

**Muons in rubidium (Rb)**

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
37 (Rb)	85.4678(3)	1.532	363.0	0.07261	3.4177	0.5737	3.7995	6.4776	0.14

  

$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]
10.0 MeV	$4.704 \times 10^1$	4.920				4.920	$1.150 \times 10^0$
14.0 MeV	$5.616 \times 10^1$	3.880				3.880	$2.075 \times 10^0$
20.0 MeV	$6.802 \times 10^1$	3.061				3.061	$3.835 \times 10^0$
30.0 MeV	$8.509 \times 10^1$	2.398				2.398	$7.575 \times 10^0$
40.0 MeV	$1.003 \times 10^2$	2.061				2.061	$1.210 \times 10^1$
80.0 MeV	$1.527 \times 10^2$	1.569				1.569	$3.502 \times 10^1$
100. MeV	$1.764 \times 10^2$	1.482				1.483	$4.817 \times 10^1$
140. MeV	$2.218 \times 10^2$	1.399				1.399	$7.606 \times 10^1$
200. MeV	$2.868 \times 10^2$	1.361				1.361	$1.197 \times 10^2$
239. MeV	$3.285 \times 10^2$	1.356				1.356	<i>Minimum ionization</i>
300. MeV	$3.917 \times 10^2$	1.362	0.000		0.000	1.362	$1.933 \times 10^2$
400. MeV	$4.945 \times 10^2$	1.385	0.000		0.000	1.385	$2.661 \times 10^2$
800. MeV	$8.995 \times 10^2$	1.480	0.001		0.000	1.481	$5.449 \times 10^2$
1.00 GeV	$1.101 \times 10^3$	1.517	0.001		0.000	1.519	$6.782 \times 10^2$
1.40 GeV	$1.502 \times 10^3$	1.576	0.001	0.000	0.001	1.578	$9.363 \times 10^2$
2.00 GeV	$2.103 \times 10^3$	1.639	0.002	0.001	0.001	1.643	$1.308 \times 10^3$
3.00 GeV	$3.104 \times 10^3$	1.709	0.004	0.003	0.001	1.717	$1.903 \times 10^3$
4.00 GeV	$4.104 \times 10^3$	1.757	0.005	0.004	0.002	1.769	$2.476 \times 10^3$
8.00 GeV	$8.105 \times 10^3$	1.865	0.013	0.013	0.003	1.896	$4.652 \times 10^3$
10.0 GeV	$1.011 \times 10^4$	1.898	0.018	0.019	0.004	1.938	$5.695 \times 10^3$
14.0 GeV	$1.411 \times 10^4$	1.944	0.027	0.030	0.006	2.007	$7.721 \times 10^3$
20.0 GeV	$2.011 \times 10^4$	1.990	0.042	0.049	0.008	2.089	$1.065 \times 10^4$
30.0 GeV	$3.011 \times 10^4$	2.038	0.069	0.085	0.012	2.204	$1.531 \times 10^4$
40.0 GeV	$4.011 \times 10^4$	2.070	0.097	0.124	0.015	2.307	$1.974 \times 10^4$
80.0 GeV	$8.011 \times 10^4$	2.141	0.219	0.298	0.030	2.688	$3.577 \times 10^4$
100. GeV	$1.001 \times 10^5$	2.163	0.283	0.391	0.037	2.875	$4.296 \times 10^4$
140. GeV	$1.401 \times 10^5$	2.194	0.416	0.584	0.052	3.247	$5.605 \times 10^4$
200. GeV	$2.001 \times 10^5$	2.227	0.623	0.889	0.074	3.814	$7.308 \times 10^4$
275. GeV	$2.746 \times 10^5$	2.255	0.886	1.268	0.101	4.512	<i>Muon critical energy</i>
300. GeV	$3.001 \times 10^5$	2.263	0.978	1.400	0.110	4.753	$9.653 \times 10^4$
400. GeV	$4.001 \times 10^5$	2.289	1.345	1.930	0.147	5.712	$1.157 \times 10^5$
800. GeV	$8.001 \times 10^5$	2.351	2.862	4.104	0.297	9.615	$1.691 \times 10^5$
1.00 TeV	$1.000 \times 10^6$	2.371	3.642	5.217	0.374	11.604	$1.880 \times 10^5$
1.40 TeV	$1.400 \times 10^6$	2.402	5.206	7.437	0.529	15.575	$2.177 \times 10^5$
2.00 TeV	$2.000 \times 10^6$	2.435	7.600	10.827	0.766	21.628	$2.502 \times 10^5$
3.00 TeV	$3.000 \times 10^6$	2.473	11.598	16.460	1.171	31.703	$2.882 \times 10^5$
4.00 TeV	$4.000 \times 10^6$	2.500	15.652	22.155	1.583	41.891	$3.156 \times 10^5$
8.00 TeV	$8.000 \times 10^6$	2.567	32.005	45.053	3.291	82.918	$3.821 \times 10^5$
10.0 TeV	$1.000 \times 10^7$	2.589	40.249	56.566	4.169	103.574	$4.037 \times 10^5$
14.0 TeV	$1.400 \times 10^7$	2.623	56.694	79.536	5.971	144.824	$4.362 \times 10^5$
20.0 TeV	$2.000 \times 10^7$	2.659	81.514	114.142	8.734	207.050	$4.707 \times 10^5$
30.0 TeV	$3.000 \times 10^7$	2.701	122.834	171.721	13.510	310.767	$5.098 \times 10^5$
40.0 TeV	$4.000 \times 10^7$	2.731	164.311	229.443	18.400	414.886	$5.376 \times 10^5$
80.0 TeV	$8.000 \times 10^7$	2.806	330.495	460.500	38.827	832.629	$6.043 \times 10^5$
100. TeV	$1.000 \times 10^8$	2.831	413.740	576.140	49.380	1042.092	$6.257 \times 10^5$