

Table 074: Muons in Tungsten

| Z | A [g/mol] | ρ [g/cm ³] | I [eV] | a | $k = m_s$ | x_0 | x_1 | \bar{C} | δ_0 |
|----------|---------------------|-----------------------------|---------|---------------------------------------|-----------|----------|------------------------------------|-----------|------------|
| 74 (W) | 183.84 (1) | 19.300 | 727.0 | 0.15509 | 2.8447 | 0.2167 | 3.4960 | 5.4059 | 0.14 |
| 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 | 4.000 | | | | 4.000 | 1.446×10^0 | | |
| 14.0 MeV | 5.616×10^1 | 3.185 | | | | 3.186 | 2.577×10^0 | | |
| 20.0 MeV | 6.802×10^1 | 2.534 | | | | 2.534 | 4.711×10^0 | | |
| 30.0 MeV | 8.509×10^1 | 2.000 | | | | 2.000 | 9.210×10^0 | | |
| 40.0 MeV | 1.003×10^2 | 1.726 | | | | 1.726 | 1.463×10^1 | | |
| 80.0 MeV | 1.527×10^2 | 1.323 | | | | 1.323 | 4.189×10^1 | | |
| 100. MeV | 1.764×10^2 | 1.251 | | | | 1.251 | 5.747×10^1 | | |
| 140. MeV | 2.218×10^2 | 1.182 | | | | 1.182 | 9.051×10^1 | | |
| 200. MeV | 2.868×10^2 | 1.149 | | | | 1.149 | 1.422×10^2 | | |
| 242. MeV | 3.316×10^2 | 1.145 | 0.000 | | | 1.145 | <i>Minimum ionization</i> | | |
| 300. MeV | 3.917×10^2 | 1.150 | 0.000 | | 0.000 | 1.150 | 2.294×10^2 | | |
| 400. MeV | 4.945×10^2 | 1.168 | 0.000 | | 0.000 | 1.168 | 3.157×10^2 | | |
| 800. MeV | 8.995×10^2 | 1.247 | 0.001 | | 0.000 | 1.249 | 6.464×10^2 | | |
| 1.00 GeV | 1.101×10^3 | 1.279 | 0.001 | | 0.000 | 1.281 | 8.045×10^2 | | |
| 1.40 GeV | 1.502×10^3 | 1.329 | 0.002 | | 0.001 | 1.332 | 1.110×10^3 | | |
| 2.00 GeV | 2.103×10^3 | 1.384 | 0.004 | 0.001 | 0.001 | 1.390 | 1.551×10^3 | | |
| 3.00 GeV | 3.104×10^3 | 1.446 | 0.006 | 0.003 | 0.001 | 1.458 | 2.252×10^3 | | |
| 4.00 GeV | 4.104×10^3 | 1.489 | 0.009 | 0.006 | 0.002 | 1.507 | 2.926×10^3 | | |
| 8.00 GeV | 8.105×10^3 | 1.587 | 0.023 | 0.021 | 0.003 | 1.634 | 5.465×10^3 | | |
| 10.0 GeV | 1.011×10^4 | 1.616 | 0.031 | 0.030 | 0.004 | 1.681 | 6.671×10^3 | | |
| 14.0 GeV | 1.411×10^4 | 1.658 | 0.047 | 0.048 | 0.005 | 1.760 | 8.996×10^3 | | |
| 20.0 GeV | 2.011×10^4 | 1.700 | 0.073 | 0.080 | 0.007 | 1.861 | 1.231×10^4 | | |
| 30.0 GeV | 3.011×10^4 | 1.745 | 0.120 | 0.140 | 0.011 | 2.016 | 1.747×10^4 | | |
| 40.0 GeV | 4.011×10^4 | 1.774 | 0.169 | 0.206 | 0.014 | 2.164 | 2.225×10^4 | | |
| 80.0 GeV | 8.011×10^4 | 1.840 | 0.383 | 0.496 | 0.028 | 2.748 | 3.861×10^4 | | |
| 100. GeV | 1.001×10^5 | 1.860 | 0.496 | 0.653 | 0.035 | 3.045 | 4.553×10^4 | | |
| 140. GeV | 1.401×10^5 | 1.889 | 0.728 | 0.975 | 0.048 | 3.642 | 5.753×10^4 | | |
| 150. GeV | 1.499×10^5 | 1.895 | 0.786 | 1.057 | 0.052 | 3.791 | <i>Muon critical energy</i> | | |
| 200. GeV | 2.001×10^5 | 1.919 | 1.092 | 1.486 | 0.069 | 4.567 | 7.222×10^4 | | |
| 300. GeV | 3.001×10^5 | 1.952 | 1.711 | 2.339 | 0.103 | 6.108 | 9.110×10^4 | | |
| 400. GeV | 4.001×10^5 | 1.976 | 2.352 | 3.223 | 0.138 | 7.690 | 1.057×10^5 | | |
| 800. GeV | 8.001×10^5 | 2.034 | 4.994 | 6.846 | 0.279 | 14.154 | 1.434×10^5 | | |
| 1.00 TeV | 1.000×10^6 | 2.052 | 6.350 | 8.699 | 0.350 | 17.454 | 1.562×10^5 | | |
| 1.40 TeV | 1.400×10^6 | 2.081 | 9.068 | 12.394 | 0.496 | 24.041 | 1.756×10^5 | | |
| 2.00 TeV | 2.000×10^6 | 2.112 | 13.224 | 18.033 | 0.717 | 34.087 | 1.965×10^5 | | |
| 3.00 TeV | 3.000×10^6 | 2.147 | 20.158 | 27.402 | 1.096 | 50.805 | 2.203×10^5 | | |
| 4.00 TeV | 4.000×10^6 | 2.172 | 27.183 | 36.869 | 1.481 | 67.707 | 2.373×10^5 | | |
| 8.00 TeV | 8.000×10^6 | 2.235 | 55.492 | 74.921 | 3.076 | 135.725 | 2.782×10^5 | | |
| 10.0 TeV | 1.000×10^7 | 2.255 | 69.752 | 94.046 | 3.894 | 169.949 | 2.914×10^5 | | |
| 14.0 TeV | 1.400×10^7 | 2.287 | 98.195 | 132.208 | 5.573 | 238.264 | 3.112×10^5 | | |
| 20.0 TeV | 2.000×10^7 | 2.320 | 141.100 | 189.692 | 8.144 | 341.258 | 3.321×10^5 | | |
| 30.0 TeV | 3.000×10^7 | 2.359 | 212.526 | 285.333 | 12.585 | 512.806 | 3.559×10^5 | | |
| 40.0 TeV | 4.000×10^7 | 2.388 | 284.197 | 381.197 | 17.129 | 684.912 | 3.727×10^5 | | |
| 80.0 TeV | 8.000×10^7 | 2.457 | 571.275 | 764.894 | 36.091 | 1374.719 | 4.131×10^5 | | |
| 100. TeV | 1.000×10^8 | 2.480 | 715.040 | 956.910 | 45.880 | 1720.312 | 4.260×10^5 | | |