



800 SERIES YELLOW ALLOYS FOR 10 & 14K YELLOW GOLD SHEET, PLATE, AND WIRE FABRICATION

United # 800 Series Yellow Alloys are formulated for 10 to 14 Karat Yellow Gold sheet, plate and wire fabrication giving a Yellow color. The # 800 Series Yellow Alloys can also be used for Investment Casting if desired.

- MELTING** The # 800 Series Yellow Alloys 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 1040° C/ 1904° 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 TEMPERATURE FOR INGOTS** 10 K 980° C/ 1796° F. 14 K 950° C/ 1742° F.
- 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 anneal. Keep rolls, dies and metal clean to prevent defects in the finished stock.
- ANNEALING** Annealing temperature 675° C / 1250° 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.
- REMELTING** Use a 50% scrap to fresh mix when remelting to prevent oxide build up in the metal.
- INVESTMENT CASTING** Pre-alloy #800 Series Yellow Gold Alloy & Fine Gold pour into water to make shot.
- PRE-ALLOYING TEMPERATURE** 1040° C / 1904° F.
- CASTING TEMPERATURE** 10 K Yellow - 960° to 980° C/ 1760° to 1796° F.
14 K Yellow - 930° to 950° C/ 1706° to 1742° F.
- FLASK TEMPERATURE** Normal recommended temperature.
- QUENCH TIME** Wait 15 minutes before quenching flasks.
- TECHNICAL ASSISTANCE** Always available...
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