

Metals Technical Data, Helpful Conversion Tables

Precious Metals

STERLING SILVER: 92.5% silver, 7.5% copper. Melts at 1640°F

FINE SILVER: 99.9% silver. Melting point 1761°F.

10K YELLOW GOLD: 41.666% gold. Balance is copper, silver, zinc, silicon. Melt point 1635°F.

14K YELLOW GOLD: 58.33% gold, 8.3% silver, 29.2% copper, 4.17% zinc. Melt point 1615°F.

14K WHITE GOLD: 58.33% gold, 22.1% Copper, 10.8% Nickel, 8.77% Zinc. Melt point 1800°F/983°C

18K YELLOW GOLD: 75% gold, 15% silver, 10% copper. Melt point 1715°F/527°C.

18K WHITE GOLD: 75.15% gold, 17.3% Nickel, 5.47% Zinc, 2.08% Copper. Melt point 1750°F/955°C.

24K GOLD GRAIN (9999 fine)

MASTER ALLOY #383 - used to reduce karat to 18-22K. Melt temp at 18-22K is 1640°F or 895°C. Recommended casting temperature is 1775°F or 970°C. Silver Content is 55.20%.

MASTER ALLOY #606 - used to reduce 24K grain to 14-10k. Melt temp at 14K is 1625°F or 885°C. Melt temp at 10K is 1660°F or 905°C. Recommended casting temp for 14k is 1775°F or 970°C. Recommended casting temp for 10k is 1835°F or 1000°C. Silver Content is 14.80%.

Laminates

- 10% SILVER FILLED: 10% layer of sterling silver (by weight) on nickel CDA #752.
- 25% SILVER FILLED: 25% layer of sterling silver (by weight) on nickel CDA #752.
- 1/20 12K GOLDFILLED: 5% layer of 12K gold (by weight) on red brass CDA #230.
- 1/20 14K GOLDFILLED: 5% layer of 14K gold (by weight) on red brass CDA #230.
- SOLDER-FLUSHED GOLDFILLED SHEET: Same as single-clad goldfilled, but has a layer of silver solder on the non-gold side. Choose Rose – 1/10 10K, Yellow – 1/10 10K, or Green – 1/10 14K

Base Metals

•NICKEL (CDA #752): Also called German Silver or Nickel Silver. 65% copper, 18% nickel, and 17% zinc. Melting point 1960°F.

•RED BRASS (CDA #230): Also called Rich Low Brass, Jeweler's Bronze, Merlin's Gold, or Craft Gold. 85% copper, with 15% zinc. Melting point 1877°F.

•COPPER (CDA #110): 99.9% copper. Melting point 1981°F

•YELLOW BRASS (CDA #260): 70% copper, 30% zinc. Melt point 1706°F

CASTING BRONZES

•HERCULOY - 92% copper, 4% silicon, 4% zinc.

Melting point 1780°F

•BRONWITE

59% copper, 20% manganese, 20% zinc, 1% aluminum. Melting point 1550°F

•DZR BRASS

Melting range: 1610-1630°F.

63.0% copper, 32.5% zinc, 2.0% lead, 0.7% silicon, 0.5% manganese, 0.5% nickel, 0.5% tin, 0.3% aluminum, 0.05% antimony.

Converting Temperatures

Degrees Fahrenheit = °F = (1.8 x °C) + 32

Degrees Celsius = °C = .556 x (°F - 32)

Degrees Centigrade = °C = .556 x (°F - 32)

Conversions: Measures

ONE INCH = 25.4 millimeters = 2.54 centimeters = .254 decimeters = .0254 meters

ONE YARD = 36 inches = 914.4 millimeters

ONE MILLIMETER = .03937 inches

Conversions: Weights

ONE TROY OUNCE

= 31.1035 grams = 1.0971 avoirdupois ounces = 0.0686 avd. ounces = 20 pennyweights (dwts.)

ONE PENNYWEIGHT = .05 troy ounces = 1.56 grams

ONE GRAM = 5 carats = 0.64103 pennyweights (dwts) = .03527 avoirdupois ounces

ONE AVOIRDUPOIS OUNCE

= .91146 troy ounces = 28.3495 g = .0625 lb.

ONE AVOIRDUPOIS POUND

= 453.592 grams = 14.583 troy ounces

Melting Points — Precious And Base Metals

METAL	MELT POINT	METAL	MELT POINT
24K gold	1945°F (1064°C)	Copper, pure	1981°F (1084°C)
18K gold	1715°F (936°C)	Nickel, pure	2645°F (1453°C)
14K yellow gold	1615°F (880°C)	Tin, pure	450°F (232°C)
14K white gold	1825°F (997°C)	Zinc	787°F (420°C)
Fine (999) silver	1761°F (961°C)	Brass, yellow	1706°F (931°C)
Sterling(925) silver	1640°F (894°C)	#230 red brass	1877°F (1026°C)
Coin silver	1616°F (881°C)	#752 nickel silver	1960°F (1072°C)

B&S Gauge in Inch & Millimeters

Ga.	In.	mm	Ga.	In.	mm
00	0.3648	9.266	17	0.04525	1.150
0	0.3249	8.252	18	0.04030	1.024
1	0.28930	7.348	19	0.03589	0.912
2	0.25763	6.543	20	0.03196	0.812
3	0.22942	5.827	21	0.02846	0.723
4	0.20431	5.189	22	0.02534	0.644
5	0.18194	4.620	23	0.02257	0.573
6	0.16202	4.115	24	0.02010	0.511
7	0.14428	3.665	25	0.01790	0.455
8	0.12849	3.264	26	0.01594	0.405
9	0.11443	2.906	27	0.01419	0.361
10	0.10189	2.588	28	0.01264	0.321
11	0.09074	2.305	30	0.01002	0.255
12	0.08080	2.035	31	0.00892	0.227
13	0.07196	1.828	32	0.00795	0.202
14	0.06408	1.628	33	0.00708	0.180
15	0.05706	1.450	34	0.00630	0.160
16	0.05082	1.291			

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