## Table 045: Muons in Rhodium

| Z | $A$ [g/mol] | $\rho$ [g/cm$^3$] | $I$ [eV] | $a$ | $k = m_s$ | $x_0$ | $x_1$ | $\overline{C}$ | $\delta_0$ |
|---|---|---|---|---|---|---|---|---|---|
| 45 (Rh) | 102.90550 (2) | 12.410 | 449.0 | 0.19205 | 2.8633 | 0.0576 | 3.1069 | 4.8008 | 0.14 |

| $T$ | $p$ [MeV/$c$] | Ionization | Brems | Pair prod | Photonucl | Total | CSDA range [g/cm$^2$] |
|---|---|---|---|---|---|---|---|
| | | [MeV cm$^2$/g] | | | | | |
| 10.0 MeV | $4.704 \times 10^1$ | 4.778 | | | | 4.778 | $1.190 \times 10^0$ |
| 14.0 MeV | $5.616 \times 10^1$ | 3.775 | | | | 3.775 | $2.141 \times 10^0$ |
| 20.0 MeV | $6.802 \times 10^1$ | 2.982 | | | | 2.982 | $3.949 \times 10^0$ |
| 30.0 MeV | $8.509 \times 10^1$ | 2.338 | | | | 2.338 | $7.787 \times 10^0$ |
| 40.0 MeV | $1.003 \times 10^2$ | 2.008 | | | | 2.008 | $1.243 \times 10^1$ |
| 80.0 MeV | $1.527 \times 10^2$ | 1.527 | | | | 1.527 | $3.598 \times 10^1$ |
| 100. MeV | $1.764 \times 10^2$ | 1.442 | | | | 1.442 | $4.949 \times 10^1$ |
| 140. MeV | $2.218 \times 10^2$ | 1.358 | | | | 1.358 | $7.820 \times 10^1$ |
| 200. MeV | $2.868 \times 10^2$ | 1.317 | | | | 1.317 | $1.232 \times 10^2$ |
| 252. MeV | $3.421 \times 10^2$ | 1.310 | | | | 1.310 | *Minimum ionization* |
| 300. MeV | $3.917 \times 10^2$ | 1.313 | 0.000 | | 0.000 | 1.313 | $1.995 \times 10^2$ |
| 400. MeV | $4.945 \times 10^2$ | 1.330 | 0.000 | | 0.000 | 1.331 | $2.751 \times 10^2$ |
| 800. MeV | $8.995 \times 10^2$ | 1.412 | 0.001 | | 0.000 | 1.413 | $5.665 \times 10^2$ |
| 1.00 GeV | $1.101 \times 10^3$ | 1.445 | 0.001 | | 0.000 | 1.447 | $7.063 \times 10^2$ |
| 1.40 GeV | $1.502 \times 10^3$ | 1.498 | 0.002 | 0.000 | 0.001 | 1.501 | $9.775 \times 10^2$ |
| 2.00 GeV | $2.103 \times 10^3$ | 1.555 | 0.003 | 0.001 | 0.001 | 1.560 | $1.369 \times 10^3$ |
| 3.00 GeV | $3.104 \times 10^3$ | 1.620 | 0.004 | 0.003 | 0.001 | 1.629 | $1.996 \times 10^3$ |
| 4.00 GeV | $4.104 \times 10^3$ | 1.664 | 0.007 | 0.005 | 0.002 | 1.678 | $2.600 \times 10^3$ |
| 8.00 GeV | $8.105 \times 10^3$ | 1.765 | 0.016 | 0.016 | 0.003 | 1.801 | $4.892 \times 10^3$ |
| 10.0 GeV | $1.011 \times 10^4$ | 1.795 | 0.021 | 0.022 | 0.004 | 1.843 | $5.989 \times 10^3$ |
| 14.0 GeV | $1.411 \times 10^4$ | 1.839 | 0.033 | 0.036 | 0.005 | 1.913 | $8.118 \times 10^3$ |
