

Muons in nickel (Ni)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
28 (Ni)	58.6934(4)	8.902	311.0	0.16496	2.8430	-0.0566	3.1851	4.3115	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	$4.704 \times 10^1$	5.551				5.551	$1.016 \times 10^0$
14.0 MeV	$5.616 \times 10^1$	4.369				4.369	$1.836 \times 10^0$
20.0 MeV	$6.802 \times 10^1$	3.439				3.439	$3.401 \times 10^0$
30.0 MeV	$8.509 \times 10^1$	2.687				2.687	$6.736 \times 10^0$
40.0 MeV	$1.003 \times 10^2$	2.302				2.303	$1.078 \times 10^1$
80.0 MeV	$1.527 \times 10^2$	1.737				1.737	$3.141 \times 10^1$
100. MeV	$1.764 \times 10^2$	1.634				1.634	$4.331 \times 10^1$
140. MeV	$2.218 \times 10^2$	1.533				1.533	$6.869 \times 10^1$
200. MeV	$2.868 \times 10^2$	1.480				1.480	$1.087 \times 10^2$
267. MeV	$3.577 \times 10^2$	1.468			0.000	1.468	<i>Minimum ionization</i>
300. MeV	$3.917 \times 10^2$	1.469			0.000	1.470	$1.767 \times 10^2$
400. MeV	$4.945 \times 10^2$	1.484	0.000		0.000	1.485	$2.444 \times 10^2$
800. MeV	$8.995 \times 10^2$	1.567	0.000		0.000	1.568	$5.063 \times 10^2$
1.00 GeV	$1.101 \times 10^3$	1.602	0.001		0.000	1.603	$6.324 \times 10^2$
1.40 GeV	$1.502 \times 10^3$	1.658	0.001	0.000	0.001	1.660	$8.774 \times 10^2$
2.00 GeV	$2.103 \times 10^3$	1.718	0.002	0.001	0.001	1.722	$1.232 \times 10^3$
3.00 GeV	$3.104 \times 10^3$	1.787	0.003	0.002	0.001	1.794	$1.800 \times 10^3$
4.00 GeV	$4.104 \times 10^3$	1.835	0.005	0.004	0.002	1.845	$2.349 \times 10^3$
8.00 GeV	$8.105 \times 10^3$	1.943	0.011	0.011	0.003	1.970	$4.440 \times 10^3$
10.0 GeV	$1.011 \times 10^4$	1.976	0.015	0.016	0.004	2.012	$5.444 \times 10^3$
14.0 GeV	$1.411 \times 10^4$	2.023	0.023	0.026	0.006	2.078	$7.399 \times 10^3$
20.0 GeV	$2.011 \times 10^4$	2.070	0.036	0.042	0.008	2.156	$1.023 \times 10^4$
30.0 GeV	$3.011 \times 10^4$	2.120	0.059	0.073	0.012	2.264	$1.475 \times 10^4$
40.0 GeV	$4.011 \times 10^4$	2.153	0.083	0.107	0.016	2.359	$1.908 \times 10^4$
80.0 GeV	$8.011 \times 10^4$	2.227	0.188	0.256	0.031	2.702	$3.489 \times 10^4$
100. GeV	$1.001 \times 10^5$	2.250	0.243	0.336	0.038	2.868	$4.208 \times 10^4$
140. GeV	$1.401 \times 10^5$	2.284	0.357	0.502	0.053	3.196	$5.528 \times 10^4$
200. GeV	$2.001 \times 10^5$	2.319	0.535	0.764	0.076	3.694	$7.273 \times 10^4$
300. GeV	$3.001 \times 10^5$	2.358	0.840	1.205	0.114	4.517	$9.718 \times 10^4$
326. GeV	$3.261 \times 10^5$	2.366	0.921	1.322	0.123	4.734	<i>Muon critical energy</i>
400. GeV	$4.001 \times 10^5$	2.386	1.155	1.661	0.151	5.355	$1.175 \times 10^5$
800. GeV	$8.001 \times 10^5$	2.455	2.460	3.537	0.306	8.758	$1.753 \times 10^5$
1.00 TeV	$1.000 \times 10^6$	2.477	3.131	4.498	0.385	10.491	$1.962 \times 10^5$
1.40 TeV	$1.400 \times 10^6$	2.511	4.478	6.415	0.545	13.950	$2.291 \times 10^5$
2.00 TeV	$2.000 \times 10^6$	2.547	6.539	9.344	0.789	19.220	$2.657 \times 10^5$
3.00 TeV	$3.000 \times 10^6$	2.589	9.985	14.213	1.207	27.993	$3.085 \times 10^5$
4.00 TeV	$4.000 \times 10^6$	2.619	13.479	19.135	1.631	36.865	$3.396 \times 10^5$
8.00 TeV	$8.000 \times 10^6$	2.693	27.581	38.933	3.393	72.601	$4.154 \times 10^5$
10.0 TeV	$1.000 \times 10^7$	2.717	34.693	48.889	4.299	90.599	$4.400 \times 10^5$
14.0 TeV	$1.400 \times 10^7$	2.754	48.879	68.750	6.160	126.545	$4.772 \times 10^5$
20.0 TeV	$2.000 \times 10^7$	2.794	70.296	98.678	9.014	180.783	$5.167 \times 10^5$
30.0 TeV	$3.000 \times 10^7$	2.841	105.950	148.472	13.951	271.215	$5.616 \times 10^5$
40.0 TeV	$4.000 \times 10^7$	2.874	141.745	198.394	19.008	362.022	$5.934 \times 10^5$
80.0 TeV	$8.000 \times 10^7$	2.956	285.187	398.232	40.151	726.526	$6.698 \times 10^5$
100. TeV	$1.000 \times 10^8$	2.983	357.050	498.250	51.080	909.364	$6.944 \times 10^5$