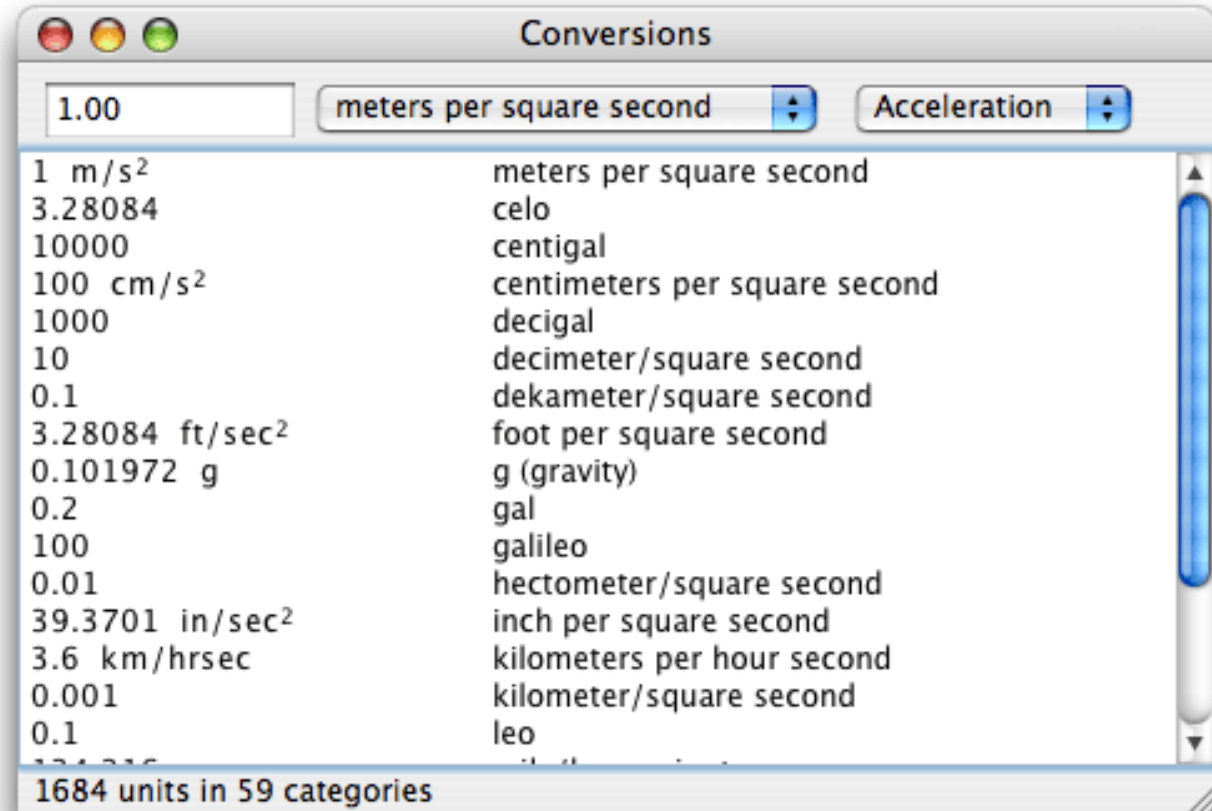


iUnit Version 3.8.0 October 8, 2012

iUnit is a unit conversion program. It does conversions between approximately 1500 units of measurement. It also contains many physical constants.

Using iUnit is easy. Just select the type of conversion you'd like to perform from the **Conversion** menu. For example, if you'd like to convert between feet, inches, meters, and other units of distance, select **Distance**. Then select the unit you'd like to convert from, by clicking the button next to that unit. Then type the value in to the box above the units, on the left side. All of the converted values will appear on the right side of the window.

