1.075	1.318	0.046	4.329	$5.277 \times 10^4$		
200. GeV	$2.001 \times 10^5$	1.918	1.611	2.016	0.066	5.612	$6.491 \times 10^4$		
300. GeV	$3.001 \times 10^5$	1.951	2.523	3.181	0.099	7.756	$8.002 \times 10^4$		
400. GeV	$4.001 \times 10^5$	1.974	3.466	4.390	0.132	9.964	$9.137 \times 10^4$		
800. GeV	$8.001 \times 10^5$	2.031	7.353	9.346	0.266	18.999	$1.200 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.050	9.347	11.882	0.335	23.615	$1.294 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.078	13.339	16.936	0.474	32.829	$1.437 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.108	19.439	24.651	0.685	46.886	$1.589 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.143	29.612	37.468	1.047	70.272	$1.762 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.168	39.912	50.421	1.414	93.917	$1.885 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.230	81.397	102.481	2.935	189.045	$2.179 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.250	102.285	128.646	3.715	236.899	$2.274 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.281	143.947	180.856	5.314	332.401	$2.415 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.314	206.770	259.504	7.764	476.355	$2.565 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.353	311.456	390.335	11.994	716.141	$2.735 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.381	416.505	521.468	16.321	956.678	$2.856 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.449	836.650	1046.354	34.367	1919.823	$3.145 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.472	1046.840	1309.030	43.680	2402.024	$3.238 \times 10^5$		