

**Table 027: Muons in Cobalt**

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	a	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
27 (Co)	58.933195 (5)	8.900	297.0	0.14474	2.9502	-0.0187	3.1790	4.2601	0.12
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	$4.704 \times 10^1$	5.372				5.372	$1.049 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	4.226				4.226	$1.897 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	3.325				3.325	$3.515 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	2.597				2.597	$6.964 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	2.225				2.225	$1.115 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.679				1.679	$3.249 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.580				1.581	$4.479 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.483				1.483	$7.104 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.431				1.431	$1.124 \times 10^2$		
270. MeV	$3.602 \times 10^2$	1.419			0.000	1.420	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.421			0.000	1.421	$1.827 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.435	0.000		0.000	1.435	$2.528 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.514	0.000		0.000	1.515	$5.238 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.547	0.001		0.000	1.548	$6.544 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.600	0.001	0.000	0.001	1.602	$9.081 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	1.658	0.002	0.001	0.001	1.661	$1.275 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.723	0.003	0.002	0.001	1.730	$1.865 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.769	0.004	0.003	0.002	1.778	$2.434 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.872	0.011	0.011	0.003	1.897	$4.604 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.903	0.014	0.015	0.004	1.936	$5.648 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.947	0.021	0.024	0.006	1.999	$7.679 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.992	0.033	0.039	0.008	2.073	$1.062 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	2.039	0.055	0.068	0.012	2.174	$1.533 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	2.071	0.077	0.099	0.016	2.263	$1.984 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.142	0.174	0.237	0.031	2.585	$3.635 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.164	0.225	0.312	0.038	2.740	$4.386 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.196	0.331	0.466	0.053	3.047	$5.770 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.230	0.496	0.710	0.076	3.513	$7.602 \times 10^4$		
300. GeV	$3.001 \times 10^5$	2.268	0.779	1.120	0.114	4.281	$1.018 \times 10^5$		
336. GeV	$3.356 \times 10^5$	2.278	0.882	1.269	0.127	4.557	<i>Muon critical energy</i>		
400. GeV	$4.001 \times 10^5$	2.295	1.072	1.544	0.151	5.063	$1.232 \times 10^5$		
800. GeV	$8.001 \times 10^5$	2.360	2.283	3.289	0.306	8.239	$1.846 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.382	2.906	4.183	0.384	9.855	$2.068 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.414	4.156	5.967	0.545	13.082	$2.419 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.449	6.070	8.691	0.788	17.999	$2.808 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.489	9.269	13.220	1.206	26.185	$3.267 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.518	12.514	17.800	1.630	34.462	$3.598 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.589	25.609	36.218	3.392	67.810	$4.410 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.612	32.214	45.481	4.298	84.606	$4.674 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.648	45.388	63.959	6.158	118.154	$5.072 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.686	65.278	91.802	9.010	168.777	$5.495 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.731	98.391	138.129	13.946	253.198	$5.976 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.763	131.636	184.575	19.003	337.979	$6.316 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.842	264.858	370.503	40.143	678.346	$7.135 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.868	331.600	463.560	51.070	849.099	$7.398 \times 10^5$		