

PG-747

COMPOSITION					
Au	Pt	Pd	Ag	Cu	Other
74	4	7.5	11	0	In Sn Ir

Yellow Porcelain Alloy



APPLICATION

Single Units, Short & Long Span Bridges, Implants

SOLDER Pre: Porc Yellow Post: 720, 650, 615

TECHNICAL DATA

	<u>HARDENED</u>
Vickers Hardness:	225
Proof Stress:	75,000 psi
Tensile Strength:	85,000 psi
Elongation:	8%
Melting Range:	2075-2150°F / 1135-1175°C
Casting Temperature:	2300°F / 1260°C
Density g/cm ³ :	16.2
Thermal Expansion:	15.0 @ 500°C / 15.4 @ 600°C



TECHNICAL INSTRUCTIONS

WAXING: Maintain optimal pattern thickness of 0.3 – 0.5 mm. Build out deficient areas to insure uniform porcelain thickness. Avoid sharp corners and angles. Provide adequate bulk in connection areas.

SPRUNG: *Direct:* Attach 8-10 gauge wax sprue with reservoirs to the heaviest portion of the pattern. Keep pattern(s) 1/4" from top of ring.

Indirect: Attach 10 gauge wax sprue to the heaviest portion of the pattern(s). Trim to 1/8" and attach a 6 gauge runner bar. Build up crucible former with soft wax and attach runner bar to crucible former with 2 or 3, 8 gauge gate sprues.

INVESTING: Use a high heat phosphate bonded investment as per manufacturer's instructions.

BURNOUT: *Single Stage:* Room temperature to 1450-1550°F (788-843°C) at medium rate.

Two Stages: 1. Room temperature to 800°F (427°C) at 20°F/min.
2. 800°F (427°C) to 1450-1550°F (788-843°C) at 30°F/min.

Heat soak at 1450-1550°F (788-843°C) for at least 1 hour. Add 15-20 minutes soak time for each additional ring.

MELTING: Multi-orifice gas/oxygen torch or induction. Do not use flux. Oxygen pressure should be between 6-9 pounds.

CASTING: Allow metal to pool to a shiny mirror surface. Continue heating until the shine is reduced to a dull, flat white color, and cast. Bench cool to room temperature.

FINISHING: Use high quality aluminum oxide barrel stones, carbides or sintered diamond points to achieve a smooth scratch-free surface. Blast with 50 micron aluminum oxide. Clean in distilled water using ultrasonic cleaner for 10 minutes

OXIDATION: Air fire at 1200-1850°F (650-1010°C). Remove casting and allow to bench cool.

OPAQUING: Fire one thin slurry. Use a second coat to mask remaining oxide show through. Bake to an egg shell finish.

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