

Table 030: Muons in Zinc

Z	A [g/mol]	ρ [g/cm ³]	I [eV]	a	$k = m_s$	x_0	x_1	\bar{C}	δ_0
30 (Zn)	65.409 (4)	7.133	330.0	0.14714	2.8652	0.0049	3.3668	4.6906	0.08
T	p [MeV/c]	Ionization	Brems	Pair prod [MeV cm ² /g]	Photonucl	Total	CSDA range [g/cm ²]		
10.0 MeV	4.704×10^1	5.289				5.289	1.068×10^0		
14.0 MeV	5.616×10^1	4.166				4.166	1.929×10^0		
20.0 MeV	6.802×10^1	3.282				3.282	3.569×10^0		
30.0 MeV	8.509×10^1	2.567				2.567	7.060×10^0		
40.0 MeV	1.003×10^2	2.203				2.203	1.129×10^1		
80.0 MeV	1.527×10^2	1.665				1.665	3.282×10^1		
100. MeV	1.764×10^2	1.567				1.567	4.524×10^1		
140. MeV	2.218×10^2	1.471				1.471	7.170×10^1		
200. MeV	2.868×10^2	1.421				1.421	1.133×10^2		
267. MeV	3.577×10^2	1.411			0.000	1.411	<i>Minimum ionization</i>		
300. MeV	3.917×10^2	1.412	0.000		0.000	1.412	1.841×10^2		
400. MeV	4.945×10^2	1.428	0.000		0.000	1.428	2.546×10^2		
800. MeV	8.995×10^2	1.510	0.001		0.000	1.511	5.267×10^2		
1.00 GeV	1.101×10^3	1.544	0.001		0.000	1.545	6.576×10^2		
1.40 GeV	1.502×10^3	1.598	0.001	0.000	0.001	1.600	9.118×10^2		
2.00 GeV	2.103×10^3	1.658	0.002	0.001	0.001	1.662	1.279×10^3		
3.00 GeV	3.104×10^3	1.725	0.003	0.002	0.001	1.732	1.868×10^3		
4.00 GeV	4.104×10^3	1.772	0.005	0.004	0.002	1.783	2.437×10^3		
8.00 GeV	8.105×10^3	1.879	0.012	0.012	0.003	1.906	4.598×10^3		
10.0 GeV	1.011×10^4	1.911	0.016	0.016	0.004	1.948	5.636×10^3		
14.0 GeV	1.411×10^4	1.958	0.024	0.026	0.006	2.014	7.654×10^3		
20.0 GeV	2.011×10^4	2.004	0.037	0.043	0.008	2.092	1.057×10^4		
30.0 GeV	3.011×10^4	2.053	0.060	0.075	0.012	2.200	1.523×10^4		
40.0 GeV	4.011×10^4	2.086	0.085	0.109	0.016	2.296	1.968×10^4		
80.0 GeV	8.011×10^4	2.159	0.192	0.262	0.031	2.644	3.588×10^4		
100. GeV	1.001×10^5	2.181	0.248	0.344	0.038	2.812	4.322×10^4		
140. GeV	1.401×10^5	2.214	0.365	0.513	0.053	3.146	5.666×10^4		
200. GeV	2.001×10^5	2.248	0.547	0.782	0.075	3.653	7.435×10^4		
300. GeV	3.001×10^5	2.286	0.859	1.232	0.113	4.490	9.901×10^4		
310. GeV	3.105×10^5	2.289	0.892	1.280	0.117	4.578	<i>Muon critical energy</i>		
400. GeV	4.001×10^5	2.313	1.181	1.699	0.150	5.344	1.194×10^5		
800. GeV	8.001×10^5	2.378	2.515	3.617	0.304	8.814	1.771×10^5		
1.00 TeV	1.000×10^6	2.400	3.201	4.599	0.382	10.581	1.978×10^5		
1.40 TeV	1.400×10^6	2.432	4.577	6.559	0.541	14.109	2.304×10^5		
2.00 TeV	2.000×10^6	2.467	6.683	9.552	0.782	19.485	2.665×10^5		
3.00 TeV	3.000×10^6	2.507	10.204	14.526	1.196	28.434	3.087×10^5		
4.00 TeV	4.000×10^6	2.536	13.773	19.556	1.617	37.484	3.393×10^5		
8.00 TeV	8.000×10^6	2.607	28.179	39.784	3.364	73.935	4.138×10^5		
10.0 TeV	1.000×10^7	2.631	35.443	49.955	4.262	92.292	4.380×10^5		
14.0 TeV	1.400×10^7	2.666	49.934	70.247	6.106	128.954	4.745×10^5		
20.0 TeV	2.000×10^7	2.705	71.808	100.822	8.934	184.270	5.132×10^5		
30.0 TeV	3.000×10^7	2.749	108.223	151.694	13.826	276.493	5.572×10^5		
40.0 TeV	4.000×10^7	2.781	144.781	202.694	18.836	369.094	5.884×10^5		
80.0 TeV	8.000×10^7	2.860	291.272	406.851	39.777	740.761	6.634×10^5		
100. TeV	1.000×10^8	2.886	364.660	509.030	50.600	927.177	6.875×10^5		