# Hydrogen in Stainless Steel

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SRIM version ---> SRIM-2013.00

Calc. date ---> April 03, 2018

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Disk File Name = SRIM Outputs\Hydrogen in Stainless Steel.txt

Ion = Hydrogen [1] , Mass = 1.008 amu

Target Density = 8.0000E+00 g/cm3 = 8.5951E+22 atoms/cm3

======= Target Composition ========

| Atom Name | Atom Numb | Atomic Percent | Mass Percent |
|---|---|---|---|
| Cr | 24 | 008.00 | 007.42 |
| Fe | 26 | 074.00 | 073.73 |
| Ni | 28 | 018.00 | 018.85 |

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Bragg Correction = 0.00%

Stopping Units = eV / Angstrom

See bottom of Table for other Stopping units

| Ion Energy | dE/dx Elec. | dE/dx Nuclear | Projected Range | Longitudinal Straggling | Lateral Straggling |
|---|---|---|---|---|---|
| 99.9999 eV | 1.002E+00 | 2.787E-01 | 12 A | 26 A | 19 A |
| 110 eV | 1.051E+00 | 2.858E-01 | 12 A | 28 A | 20 A |
| 120 eV | 1.097E+00 | 2.922E-01 | 13 A | 29 A | 21 A |
| 130 eV | 1.142E+00 | 2.981E-01 | 14 A | 31 A | 22 A |
| 139.999 eV | 1.185E+00 | 3.034E-01 | 15 A | 32 A | 23 A |
| 149.999 eV | 1.227E+00 | 3.083E-01 | 16 A | 33 A | 24 A |
| 159.999 eV | 1.267E+00 | 3.128E-01 | 16 A | 35 A | 25 A |
| 169.999 eV | 1.306E+00 | 3.169E-01 | 17 A | 36 A | 26 A |
| 179.999 eV | 1.344E+00 | 3.208E-01 | 18 A | 37 A | 27 A |
| 199.999 eV | 1.417E+00 | 3.277E-01 | 19 A | 40 A | 29 A |
| 224.999 eV | 1.503E+00 | 3.351E-01 | 21 A | 42 A | 31 A |
| 249.999 eV | 1.584E+00 | 3.414E-01 | 23 A | 45 A | 33 A |
| 274.999 eV | 1.661E+00 | 3.468E-01 | 25 A | 48 A | 35 A |
| 299.999 eV | 1.735E+00 | 3.514E-01 | 26 A | 51 A | 37 A |
| 324.999 eV | 1.806E+00 | 3.555E-01 | 28 A | 53 A | 39 A |
| 349.999 eV | 1.874E+00 | 3.590E-01 | 30 A | 56 A | 40 A |
| 374.999 eV | 1.940E+00 | 3.621E-01 | 32 A | 58 A | 42 A |
| 399.999 eV | 2.004E+00 | 3.648E-01 | 33 A | 60 A | 44 A |
| 449.999 eV | 2.125E+00 | 3.692E-01 | 37 A | 65 A | 47 A |
| 499.999 eV | 2.240E+00 | 3.726E-01 | 40 A | 69 A | 51 A |
| 549.999 eV | 2.350E+00 | 3.752E-01 | 44 A | 74 A | 54 A |
| 599.999 eV | 2.454E+00 | 3.771E-01 | 47 A | 78 A | 57 A |
| 649.999 eV | 2.554E+00 | 3.785E-01 | 50 A | 82 A | 60 A |

