## Table 171: Muons in Plate glass

| $\langle Z/A \rangle$ | $\rho$ [g/cm$^3$] | $I$ [eV] | $a$ | $k = m_s$ | $x_0$ | $x_1$ | $\overline{C}$ | $\delta_0$ |
|---|---|---|---|---|---|---|---|---|
| 0.49731 | 2.400 | 145.4 | 0.07678 | 3.5381 | 0.1237 | 3.0649 | 4.0602 | 0.00 |

| $T$ | $p$ [MeV/$c$] | Ionization | Brems | Pair prod | Photonucl | Total | CSDA range [g/cm$^2$] |
|---|---|---|---|---|---|---|---|
| | | [MeV cm$^2$/g] | | | | | |
| 10.0 MeV | $4.704 \times 10^1$ | 6.525 | | | | 6.525 | $8.528 \times 10^{-1}$ |
| 14.0 MeV | $5.616 \times 10^1$ | 5.107 | | | | 5.107 | $1.553 \times 10^0$ |
| 20.0 MeV | $6.802 \times 10^1$ | 4.002 | | | | 4.002 | $2.895 \times 10^0$ |
| 30.0 MeV | $8.509 \times 10^1$ | 3.115 | | | | 3.115 | $5.766 \times 10^0$ |
| 40.0 MeV | $1.003 \times 10^2$ | 2.666 | | | | 2.666 | $9.258 \times 10^0$ |
| 80.0 MeV | $1.527 \times 10^2$ | 2.011 | | | | 2.011 | $2.707 \times 10^1$ |
| 100. MeV | $1.764 \times 10^2$ | 1.890 | | | | 1.890 | $3.736 \times 10^1$ |
| 140. MeV | $2.218 \times 10^2$ | 1.769 | | | | 1.769 | $5.933 \times 10^1$ |
| 200. MeV | $2.868 \times 10^2$ | 1.703 | | | | 1.703 | $9.402 \times 10^1$ |
| 288. MeV | $3.788 \times 10^2$ | 1.684 | | | 0.000 | 1.684 | *Minimum ionization* |
| 300. MeV | $3.917 \times 10^2$ | 1.684 | | | 0.000 | 1.684 | $1.532 \times 10^2$ |
| 400. MeV | $4.945 \times 10^2$ | 1.695 | | | 0.000 | 1.696 | $2.125 \times 10^2$ |
| 800. MeV | $8.995 \times 10^2$ | 1.774 | 0.000 | | 0.000 | 1.775 | $4.430 \times 10^2$ |
| 1.00 GeV | $1.101 \times 10^3$ | 1.808 | 0.000 | | 0.000 | 1.809 | $5.546 \times 10^2$ |
| 1.40 GeV | $1.502 \times 10^3$ | 1.862 | 0.001 | 0.000 | 0.001 | 1.863 | $7.723 \times 10^2$ |
| 2.00 GeV | $2.103 \times 10^3$ | 1.921 | 0.001 | 0.000 | 0.001 | 1.923 | $1.089 \times 10^3$ |
| 3.00 GeV | $3.104 \times 10^3$ | 1.988 | 0.002 | 0.001 | 0.001 | 1.992 | $1.599 \times 10^3$ |
| 4.00 GeV | $4.104 \times 10^3$ | 2.034 | 0.002 | 0.002 | 0.002 | 2.040 | $2.095 \times 10^3$ |
| 8.00 GeV | $8.105 \times 10^3$ | 2.139 | 0.005 | 0.005 | 0.004 | 2.153 | $3.997 \times 10^3$ |
| 10.0 GeV | $1.011 \times 10^4$ | 2.170 | 0.007 | 0.007 | 0.005 | 2.189 | $4.918 \times 10^3$ |
| 14.0 GeV | $1.411 \times 10^4$ | 2.216 | 0.011 | 0.012 | 0.006 | 2.245 | $6.721 \times 10^3$ |
