Metals and Alloys - Densities

Densities of some common metals, metallic elements and alloys - aluminum, bronze, copper, iron and more.

The density of some common metals, metallic elements and alloys are indicated in the table below:

Metal or Alloy	Density - ρ - (kg/m^3) (lb/ft3)
Actinium	10070
Admiralty Brass	8525
Aluminum	2712
Aluminum - melted	2560 - 2640
Aluminum alloy - 1100	2720
Aluminum alloy 2014, annealed	2800
Aluminum alloy 3003, rolled	2730
Aluminum alloy 360	2640
Aluminum alloy - 6061	2720
Aluminum alloy - 7050	2800
Aluminum alloy - 7178	2830
Aluminum bronze (3-10% Al)	7700 - 8700
Aluminum foil	2700 -2750
Antifriction metal	9130 -10600
Antimony	6690
Antimonial lead (hard lead)	10900
Babbitt	7272
Barium	3594
Beryllium	1840
Beryllium copper	8100 - 8250
Bismuth	9750
Brass - casting	8400 - 8700
Brass - rolled and drawn	8430 - 8730
Brass 60/40	8520
Bronze - lead	7700 - 8700
Bronze - phosphorous	8780 - 8920
Bronze (8-14% Sn)	7400 - 8900
Brushed metal	7860
Cadmium	8640
Caesium	1873
Calcium	1540
Cast iron	6800 - 7800

Metal or Alloy	Density - ρ - (kg/m^3) (lb/ft3)
Constantan	8920
Columbium	8600
Constantan	8880
Copper	8940
Cupronickel	8908 - 8940
Delta metal	8600
Duralumin	2790
Dysprosium	8550
Electrum	8400 - 8900
Erbium	9070
Eroded metal	7860
Europium	5243
Gadolinium	7900
Gallium	5907
Germanium	5323
Gold	19320
Hafnium	13310
Hastelloy C	8940
Holmium	8800
Indium	7310
Inconel	8497
Incoloy	8027
Iridium	22650
Iron	7850
Lanthanum	6145
Lead	11340
Light alloy based on Al	2560 - 2800
Light alloy based on Mg	1760 - 1870
Lithium	534
Lutetium	9840
Magnesium	1738
Magnesium alloy AZ31B	1770
Manganese	7440
Manganese Bronze	8359
Manganin	8500
Mercury	13593
Molybdenum	10188
Monel	8360 - 8840
Neodymium	7007
Neptunium	20200
Nichrome	8400
Nickel	8908
Nickel 20	8090
Nickel 200	8890
Nickel silver	8400 - 8900
Nickeline	8770
Nimonic	8100
Niobium	8570
Osmium	22610
Palladium	12160
Phosphor bronze	8900
Platinum	21400
Plutonium	19816
Polonium	9200
Potassium	890
Praseodymium	6770
Promethium	7260
Protactinium	15400
Radium	5000
Red Brass	8746

Metal or Alloy	Density - ρ - (kg/m^3) (lb/ft3)
Samarium	7520
Scandium	2990
Silver	10490
Sodium	971
Solder 50/50 Pb Sn	8885
Stainless Steel	7480 - 8000
Steel	7850
Strontium	2640
Tantalium	16400
Technetium	11000
Terbium	8230
Tin	7280
Titanium	4500
Thalium	11800
Thorium	11700
Thulium	9320
Tungsten	19600
Uranium	18900
Vanadium	5494
White metal	7100
Wrought Iron	7750
Yellow Brass	8470
Ytterbium	6900
Yttrium	4470
Zinc	7135
Zirconium	6570

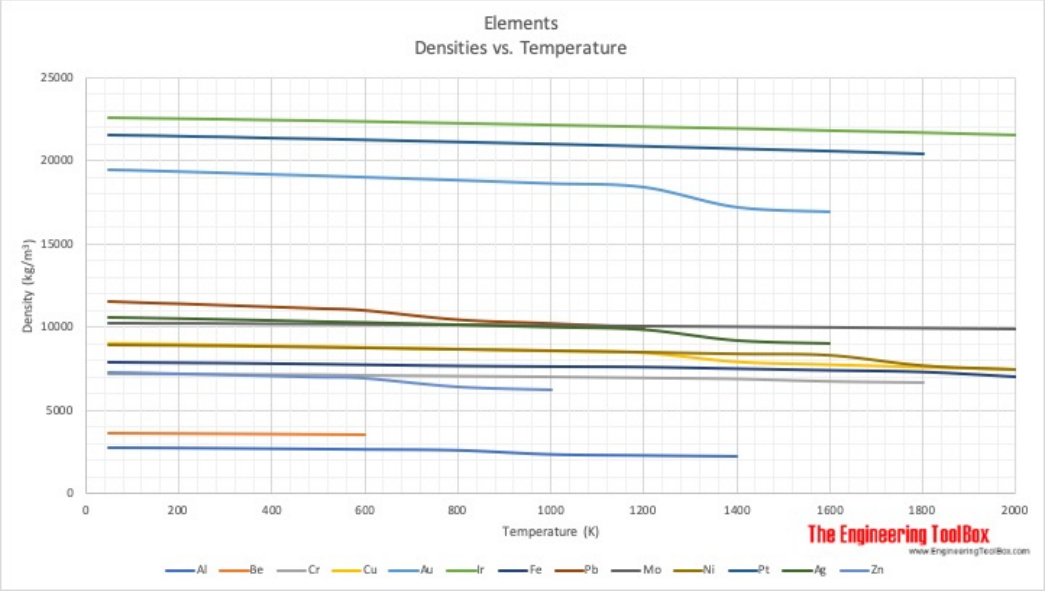
- *1 kg/m^3 = 0.0624 lb/ft^3 = 0.000036127 lb/in^3*
- Unit Converter
- Density, Specific Weight and Specific Gravity

