

## Muons in selenium (Se)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
34 (Se)	78.971(8)	4.500	348.0	0.06568	3.4317	0.2258	3.6264	5.3210	0.10
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	4.926				4.926	$1.148 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	3.883				3.883	$2.072 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	3.061				3.061	$3.831 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	2.397				2.397	$7.572 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	2.059				2.059	$1.210 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.564				1.564	$3.508 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.476				1.476	$4.827 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.391				1.392	$7.631 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.350				1.350	$1.202 \times 10^2$		
252. MeV	$3.421 \times 10^2$	1.343			0.000	1.343	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.346	0.000		0.000	1.347	$1.946 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.364	0.000		0.000	1.364	$2.684 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.447	0.001		0.000	1.448	$5.527 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.480	0.001		0.000	1.481	$6.893 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.533	0.001	0.000	0.001	1.535	$9.543 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	1.590	0.002	0.001	0.001	1.594	$1.337 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.655	0.003	0.002	0.001	1.662	$1.951 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.699	0.005	0.004	0.002	1.710	$2.544 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.800	0.012	0.012	0.003	1.828	$4.798 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.830	0.016	0.017	0.004	1.868	$5.880 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.873	0.025	0.028	0.006	1.932	$7.984 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.916	0.039	0.045	0.008	2.008	$1.103 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.962	0.063	0.078	0.012	2.116	$1.588 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.993	0.089	0.115	0.015	2.212	$2.050 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.061	0.201	0.275	0.030	2.568	$3.725 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.082	0.261	0.361	0.037	2.742	$4.478 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.113	0.383	0.539	0.052	3.087	$5.853 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.145	0.574	0.821	0.074	3.614	$7.648 \times 10^4$		
285. GeV	$2.850 \times 10^5$	2.176	0.850	1.220	0.105	4.353	<i>Muon critical energy</i>		
300. GeV	$3.001 \times 10^5$	2.180	0.901	1.293	0.111	4.485	$1.013 \times 10^5$		
400. GeV	$4.001 \times 10^5$	2.206	1.239	1.782	0.148	5.375	$1.216 \times 10^5$		
800. GeV	$8.001 \times 10^5$	2.267	2.636	3.790	0.299	8.993	$1.786 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.287	3.354	4.818	0.376	10.837	$1.988 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.318	4.796	6.869	0.533	14.517	$2.306 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.351	7.002	10.002	0.771	20.127	$2.655 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.388	10.688	15.208	1.179	29.465	$3.064 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.416	14.426	20.472	1.593	38.907	$3.358 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.482	29.504	41.637	3.313	76.938	$4.075 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.504	37.107	52.279	4.197	96.088	$4.308 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.538	52.272	73.510	6.011	134.332	$4.658 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.574	75.162	105.498	8.792	192.027	$5.030 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.616	113.270	158.722	13.602	288.211	$5.452 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.646	151.525	212.079	18.528	384.780	$5.751 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.720	304.806	425.659	39.107	772.293	$6.471 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.745	381.590	532.550	49.740	966.626	$6.702 \times 10^5$		