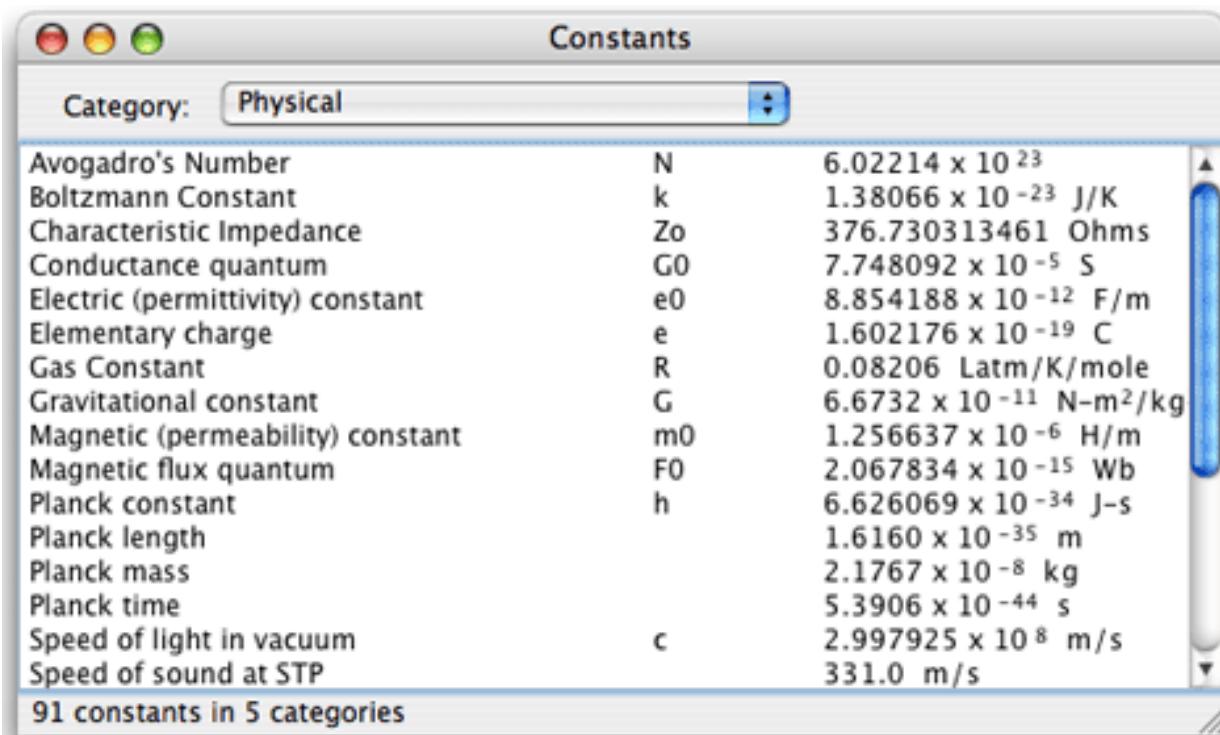
If you click on a converted value on the right hand side, it will be copied to the clipboard, so you can copy it into another program or document. For example, below we've selected to convert acceleration. We've selected **meters per square second** as our unit of measure, and entered in a value of 1.00. This means that we are converting 1.00 m/s^2 into other measurements of acceleration.



As you can see above, the values of each unit of distance are seen in the left hand column under the heading **Conversions**. In the row for g (acceleration due to gravity on earth), we see that 1.00 m/s^2 ft is 0.101972 g.

You also will see the abbreviation for each unit of measurement on the left hand side of the Conversion column.

Finding the values of physical constants is just as simple. Open up the Constants window by selecting it from the Windows menu. Select the type of constant you're looking for from the **Constants** popup menu, and a listing appears.

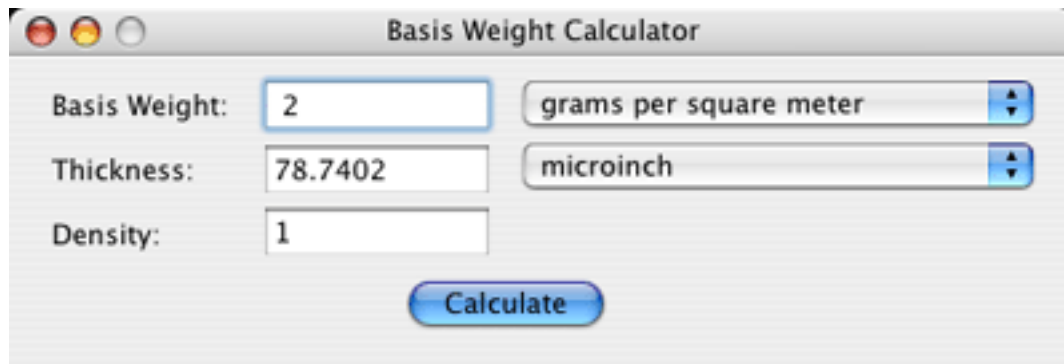


Constants		
Category: Physical		
Avogadro's Number	N	6.02214×10^{23}
Boltzmann Constant	k	$1.38066 \times 10^{-23} \text{ J/K}$
Characteristic Impedance	Zo	376.730313461 Ohms
Conductance quantum	G0	$7.748092 \times 10^{-5} \text{ S}$
Electric (permittivity) constant	e0	$8.854188 \times 10^{-12} \text{ F/m}$
Elementary charge	e	$1.602176 \times 10^{-19} \text{ C}$
Gas Constant	R	0.08206 Latm/K/mole
Gravitational constant	G	$6.6732 \times 10^{-11} \text{ N-m}^2/\text{kg}$
Magnetic (permeability) constant	m0	$1.256637 \times 10^{-6} \text{ H/m}$
Magnetic flux quantum	F0	$2.067834 \times 10^{-15} \text{ Wb}$
Planck constant	h	$6.626069 \times 10^{-34} \text{ J-s}$
Planck length		$1.6160 \times 10^{-35} \text{ m}$
Planck mass		$2.1767 \times 10^{-8} \text{ kg}$
Planck time		$5.3906 \times 10^{-44} \text{ s}$
Speed of light in vacuum	c	$2.997925 \times 10^8 \text{ m/s}$
Speed of sound at STP		331.0 m/s

91 constants in 5 categories

That's all there is to it!