| 20.0 GeV | $2.011 \times 10^4$ | 1.882 | 0.051 | 0.059 | 0.008 | 1.999 | $1.118 \times 10^4$ |
| 30.0 GeV | $3.011 \times 10^4$ | 1.927 | 0.083 | 0.102 | 0.011 | 2.124 | $1.603 \times 10^4$ |
| 40.0 GeV | $4.011 \times 10^4$ | 1.958 | 0.117 | 0.149 | 0.015 | 2.239 | $2.062 \times 10^4$ |
| 80.0 GeV | $8.011 \times 10^4$ | 2.025 | 0.264 | 0.357 | 0.030 | 2.677 | $3.692 \times 10^4$ |
| 100. GeV | $1.001 \times 10^5$ | 2.046 | 0.342 | 0.469 | 0.037 | 2.896 | $4.410 \times 10^4$ |
| 140. GeV | $1.401 \times 10^5$ | 2.077 | 0.503 | 0.701 | 0.051 | 3.332 | $5.697 \times 10^4$ |
| 200. GeV | $2.001 \times 10^5$ | 2.109 | 0.754 | 1.067 | 0.072 | 4.003 | $7.338 \times 10^4$ |
| 221. GeV | $2.214 \times 10^5$ | 2.118 | 0.843 | 1.195 | 0.080 | 4.237 | *Muon critical energy* |
| 300. GeV | $3.001 \times 10^5$ | 2.145 | 1.182 | 1.679 | 0.109 | 5.116 | $9.544 \times 10^4$ |
| 400. GeV | $4.001 \times 10^5$ | 2.171 | 1.625 | 2.313 | 0.145 | 6.255 | $1.131 \times 10^5$ |
| 800. GeV | $8.001 \times 10^5$ | 2.234 | 3.456 | 4.915 | 0.293 | 10.898 | $1.610 \times 10^5$ |
| 1.00 TeV | $1.000 \times 10^6$ | 2.254 | 4.396 | 6.246 | 0.368 | 13.265 | $1.776 \times 10^5$ |
| 1.40 TeV | $1.400 \times 10^6$ | 2.285 | 6.282 | 8.902 | 0.521 | 17.992 | $2.034 \times 10^5$ |
| 2.00 TeV | $2.000 \times 10^6$ | 2.318 | 9.168 | 12.956 | 0.754 | 25.198 | $2.314 \times 10^5$ |
| 3.00 TeV | $3.000 \times 10^6$ | 2.356 | 13.986 | 19.693 | 1.153 | 37.191 | $2.639 \times 10^5$ |
| 4.00 TeV | $4.000 \times 10^6$ | 2.384 | 18.871 | 26.503 | 1.559 | 49.318 | $2.872 \times 10^5$ |
| 8.00 TeV | $8.000 \times 10^6$ | 2.452 | 38.567 | 53.879 | 3.240 | 98.139 | $3.436 \times 10^5$ |
| 10.0 TeV | $1.000 \times 10^7$ | 2.474 | 48.494 | 67.641 | 4.103 | 122.713 | $3.618 \times 10^5$ |
| 14.0 TeV | $1.400 \times 10^7$ | 2.508 | 68.295 | 95.100 | 5.875 | 171.780 | $3.892 \times 10^5$ |
| 20.0 TeV | $2.000 \times 10^7$ | 2.545 | 98.176 | 136.466 | 8.592 | 245.780 | $4.182 \times 10^5$ |
| 30.0 TeV | $3.000 \times 10^7$ | 2.587 | 147.920 | 205.292 | 13.288 | 369.088 | $4.512 \times 10^5$ |
| 40.0 TeV | $4.000 \times 10^7$ | 2.618 | 197.847 | 274.285 | 18.095 | 492.845 | $4.746 \times 10^5$ |
| 80.0 TeV | $8.000 \times 10^7$ | 2.693 | 397.871 | 550.454 | 38.165 | 989.185 | $5.307 \times 10^5$ |
| 100. TeV | $1.000 \times 10^8$ | 2.718 | 498.060 | 688.670 | 48.530 | 1237.979 | $5.488 \times 10^5$ |