

ARGELOY SUNRAY
YELLOW NON-PRECIOUS

ARGELOY SUNRAY is a premium, non-precious "Type 3" casting alloy for fixed crowns, bridges, inlays and onlays.

COPPER	78.8%
ALUMINUM	8.8%
NICKEL	4.9%
IRON	3.9%
ZINC	2.7%
MANGANESE	<1.0%

Melting Range:	1010 – 1068 °C
Casting Temperature:	See chart below
Density:	7.8 g/cm ³

Mechanical Properties:

Yield Strength (psi / MPa):	30,000 / 205
Elongation (%):	29
Vickers Hardness:	140

Instructions For Use:

SPRUIING: **SINGLE UNITS:** Use a direct sprue with a reservoir and connect the sprue to the thickest area of the wax pattern. The connection point between the wax pattern and the sprue should be tapered.

BRIDGE WORK: Use an indirect (runner bar) spruing technique. The connection points between the wax pattern and the sprues should be tapered.

INVESTING: Use a high heat phosphate-bonded investment.

BURNOUT: The investment heat-soak temperature range for AURILOY SUNRAY is 1300-1400°F (700 - 760°C). Consult the "Heat-Soak Time Table" for the minimum heat-soak period requirement.

HEAT-SOAK TIME TABLE

<u>Number of Units/Rings</u>	<u>Heat-Soak Period</u>
Small Single Unit Ring	1 hr. 10 min.
Two/Three Unit Ring	1 hr. 30 min.
Four/Five Unit Ring	1 hr. 50 min.
Two Rings in the Oven	add 20 min.
Three Rings in the Oven	add 40 min.
Four Rings in the Oven	add 1 hr.

LOWER RING TEMPERATURE: When the burnout heat-soak period is complete, lower the ring temperature before casting. Consult the "Casting Ring Temperature Chart". Lowering the ring temperature before casting greatly reduces your risk of porosity.

CASTING RING TEMPERATURE CHART

<u>Pattern Description</u>	<u>Casting Ring Temperature</u>	
	<u>Fahrenheit, °F</u>	<u>Celsius, °C</u>
Small Single Unit	1300 - 1400	700 - 760
Large Single Unit	1200 - 1300	650 - 700
Multiple Unit Ring	1100 - 1200	600 - 650
X-Large Single Unit	1000 - 1100	540 - 600
Bridgework	800 - 1000	450 - 540
X-Large Pontic	800 max.	425 max.

- TORCH CASTING: Wind casting machine four to five turns. Use a single-orifice tip and oxygen (approx. 20 psi) with natural or propane gas. Adjust flame so that the blue cone is one inch in length. Preheat the crucible and then place the ingots in the crucible. Heat the ingots evenly in a circular motion. Do not use casting flux. When the ingots all slump, then cast the alloy. Do Not Over-Heat! Buttons may be recast when combined with new alloy in a 1:1 ratio.
- INDUCTION CASTING: ARGELOY SUNRAY performs well with all types of manual and automatic high frequency induction casting machines. The operator must perform a series of trial castings in order to determine the optimum machine settings. Do not use casting flux. The liquidus point of ARGELOY SUNRAY is 1955°F (1068°C) and the recommended casting temperature is 2100°F (1148°C). Buttons may be recast when combined with new alloy in a 1:1 ratio.
- FINISHING: Remove investment by sandblasting, then finish ARGELOY SUNRAY using normal gold C&B finishing procedures.
- SOLDERING: Use conventional 615 gold solder, but put the flux on the solder rod only, not on the ARGELOY SUNRAY crown.
- * DO NOT use ammonia when cleaning
 - * DO NOT over-heat ARGELOY SUNRAY when casting
 - * DO NOT use carbon containing crucibles
 - * DO NOT use pickling solutions
 - * DO NOT use gold plate
 - * DO NOT use as a removable appliance
 - * DO NOT sterilize with an autoclave or dry heat.