

Muons in aluminum (Al)

| Z | A [g/mol] | ρ [g/cm ³] | I [eV] | a | $k = m_s$ | x_0 | x_1 | \bar{C} | δ_0 |
|----------|---------------------|-----------------------------|---------|---------------------------------------|-----------|---------|------------------------------------|-----------|------------|
| 13 (Al) | 26.9815385(7) | 2.699 | 166.0 | 0.08024 | 3.6345 | 0.1708 | 3.0127 | 4.2395 | 0.12 |
| 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 | 6.188 | | | | 6.188 | 9.023×10^{-1} | | |
| 14.0 MeV | 5.616×10^1 | 4.849 | | | | 4.849 | 1.640×10^0 | | |
| 20.0 MeV | 6.802×10^1 | 3.802 | | | | 3.802 | 3.053×10^0 | | |
| 30.0 MeV | 8.509×10^1 | 2.960 | | | | 2.961 | 6.075×10^0 | | |
| 40.0 MeV | 1.003×10^2 | 2.533 | | | | 2.533 | 9.750×10^0 | | |
| 80.0 MeV | 1.527×10^2 | 1.908 | | | | 1.908 | 2.851×10^1 | | |
| 100. MeV | 1.764×10^2 | 1.797 | | | | 1.798 | 3.934×10^1 | | |
| 140. MeV | 2.218×10^2 | 1.688 | | | | 1.688 | 6.241×10^1 | | |
| 200. MeV | 2.868×10^2 | 1.629 | | | | 1.630 | 9.871×10^1 | | |
| 277. MeV | 3.683×10^2 | 1.615 | | | 0.000 | 1.615 | <i>Minimum ionization</i> | | |
| 300. MeV | 3.917×10^2 | 1.616 | | | 0.000 | 1.616 | 1.605×10^2 | | |
| 400. MeV | 4.945×10^2 | 1.630 | | | 0.000 | 1.630 | 2.222×10^2 | | |
| 800. MeV | 8.995×10^2 | 1.710 | 0.000 | | 0.000 | 1.711 | 4.616×10^2 | | |
| 1.00 GeV | 1.101×10^3 | 1.744 | 0.000 | | 0.000 | 1.745 | 5.773×10^2 | | |
| 1.40 GeV | 1.502×10^3 | 1.797 | 0.001 | 0.000 | 0.001 | 1.799 | 8.029×10^2 | | |
| 2.00 GeV | 2.103×10^3 | 1.855 | 0.001 | 0.000 | 0.001 | 1.858 | 1.131×10^3 | | |
| 3.00 GeV | 3.104×10^3 | 1.920 | 0.002 | 0.001 | 0.001 | 1.925 | 1.659×10^3 | | |
| 4.00 GeV | 4.104×10^3 | 1.965 | 0.002 | 0.002 | 0.002 | 1.971 | 2.172×10^3 | | |
| 8.00 GeV | 8.105×10^3 | 2.067 | 0.006 | 0.006 | 0.004 | 2.082 | 4.140×10^3 | | |
| 10.0 GeV | 1.011×10^4 | 2.097 | 0.008 | 0.008 | 0.005 | 2.117 | 5.092×10^3 | | |
| 14.0 GeV | 1.411×10^4 | 2.141 | 0.012 | 0.013 | 0.006 | 2.172 | 6.956×10^3 | | |
| 20.0 GeV | 2.011×10^4 | 2.185 | 0.018 | 0.021 | 0.009 | 2.233 | 9.678×10^3 | | |
| 30.0 GeV | 3.011×10^4 | 2.233 | 0.030 | 0.036 | 0.013 | 2.312 | 1.408×10^4 | | |
| 40.0 GeV | 4.011×10^4 | 2.265 | 0.042 | 0.053 | 0.017 | 2.377 | 1.834×10^4 | | |
| 80.0 GeV | 8.011×10^4 | 2.338 | 0.095 | 0.129 | 0.033 | 2.594 | 3.442×10^4 | | |
| 100. GeV | 1.001×10^5 | 2.360 | 0.123 | 0.169 | 0.040 | 2.693 | 4.199×10^4 | | |
| 140. GeV | 1.401×10^5 | 2.394 | 0.181 | 0.253 | 0.056 | 2.884 | 5.634×10^4 | | |
| 200. GeV | 2.001×10^5 | 2.429 | 0.272 | 0.385 | 0.080 | 3.166 | 7.618×10^4 | | |
| 300. GeV | 3.001×10^5 | 2.469 | 0.427 | 0.610 | 0.120 | 3.627 | 1.057×10^5 | | |
| 400. GeV | 4.001×10^5 | 2.498 | 0.588 | 0.845 | 0.160 | 4.091 | 1.316×10^5 | | |
| 612. GeV | 6.124×10^5 | 2.540 | 0.940 | 1.355 | 0.245 | 5.080 | <i>Muon critical energy</i> | | |
| 800. GeV | 8.001×10^5 | 2.567 | 1.257 | 1.813 | 0.323 | 5.960 | 2.122×10^5 | | |
| 1.00 TeV | 1.000×10^6 | 2.589 | 1.602 | 2.312 | 0.405 | 6.909 | 2.433×10^5 | | |
| 1.40 TeV | 1.400×10^6 | 2.623 | 2.295 | 3.304 | 0.575 | 8.797 | 2.945×10^5 | | |
| 2.00 TeV | 2.000×10^6 | 2.660 | 3.357 | 4.823 | 0.832 | 11.672 | 3.535×10^5 | | |
| 3.00 TeV | 3.000×10^6 | 2.702 | 5.135 | 7.347 | 1.274 | 16.458 | 4.254×10^5 | | |
| 4.00 TeV | 4.000×10^6 | 2.732 | 6.941 | 9.902 | 1.723 | 21.299 | 4.786×10^5 | | |
| 8.00 TeV | 8.000×10^6 | 2.807 | 14.238 | 20.187 | 3.590 | 40.823 | 6.120×10^5 | | |
| 10.0 TeV | 1.000×10^7 | 2.832 | 17.923 | 25.362 | 4.551 | 50.668 | 6.559×10^5 | | |
| 14.0 TeV | 1.400×10^7 | 2.869 | 25.280 | 35.679 | 6.528 | 70.356 | 7.226×10^5 | | |
| 20.0 TeV | 2.000×10^7 | 2.910 | 36.398 | 51.230 | 9.562 | 100.100 | 7.937×10^5 | | |
| 30.0 TeV | 3.000×10^7 | 2.956 | 54.885 | 77.117 | 14.821 | 149.780 | 8.749×10^5 | | |
| 40.0 TeV | 4.000×10^7 | 2.990 | 73.453 | 103.080 | 20.213 | 199.737 | 9.325×10^5 | | |
| 80.0 TeV | 8.000×10^7 | 3.073 | 147.903 | 207.010 | 42.793 | 400.780 | 1.071×10^6 | | |
| 100. TeV | 1.000×10^8 | 3.100 | 185.220 | 259.030 | 54.480 | 501.831 | 1.116×10^6 | | |