| 20.0 GeV | $2.011 \times 10^4$ | 2.262 | 0.017 | 0.019 | 0.009 | 2.307 | $9.356 \times 10^3$ |
| 30.0 GeV | $3.011 \times 10^4$ | 2.311 | 0.028 | 0.034 | 0.013 | 2.385 | $1.362 \times 10^4$ |
| 40.0 GeV | $4.011 \times 10^4$ | 2.344 | 0.039 | 0.050 | 0.017 | 2.450 | $1.775 \times 10^4$ |
| 80.0 GeV | $8.011 \times 10^4$ | 2.419 | 0.088 | 0.119 | 0.033 | 2.660 | $3.339 \times 10^4$ |
| 100. GeV | $1.001 \times 10^5$ | 2.443 | 0.114 | 0.157 | 0.041 | 2.756 | $4.078 \times 10^4$ |
| 140. GeV | $1.401 \times 10^5$ | 2.477 | 0.168 | 0.235 | 0.057 | 2.939 | $5.483 \times 10^4$ |
| 200. GeV | $2.001 \times 10^5$ | 2.514 | 0.253 | 0.359 | 0.081 | 3.207 | $7.437 \times 10^4$ |
| 300. GeV | $3.001 \times 10^5$ | 2.555 | 0.398 | 0.569 | 0.121 | 3.644 | $1.036 \times 10^5$ |
| 400. GeV | $4.001 \times 10^5$ | 2.585 | 0.549 | 0.788 | 0.161 | 4.083 | $1.295 \times 10^5$ |
| 671. GeV | $6.712 \times 10^5$ | 2.638 | 0.969 | 1.396 | 0.273 | 5.276 | *Muon critical energy* |
| 800. GeV | $8.001 \times 10^5$ | 2.656 | 1.173 | 1.691 | 0.326 | 5.846 | $2.110 \times 10^5$ |
| 1.00 TeV | $1.000 \times 10^6$ | 2.679 | 1.495 | 2.155 | 0.410 | 6.739 | $2.428 \times 10^5$ |
| 1.40 TeV | $1.400 \times 10^6$ | 2.714 | 2.142 | 3.081 | 0.581 | 8.518 | $2.955 \times 10^5$ |
| 2.00 TeV | $2.000 \times 10^6$ | 2.752 | 3.134 | 4.497 | 0.842 | 11.225 | $3.567 \times 10^5$ |
| 3.00 TeV | $3.000 \times 10^6$ | 2.795 | 4.795 | 6.852 | 1.289 | 15.733 | $4.316 \times 10^5$ |
| 4.00 TeV | $4.000 \times 10^6$ | 2.827 | 6.482 | 9.238 | 1.744 | 20.291 | $4.874 \times 10^5$ |
| 8.00 TeV | $8.000 \times 10^6$ | 2.904 | 13.302 | 18.839 | 3.636 | 38.682 | $6.278 \times 10^5$ |
| 10.0 TeV | $1.000 \times 10^7$ | 2.929 | 16.746 | 23.671 | 4.610 | 47.957 | $6.741 \times 10^5$ |
| 14.0 TeV | $1.400 \times 10^7$ | 2.968 | 23.621 | 33.304 | 6.614 | 66.507 | $7.447 \times 10^5$ |
| 20.0 TeV | $2.000 \times 10^7$ | 3.010 | 34.012 | 47.825 | 9.691 | 94.539 | $8.200 \times 10^5$ |
| 30.0 TeV | $3.000 \times 10^7$ | 3.058 | 51.296 | 71.993 | 15.025 | 141.373 | $9.059 \times 10^5$ |
| 40.0 TeV | $4.000 \times 10^7$ | 3.093 | 68.658 | 96.232 | 20.495 | 188.479 | $9.670 \times 10^5$ |
| 80.0 TeV | $8.000 \times 10^7$ | 3.179 | 138.275 | 193.265 | 43.419 | 378.138 | $1.114 \times 10^6$ |
| 100. TeV | $1.000 \times 10^8$ | 3.207 | 173.170 | 241.835 | 55.289 | 473.501 | $1.161 \times 10^6$ |