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|---|---|---|---|---|---|
| 699.999 eV | 2.651E+00 | 3.795E-01 | 54 A | 86 A | 63 A |
| 799.999 eV | 2.834E+00 | 3.804E-01 | 60 A | 93 A | 69 A |
| 899.999 eV | 3.006E+00 | 3.803E-01 | 67 A | 101 A | 75 A |
| 999.999 eV | 3.168E+00 | 3.795E-01 | 73 A | 108 A | 80 A |
| 1.10 keV | 3.323E+00 | 3.781E-01 | 80 A | 114 A | 85 A |
| 1.20 keV | 3.471E+00 | 3.763E-01 | 87 A | 121 A | 90 A |
| 1.30 keV | 3.612E+00 | 3.741E-01 | 93 A | 127 A | 95 A |
| 1.40 keV | 3.749E+00 | 3.718E-01 | 100 A | 134 A | 100 A |
| 1.50 keV | 3.880E+00 | 3.693E-01 | 106 A | 140 A | 105 A |
| 1.60 keV | 4.007E+00 | 3.667E-01 | 113 A | 145 A | 109 A |
| 1.70 keV | 4.131E+00 | 3.639E-01 | 119 A | 151 A | 114 A |
| 1.80 keV | 4.250E+00 | 3.612E-01 | 126 A | 157 A | 118 A |
| 2.00 keV | 4.480E+00 | 3.555E-01 | 139 A | 167 A | 127 A |
| 2.25 keV | 4.761E+00 | 3.483E-01 | 156 A | 180 A | 137 A |
| 2.50 keV | 5.025E+00 | 3.413E-01 | 172 A | 193 A | 147 A |
| 2.75 keV | 5.272E+00 | 3.343E-01 | 189 A | 204 A | 157 A |
| 3.00 keV | 5.503E+00 | 3.276E-01 | 205 A | 216 A | 166 A |
| 3.25 keV | 5.717E+00 | 3.211E-01 | 222 A | 226 A | 175 A |
| 3.50 keV | 5.915E+00 | 3.148E-01 | 238 A | 237 A | 184 A |
| 3.75 keV | 6.097E+00 | 3.088E-01 | 255 A | 247 A | 193 A |
| 4.00 keV | 6.264E+00 | 3.030E-01 | 271 A | 257 A | 201 A |
| 4.50 keV | 6.556E+00 | 2.921E-01 | 304 A | 276 A | 217 A |
| 5.00 keV | 6.805E+00 | 2.820E-01 | 338 A | 294 A | 233 A |
| 5.50 keV | 7.033E+00 | 2.726E-01 | 372 A | 311 A | 249 A |
| 6.00 keV | 7.258E+00 | 2.640E-01 | 405 A | 328 A | 264 A |
| 6.50 keV | 7.494E+00 | 2.559E-01 | 439 A | 344 A | 278 A |
| 7.00 keV | 7.744E+00 | 2.484E-01 | 473 A | 359 A | 293 A |
| 8.00 keV | 8.278E+00 | 2.349E-01 | 540 A | 388 A | 320 A |
| 9.00 keV | 8.830E+00 | 2.229E-01 | 605 A | 415 A | 346 A |
| 10.00 keV | 9.378E+00 | 2.124E-01 | 669 A | 439 A | 370 A |
| 11.00 keV | 9.909E+00 | 2.029E-01 | 732 A | 462 A | 392 A |
| 12.00 keV | 1.042E+01 | 1.944E-01 | 793 A | 482 A | 413 A |
| 13.00 keV | 1.091E+01 | 1.867E-01 | 854 A | 502 A | 433 A |
| 14.00 keV | 1.138E+01 | 1.796E-01 | 913 A | 519 A | 452 A |
| 15.00 keV | 1.183E+01 | 1.732E-01 | 971 A | 536 A | 470 A |
| 16.00 keV | 1.226E+01 | 1.673E-01 | 1028 A | 552 A | 487 A |
| 17.00 keV | 1.268E+01 | 1.618E-01 | 1084 A | 566 A | 503 A |
| 18.00 keV | 1.308E+01 | 1.568E-01 | 1139 A | 580 A | 519 A |
| 20.00 keV | 1.384E+01 | 1.477E-01 | 1247 A | 606 A | 548 A |
| 22.50 keV | 1.472E+01 | 1.379E-01 | 1378 A | 634 A | 582 A |
| 25.00 keV | 1.553E+01 | 1.296E-01 | 1505 A | 659 A | 613 A |
| 27.50 keV | 1.627E+01 | 1.223E-01 | 1629 A | 682 A | 641 A |
| 30.00 keV | 1.696E+01 | 1.159E-01 | 1749 A | 703 A | 668 A |
| 32.50 keV | 1.759E+01 | 1.102E-01 | 1867 A | 722 A | 692 A |
| 35.00 keV | 1.817E+01 | 1.051E-01 | 1982 A | 739 A | 716 A |
| 37.50 keV | 1.871E+01 | 1.006E-01 | 2095 A | 755 A | 738 A |
| 40.00 keV | 1.921E+01 | 9.646E-02 | 2207 A | 770 A | 759 A |
| 45.00 keV | 2.009E+01 | 8.926E-02 | 2424 A | 798 A | 798 A |

