Helpful Hints - Useful Information

Helpful Soldering Hints

•TORCHES
For most gold- or silversmithing, an oxygen-and-gas or Prestolite (acetylene/air) torch will give good results. Either can be used on delicate or large parts, depending upon the tip size used in soldering. If expertly handled, an oxyacetylene torch may be used. The flame temperature is intense, and the torch must be kept in motion to avoid melting the metals to be joined.
•LARGE SURFACE
Pre-heat them well away from the joint.
•JOINING DIFFERENT METALS
In preheating, favor the metal that is a more rapid conductor of heat. For different thicknesses, preheat the heavier piece, and avoid overheating the lighter piece.
•DRAFTS OF COLD AIR
Drafts of cold air can cause uneven heating by cooling one area more than another.
•LIGHT CONDITIONS
The color of the pieces is the guide to temperature in soldering. Changes in lighting conditions will affect your judgement. A north-facing window is constant throughout the year, as is an artificial light source.
REASONABLE SPEED
Reasonable speed prevents overheating the piece, and/or spending the flux.
•LARGE SNIPPETS OF SOLDER
Large snippets of solder are not necessary or desireable. Usually, larger snippets make weaker joints. Control the amount of solder to prevent excess flushing or filleting. The solder should not be larger than any part of the joint. Smaller pieces melt down and flow as soon as the joint is up to temperature.
•WHERE SOLDER GOES
Solder follows the path of clean metal and proper heat. If the metal is dirty, oxidized, or underheated, the solder forms islands on the surface. Tarnished solder can present problems. Resist the urge to reduce an entire sheet to snippets, instead keeping the sheet clean, making snippets as needed.
•PINHOLES?
Pinholes in the finished joint can be caused by underheating, overheating, dirt/oil, or improper fluxing.
•BALLING OR BUNCHING
Balling or bunching usually indicates improper fluxing or underheating. If this condition occurs, stop heating. Reflux the joint, and resume heating to the proper temperature.
Bottom line? Fit, flux, heat, and cleanliness are the keys to success. Solders do not fill gaps!!!

Pickles, Name And Item Number

Sparex #1 (ferrous), makes 1 gallon	247-SP12H
Sparex #2 (non-ferrous), makes 1 quart	247-SP10
Sparex #2 (non-ferrous), makes 1 gallon	247-SP2H
Sparex #2 (non-ferrous), 45 lb. canister	247-SP45
Nickle Pickle, makes 1 quart	247-NP10
Nickle Pickle, makes 1 gallon	247-NP2H
Nickle Pickle, 40 lb. pail	247-NP40
Pickle Safe, makes 1 quart	247-GP10
Pickle Safe, makes 1 gallon	247-GP2H
Pickle Safe, 40 lb. pail	247-GP40
Pre-Po Pickle, makes 1 gallon	247-PPP

THESE AND OTHER CHEMICALS ARE CONSIDERED HAZARDOUS, AND MAY HAVE ADDITIONAL SHIPPING FEES AND REGULATIONS APPLIED!

Inches To Decimal Feet

One inch	1/12 ft.	0.08 ft.
Two inches	2/12 ft.	0.17 ft.
Three inches	3/12 ft.	0.25 ft.
Four inches	4/12 ft.	0.33 ft.
Five inches	5/12 ft.	0.42 ft.
Six inches	6/12 ft.	0.50 ft.
Seven inches	7/12 ft.	0.58 ft.
Eight inches	8/12 ft.	0.67 ft.
Nine inches	9/12 ft.	0.75 ft.
Ten inches	10/12 ft.	0.83 ft.
Eleven inches	11/12 ft.	0.92 ft.
Twelve inches	12/12 ft.	1 ft.

Circle And Oval Geometry

Pi = 3.1416
•The circumference of a circle is the distance around the outside.
Circumference = C = pi x D
•The diameter of a circle is the distance across the circle, going through the exact center.
Diameter = D = C x .31831
•The radius of a circle is the distance between the center and the outside edge. Radius = r
•Area of a circle is the amount of surface space that a circle consumes. Area = pi x r x r = pi x the radius squared
•A circle is .7854 times as heavy as a square of the same size, i.e., the loss in cutting a circle from a square is .2146 of the weight of the square.
The area of an oval = the longest diameter x the shortest x .7854

U.S. POISON CONTROL
Phone 1-800-432-6866

Soldering Fluxes, Name And Item Number

Handy Liquid Flux, 3 oz.	216-FLXHL3
Handy Liquid Flux, 1 pint	216-FLXHLP
Handy Liquid Flux, 1 gallon	216-FLXHG
Handy Paste Flux, 1/4 lb.	216-FLXHQ
Handy Paste Flux, 1/2 lb.	216-FLXH1H
Handy Paste Flux, 1 lb.	216-FLXH1
Handy Paste Flux, 5 lb.	216-FLXH5
Handy Paste Flux, 50 lb.	216-FLXH50
Ultra Paste Flux, 1/4 lb.	216-FLXUHQ
Ultra Paste Flux, 1/2 lb.	216-FLXUH
Ultra Paste Flux, 1 lb.	216-FLXU1
Ultra Paste Flux, 5 lb.	216-FLXU5
Dan-Dix Paste Flux, 1.5 oz.	216-FLXDDX1H
Dan-Dix Paste Flux, 1/2 lb.	216-FLXDDX8
Dan-Dix Paste Flux, 1 lb.	216-FLXDDX
Battern's Liquid Flux, 3 oz.	216-FLXB3
Battern's Liquid Flux, 1 pint	216-FLXBP
Battern's Liquid Flux, 1 quart	216-FLXBQ
Griffith's Self-pickling Liquid Flux, 3 oz.	216-GSPF3
Griffith's Self-pickling Liquid Flux, 1 gal.	216-GSPF128
Technical grade borax, 1/2 lb. canister	209-BX1
Prip's Flux, 8 oz bottle	216-GPF8

Anti-Flux

Yellow ochre powder, 1/2 lb. canister	216-YELLO

Firescale Preventatives, Name And Item Number

Cupronil, 4 oz. spray	216-CUP4
Cupronil, 16 oz. bottle	216-CUP16
Cupronil, 1 gallon jug	216-CUP128
Boric acid, 7 oz. canister	216-BA

Heat Shields, Name And Item Number

Kool-Jool, 8 oz. jar	291-KJJ
Vigor Heat Shield, 1 lb. jar	291-HSD