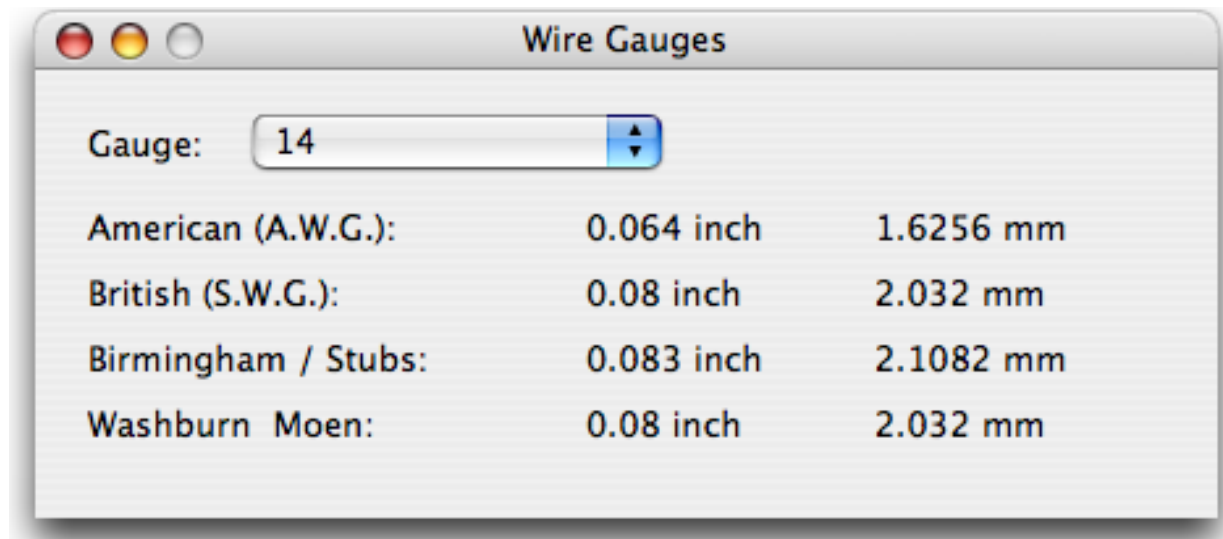
Likewise, you can bring up the Wire Gauge and Sheet Metal Gauge windows by selecting them from the Windows menu as well.



A screenshot of a 'Basis Weight Calculator' window. It features three input fields: 'Basis Weight' with the value '2', 'Thickness' with the value '78.7402', and 'Density' with the value '1'. To the right of the 'Basis Weight' field is a dropdown menu showing 'grams per square meter'. To the right of the 'Thickness' field is a dropdown menu showing 'microinch'. Below these fields is a blue 'Calculate' button.

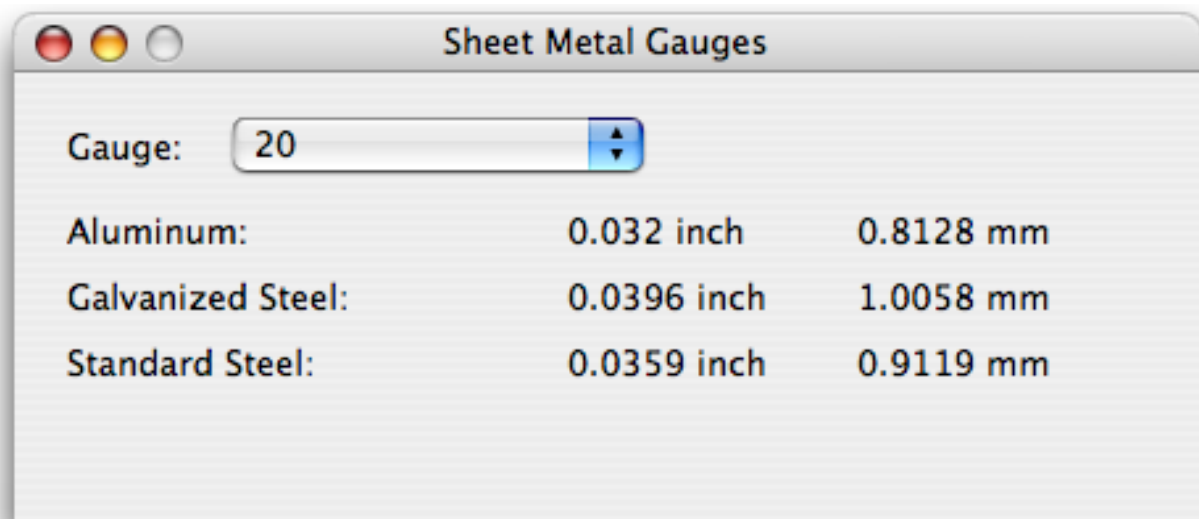
In addition, there is the Basis Weight calculator, which converts between basis weight and thickness, taking into account the density of the material, the density can also be calculated from the other two. Just enter in any two of the three values, making sure to leave the other field blank. Select the correct measurement units, and click on the Calculate button.