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|---|---|---|---|---|---|
| 50.00 keV | 2.084E+01 | 8.319E-02 | 2637 A | 822 A | 834 A |
| 55.00 keV | 2.148E+01 | 7.799E-02 | 2845 A | 844 A | 868 A |
| 60.00 keV | 2.202E+01 | 7.347E-02 | 3049 A | 865 A | 899 A |
| 65.00 keV | 2.247E+01 | 6.951E-02 | 3251 A | 883 A | 929 A |
| 70.00 keV | 2.284E+01 | 6.600E-02 | 3450 A | 901 A | 957 A |
| 80.00 keV | 2.341E+01 | 6.005E-02 | 3845 A | 933 A | 1011 A |
| 90.00 keV | 2.376E+01 | 5.519E-02 | 4236 A | 963 A | 1060 A |
| 100.00 keV | 2.397E+01 | 5.113E-02 | 4625 A | 990 A | 1107 A |
| 110.00 keV | 2.405E+01 | 4.769E-02 | 5015 A | 1015 A | 1153 A |
| 120.00 keV | 2.403E+01 | 4.473E-02 | 5406 A | 1039 A | 1196 A |
| 130.00 keV | 2.394E+01 | 4.215E-02 | 5800 A | 1062 A | 1239 A |
| 140.00 keV | 2.380E+01 | 3.988E-02 | 6197 A | 1084 A | 1280 A |
| 150.00 keV | 2.362E+01 | 3.786E-02 | 6598 A | 1105 A | 1321 A |
| 160.00 keV | 2.340E+01 | 3.606E-02 | 7004 A | 1126 A | 1361 A |
| 170.00 keV | 2.316E+01 | 3.444E-02 | 7414 A | 1146 A | 1401 A |
| 180.00 keV | 2.291E+01 | 3.297E-02 | 7830 A | 1166 A | 1441 A |
| 200.00 keV | 2.236E+01 | 3.042E-02 | 8679 A | 1208 A | 1520 A |
| 225.00 keV | 2.165E+01 | 2.777E-02 | 9775 A | 1261 A | 1619 A |
| 250.00 keV | 2.095E+01 | 2.559E-02 | 1.09 um | 1314 A | 1719 A |
| 275.00 keV | 2.026E+01 | 2.375E-02 | 1.21 um | 1368 A | 1820 A |
| 300.00 keV | 1.961E+01 | 2.218E-02 | 1.33 um | 1421 A | 1923 A |
| 325.00 keV | 1.899E+01 | 2.082E-02 | 1.46 um | 1476 A | 2028 A |
| 350.00 keV | 1.840E+01 | 1.963E-02 | 1.59 um | 1531 A | 2135 A |
| 375.00 keV | 1.785E+01 | 1.858E-02 | 1.72 um | 1587 A | 2245 A |
| 400.00 keV | 1.733E+01 | 1.765E-02 | 1.86 um | 1644 A | 2357 A |
| 450.00 keV | 1.638E+01 | 1.606E-02 | 2.15 um | 1784 A | 2589 A |
| 500.00 keV | 1.554E+01 | 1.475E-02 | 2.46 um | 1927 A | 2831 A |
| 550.00 keV | 1.478E+01 | 1.365E-02 | 2.78 um | 2075 A | 3083 A |
| 600.00 keV | 1.411E+01 | 1.272E-02 | 3.12 um | 2227 A | 3347 A |
| 650.00 keV | 1.350E+01 | 1.191E-02 | 3.48 um | 2383 A | 3620 A |
| 700.00 keV | 1.295E+01 | 1.121E-02 | 3.85 um | 2543 A | 3904 A |
| 800.00 keV | 1.199E+01 | 1.004E-02 | 4.64 um | 2978 A | 4503 A |
| 900.00 keV | 1.118E+01 | 9.113E-03 | 5.49 um | 3419 A | 5142 A |
| 1.00 MeV | 1.049E+01 | 8.350E-03 | 6.39 um | 3869 A | 5820 A |

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| Multiply Stopping by | for Stopping Units |
|---|---|
| 1.0000E+00 | eV / Angstrom |
| 1.0000E+01 | keV / micron |
| 1.0000E+01 | MeV / mm |
| 1.2500E-02 | keV / (ug/cm2) |
| 1.2500E-02 | MeV / (mg/cm2) |
| 1.2500E+01 | keV / (mg/cm2) |
| 1.1635E+00 | eV / (1E15 atoms/cm2) |
| 9.3099E-01 | L.S.S. reduced units |

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