



## UNITED ALLOY # 730

Be insured in quality, Be insured in service, Be insured in "United Alloys."

UNITED ALLOY is uniquely different from other available alloys. Combining the highest purity metals available, stringent quality control, special de-oxidizers and grain refiners, produce trouble-free, superior quality castings and fabrication or rolling (hand-made).

UNITED ALLOY # 730 Brass is a bright yellow brass designed for fabrication or hand-made and can be used for normal investment casting for jewelry samples, models, belt buckles, art objects, etc. It finishes to a bright 14K color and easily solders with silver or low gold formulas. This brass contains Technical Element Metals which provides flexibility and greatly improves in the fabrication production and has a better tarnish resistance than the normal brass alloys.

- 1.) **MELTING** : The # 730 Brass should be melted in a clean crucible. The melting temperature should be 1,050 - 1,100 °C. Boric acid flux may be used to keep the metal clean during the melting process for open melting operation. The metal should be mixed well with a stirring rod before pouring to assure a good mix.
- 2.) **POURING** : Metal should be poured into a preheated, vertical graphite or lightly lubricated iron mold. A steady even pouring motion should be used slowing down at the end of the pour to prevent shrinkage in the top of the ingot. Use a round rod mold for wire and a 2 piece L shaped mold for plate and sheet.
- 3.) **QUENCHING** : The metal ingot should be removed from the mold and quenched immediately in pickle solution or water. For heavy ingots a one-minute cool down before quenching prevents quench cracking.
- 4.) **FABRICATION** : The ingot should be cleaned of all adhering oxide or fluxes before rolling. The ingot should be rolled or drawn to a 50% reduction in size before annealing. After annealing continue the reduction at 50% before annealing again. Clean the ingot after each anneals. Keep rolls, dies and metal clean to prevent defects in the finished stock.
- 5.) **ANNEALING** : Annealing temperature 650 - 700 °C for 20 minutes. Quench immediately in water or pickle solution. A boric acid fire coat should be applied before annealing in open atmosphere ovens to protect the metal from heavy oxidation. Avoid over-annealing wire or plate stock as this can cause excessive grain growth creating orange peel effect on the surface of finished goods.
- 6.) **PICKLING** : United's Brite-Cast™ (Ammonium Bi-fluoride), Sparex # 2 (sodium bisulfate), 10% - 20% Sulfuric Acid.  
Rubber gloves and safety glasses are recommended when using acid pickle.
- 7.) **RE-USING** : New metal 70% and Old metal 30%, Cleans Old metal well before re-melting.
- 8.) **SOLDERING** : Ratio of Mixing : 70% United Silver Solder Alloy # SSA + 30% Fine Silver.
- 9.) **NOTES** : Melt temperature may vary with type of unit.

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