Elements - Densities vs. Temperature

Densities of

- Al - Aluminum
- Be - Beryllium
- Cr - Chromium
- Cu - Copper
- Au - Gold
- Ir - Iridium
- Fe - Iron
- Pb - Lead
- Mo - Molybdenum
- Ni - Nickel
- Pt - Platinum
- Ag - Silver
- Zn - Zinc

vs. temperature are indicated in the chart below.



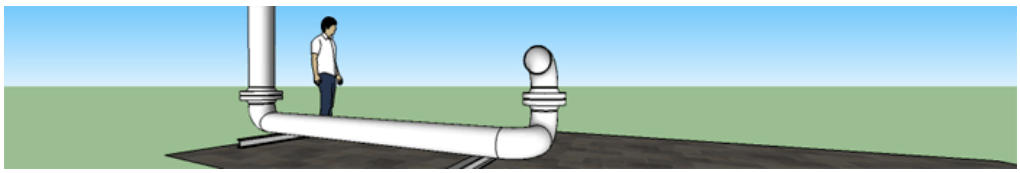
Related Topics

- **Material Properties** - Material properties of gases, fluids and solids - densities, specific heats, viscosities and more.
- **Densities** - Densities of solids, liquids and gases. Definitions and convertion calculators.

Related Documents

- **Alloy Steels** - Alloy steels have properties due to elements other than carbon.
- **Aluminum - Radiation Heat Emissivity** - Radiation heat emissivity of unoxidized, oxidized and polished aluminum.
- **Aluminum Alloys - Mechanical Properties** - Mechanical properties of some common aluminum alloys.
- **Aluminum Alloys - Mechanical Properties** - Mechanical properties of aluminum alloys - tensile strength, yield strength and more.
- **ASTM B43 - Seamless Red Brass Pipes - Dimensions** - Standard sizes specification for seamless red brass pipes.
- **Bronze Flanges - ASME/ANSI 150 lb** - Flange diameters, thickness, bolt circles, numbers and diameters of bolts for ASME/ANSI B16.15 - Cast Bronze Threaded Fittings - 150 lb Bronze flanges with plain faces.
- **Bronze Flanges - ASME/ANSI 300 lb** - Flange diameters, thickness, bolt circles, numbers and diameter of bolts for ASME/ANSI B16.15 - Cast Bronze Threaded Fittings - 300 lb Bronze - Flanges with plain faces.
- **Copper, Zinc and Tin Alloys** - Strength of Copper, Zinc and Tin alloys.
- **Lead Binary Eutectic Alloys - Melting Points** - Pb - Lead (Plumbum) - binary eutectic alloys and melting points.
- **Magnesium Binary Eutectic Alloys - Melting Points** - Mg - Magnesium - binary eutectic alloys and melting points.
- **Metal Alloys - Specific Heats** - Specific heat of metal alloys like brass, bronze and more.
- **Metals - Machinability** - The machinability of some common metals.
- **Metals - Specific Heats** - Specific heat of commonly used metals like aluminum, iron, mercury and many more - imperial and SI units.
- **Metals and Alloys - Melting Temperatures** - The melting temperatures for some common metals and alloys.
- **Metals, Metallic Elements and Alloys - Thermal Conductivities** - Thermal conductivities of common metals, metallic elements aand alloys.

Engineering ToolBox - SketchUp Extension - Online 3D modeling!



Add standard and customized parametric components - like flange beams, lumbers, piping, stairs and more - to your Sketchup model with the Engineering ToolBox - SketchUp Extension - enabled for use with the amazing, fun and free SketchUp Make and SketchUp Pro .Add the Engineering ToolBox extension to your SketchUp from the SketchUp Pro Sketchup Extension Warehouse!

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Modify access date.

- (•) ^oC
- ( ) ^oF

Convert!

Length

1.0

- (•) *m*
- ( ) *km*
- ( ) *in*
- ( ) *ft*
- ( ) *yards*
- ( ) *miles*
- ( ) *naut miles*

Convert!

Area

1.0

- (•) m^2
- ( ) km^2
- ( ) in^2
- ( ) ft^2
- ( ) $miles^2$
- ( ) *acres*

Convert!

Volume

1.0

- (•) m^3
- ( ) *liters*
- ( ) in^3
- ( ) ft^3
- ( ) *us gal*

Convert!

Weight

1.0

- (•) kg_f
- ( ) *N*
- ( ) lb_f

Convert!

Velocity

1.0

- (•) *m/s*
- ( ) *km/h*
- ( ) *ft/min*
- ( ) *ft/s*

Pressure

1.0

- (•) *Pa (N/m²)*
- ( ) *bar*
- ( ) *mm H_2O*
- ( ) *kg/cm²*
- ( ) *psi*
- ( ) *inches H_2O*

Convert!

Flow

1.0

- (•) *m³/s*
- ( ) *m³/h*
- ( ) *US gpm*
- ( ) *cfm*

Convert!

Scientific Online Calculator

9 1