



UNITED ALLOY (YELLOW GOLD ALLOY) # 833 (9K-14K)

THANK YOU FOR USING UNITED'S ALLOYS.

UNITED'S # 833 ALLOY is formulated for 9K-14K Yellow Gold sheet, plate and wire fabrication giving a yellow color. The # 833 Alloy can also be used for Investment Casting if desired.

Melting : The # 833 Alloy, and fine gold should be melted together in a clean crucible. Put alloy in the bottom of the crucible and fine gold on top. Initial melting temperature should be 1,040 °C / 1,904 °F. Drop temperature somewhat before pouring as listed below. Boric acid flux may be used to keep the metal clean during the melting process. The metal should be mixed well with a stirring rod before pouring to assure a good mix.

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.

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.

Fabrication : The metal 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.

Annealing : Annealing temperature 675 °C / 1,250 °F 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.

Soldering : United Yellow Solder Alloy # 1SA, # 2SA # 3SA or already mixed gold solder sheet.

Re-melting : Use a 50% scrap to fresh mix when re-melting to prevent oxide build up in the metal.

Representative Office :

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