

Chapter 2

Materials

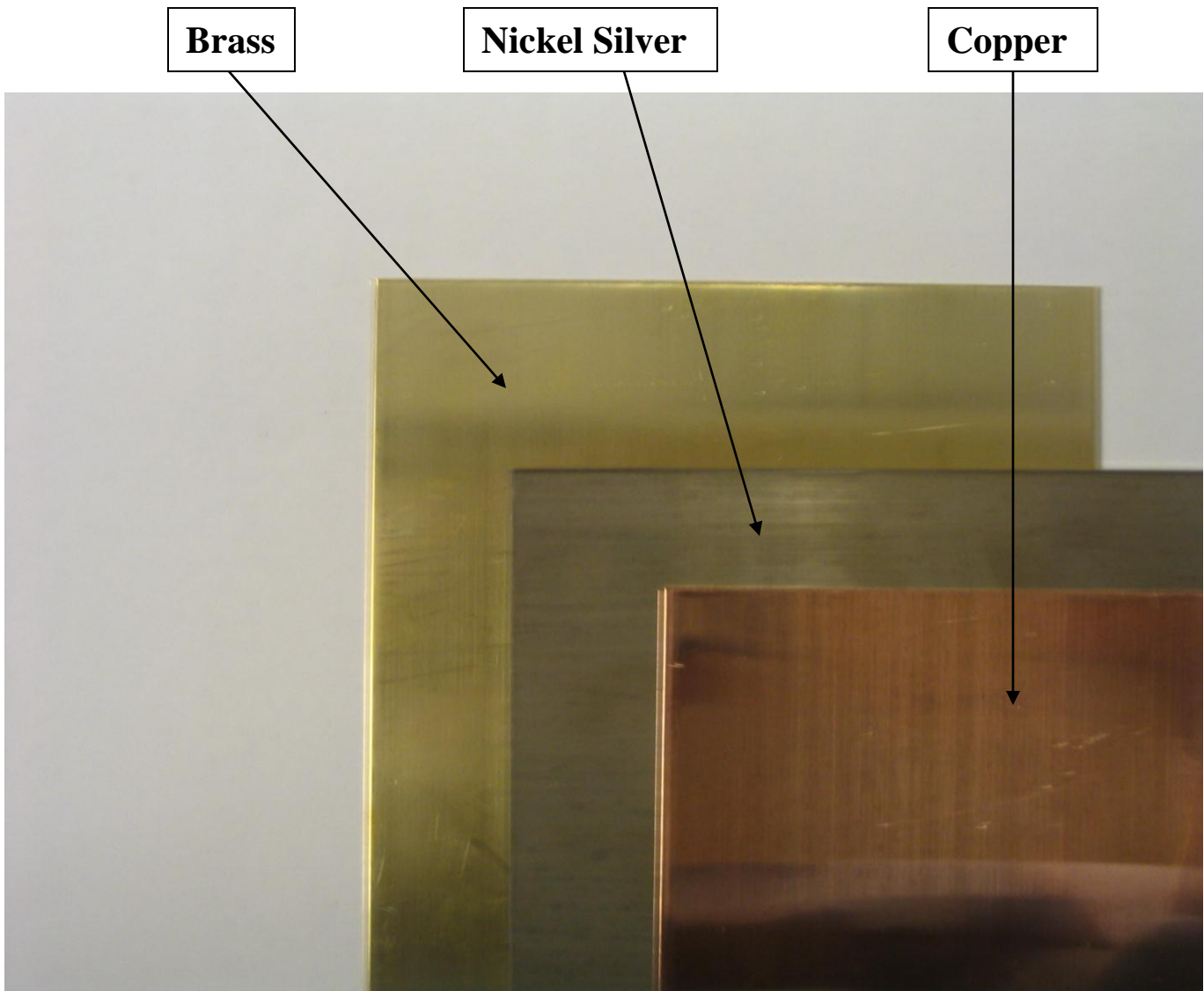
- Metal
- Wire
- Solder
- Flux
- Pickle / acid
- Buffing compound

Metals

Nickel Silver – silver colored – hardest to cut and manipulate – does not tarnish easily (stays shiny)

Brass – gold colored – medium hardness – medium tarnish

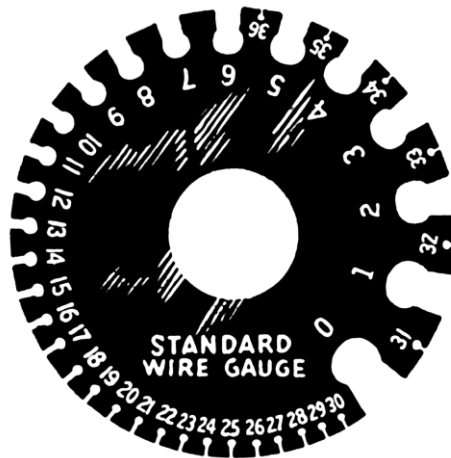
Copper – reddish colored – softest and most malleable (bendable) – easily tarnished



Wire

AWG/Gauge

- AWG or American wire gauge or “gauge” is the standard thickness of sheet metal or the diameter of wire (size).
- The bigger the number the smaller the wire or the thinner the metal sheet.
- The smaller the number the bigger the wire or thicker the sheet metal



Kinds and Sizes

- We have 3 kinds and 3 sizes of wire.
 - Nickel Silver; Copper, Brass
- 12 gauge = rivet pins.
- 14 gauge = jump rings & small attachments
- 16 gauge = jump rings & small attachments.



Solder

Definition: A silver alloy used to join metal together by melting it in between the seam or two metals.

1. **Easy** – Low melting point– melting point-1240 deg. F; flow point-1325 deg. F
 2. **Medium** - Middle melting point – melting point-1275 deg. F; flow point-1360 deg. F
 3. **Hard** - High melting point – melting point-1365 deg. F; flow point-1450 deg. F
- When only soldering one time, use any solder.
 - When soldering multiple times start at the highest melting point and work to the lowest melting point.
 - Ex. 1st solder = H; 2nd = M; 3rd = E
 - This is done so that you do not melt the seam from the first soldering.



Flux

Definition: Flux is a chemical cleaning agent that facilitates the soldering process by reducing oxidation and reducing the surface tension of the solder.

1. Working on small sections, cover the small piece of metal with flux.
2. Using the flux brush and place the solder chips in place while the flux is wet.



Acid “Pickle”



Definition: Pickle is a strong acid solution that removes oxidation, flux, and grease from the metal before and after soldering.

Application

1. Carefully place your pieces into the acid “pickle” bath to clean any grease off of the pieces.
2. Leave them in the pickle for a couple minutes.
3. Using only the copper tongs remove your pieces and dry them. Be careful not to get them dirty.

Buffing Compound

Tripoli



Rouge

Definition: Buffing compounds are composed of tightly sized abrasives held together with glue or grease binders.

Tripoli: brownish color – moderately abrasive and used 1st in the buffing process.

Rouge: reddish color – 2nd and final stage to shine and polish the metal.