There are also Wire and Sheet gauge calculators, listed under the Windows menu.

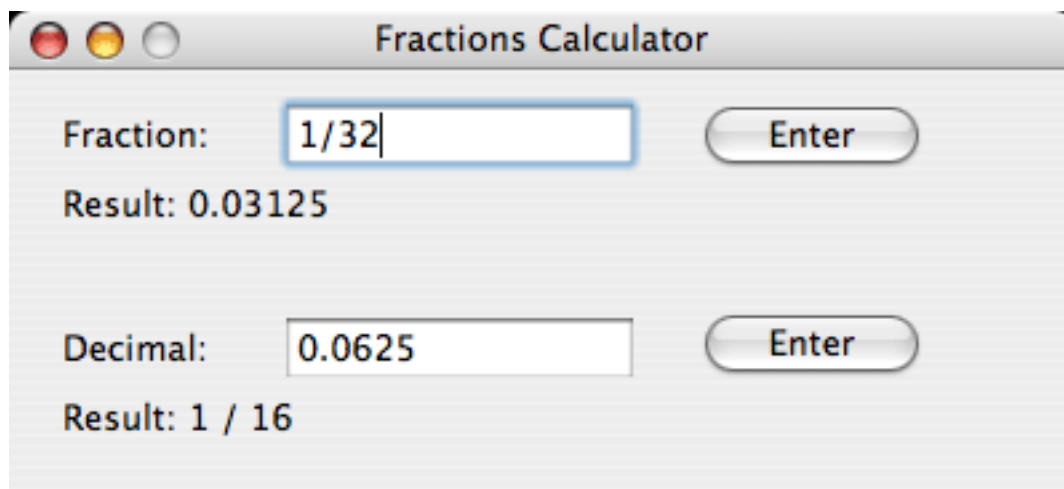


A screenshot of a 'Wire Gauges' window. It features a 'Gauge' dropdown menu with the value '14'. Below this is a table with four rows of gauge information.

American (A.W.G.):	0.064 inch	1.6256 mm
British (S.W.G.):	0.08 inch	2.032 mm
Birmingham / Stubs:	0.083 inch	2.1082 mm
Washburn Moen:	0.08 inch	2.032 mm



The Fractions Calculator allows you to compute the decimal value of a fraction, as well as enter in a decimal value, and compute the corresponding fraction:



iUnit can also compute the volume of several different solids. These include:

Barrel - Radius 1 is the center of the barrel, Radius 2 is the end.

Cone - Radius 1 is the top of the cone, make zero for a perfect cone.

Cube

Cylinder

Hollow Cylinder

Hemispherical Ended Cylinder -The Radius is that of the end hemispheres

Single Ended Hemispherical Cylinder - Same as above

Ellipsoid

Elliptical Tank

Pyramid - Top area is zero for a perfect pyramid

Rectangular Box

Sphere

Toroid

Trapezoid - Base 1 and Base 2 are the top and bottom widths

Wedge - A and C are lengths, B is the base width

For each solid, leave one of the values blank, iUnit will calculate that value.

The screenshot shows a software window titled "Calculate the Volume of Solids". Inside the window, there is a dropdown menu labeled "Solid:" with "Hollow Cylinder" selected. Below this, there are four input fields arranged in two columns. The left column contains labels: "Inner Radius", "Outer Radius", "Length", and "Volume". The right column contains text boxes with the values "2", "4", "6", and "226.1947" respectively. The "Length" text box is currently selected with a blue border. At the bottom center of the window is a button labeled "Calculate".

Field	Value
Solid	Hollow Cylinder
Inner Radius	2
Outer Radius	4
Length	6
Volume	226.1947

Calculate