

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) | 65.38 (2) | 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 | 5.291 | | | | 5.291 | 1.068×10^0 | | |
| 14.0 MeV | 5.616×10^1 | 4.168 | | | | 4.168 | 1.928×10^0 | | |
| 20.0 MeV | 6.802×10^1 | 3.284 | | | | 3.284 | 3.567×10^0 | | |
| 30.0 MeV | 8.509×10^1 | 2.569 | | | | 2.569 | 7.057×10^0 | | |
| 40.0 MeV | 1.003×10^2 | 2.204 | | | | 2.204 | 1.129×10^1 | | |
| 80.0 MeV | 1.527×10^2 | 1.665 | | | | 1.665 | 3.281×10^1 | | |
| 100. MeV | 1.764×10^2 | 1.568 | | | | 1.568 | 4.522×10^1 | | |
| 140. MeV | 2.218×10^2 | 1.472 | | | | 1.472 | 7.167×10^1 | | |
| 200. MeV | 2.868×10^2 | 1.422 | | | | 1.422 | 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 | 1.413 | 0.000 | | 0.000 | 1.413 | 1.840×10^2 | | |
| 400. MeV | 4.945×10^2 | 1.428 | 0.000 | | 0.000 | 1.429 | 2.544×10^2 | | |
| 800. MeV | 8.995×10^2 | 1.510 | 0.001 | | 0.000 | 1.511 | 5.265×10^2 | | |
| 1.00 GeV | 1.101×10^3 | 1.544 | 0.001 | | 0.000 | 1.546 | 6.573×10^2 | | |
| 1.40 GeV | 1.502×10^3 | 1.599 | 0.001 | 0.000 | 0.001 | 1.601 | 9.113×10^2 | | |
| 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 | 1.726 | 0.003 | 0.002 | 0.001 | 1.733 | 1.867×10^3 | | |
| 4.00 GeV | 4.104×10^3 | 1.773 | 0.005 | 0.004 | 0.002 | 1.784 | 2.435×10^3 | | |
| 8.00 GeV | 8.105×10^3 | 1.880 | 0.012 | 0.012 | 0.003 | 1.907 | 4.596×10^3 | | |
| 10.0 GeV | 1.011×10^4 | 1.912 | 0.016 | 0.016 | 0.004 | 1.949 | 5.633×10^3 | | |
| 14.0 GeV | 1.411×10^4 | 1.959 | 0.024 | 0.026 | 0.006 | 2.015 | 7.650×10^3 | | |
| 20.0 GeV | 2.011×10^4 | 2.005 | 0.037 | 0.043 | 0.008 | 2.093 | 1.057×10^4 | | |
| 30.0 GeV | 3.011×10^4 | 2.054 | 0.060 | 0.075 | 0.012 | 2.201 | 1.522×10^4 | | |
| 40.0 GeV | 4.011×10^4 | 2.087 | 0.085 | 0.109 | 0.016 | 2.297 | 1.967×10^4 | | |
| 80.0 GeV | 8.011×10^4 | 2.160 | 0.192 | 0.262 | 0.031 | 2.645 | 3.587×10^4 | | |
| 100. GeV | 1.001×10^5 | 2.182 | 0.248 | 0.344 | 0.038 | 2.813 | 4.320×10^4 | | |
| 140. GeV | 1.401×10^5 | 2.215 | 0.365 | 0.513 | 0.053 | 3.147 | 5.664×10^4 | | |
| 200. GeV | 2.001×10^5 | 2.249 | 0.547 | 0.782 | 0.075 | 3.654 | 7.432×10^4 | | |
| 300. GeV | 3.001×10^5 | 2.287 | 0.859 | 1.232 | 0.113 | 4.491 | 9.897×10^4 | | |
| 311. GeV | 3.106×10^5 | 2.290 | 0.892 | 1.281 | 0.117 | 4.581 | <i>Muon critical energy</i> | | |
| 400. GeV | 4.001×10^5 | 2.314 | 1.181 | 1.699 | 0.150 | 5.345 | 1.194×10^5 | | |
| 800. GeV | 8.001×10^5 | 2.379 | 2.515 | 3.617 | 0.304 | 8.815 | 1.771×10^5 | | |
| 1.00 TeV | 1.000×10^6 | 2.401 | 3.201 | 4.599 | 0.382 | 10.582 | 1.977×10^5 | | |
| 1.40 TeV | 1.400×10^6 | 2.433 | 4.577 | 6.559 | 0.541 | 14.110 | 2.304×10^5 | | |
| 2.00 TeV | 2.000×10^6 | 2.468 | 6.683 | 9.552 | 0.782 | 19.486 | 2.664×10^5 | | |
| 3.00 TeV | 3.000×10^6 | 2.508 | 10.204 | 14.526 | 1.196 | 28.435 | 3.087×10^5 | | |
| 4.00 TeV | 4.000×10^6 | 2.537 | 13.773 | 19.556 | 1.617 | 37.485 | 3.392×10^5 | | |
| 8.00 TeV | 8.000×10^6 | 2.608 | 28.179 | 39.784 | 3.364 | 73.936 | 4.138×10^5 | | |
| 10.0 TeV | 1.000×10^7 | 2.632 | 35.443 | 49.955 | 4.262 | 92.293 | 4.379×10^5 | | |
| 14.0 TeV | 1.400×10^7 | 2.668 | 49.934 | 70.247 | 6.106 | 128.955 | 4.744×10^5 | | |
| 20.0 TeV | 2.000×10^7 | 2.706 | 71.808 | 100.822 | 8.934 | 184.271 | 5.132×10^5 | | |
| 30.0 TeV | 3.000×10^7 | 2.751 | 108.223 | 151.694 | 13.826 | 276.494 | 5.572×10^5 | | |
| 40.0 TeV | 4.000×10^7 | 2.783 | 144.781 | 202.694 | 18.836 | 369.095 | 5.884×10^5 | | |
| 80.0 TeV | 8.000×10^7 | 2.862 | 291.272 | 406.851 | 39.777 | 740.762 | 6.633×10^5 | | |
| 100. TeV | 1.000×10^8 | 2.888 | 364.660 | 509.030 | 50.600 | 927.179 | 6.874×10^5 | | |