

# PG-W

COMPOSITION					
Au	Pt	Pd	Ag	Cu	Other
52.5	0	27	16	0	In Ga Ru

## White Porcelain Alloy



### APPLICATION

Single Units, Short & Long Span Bridges, Implants

**SOLDER** Pre: Porc White Post: 650, 615, 585, 450

### TECHNICAL DATA

	<u>HARDENED</u>
Vickers Hardness:	225
Proof Stress:	85,000 psi
Tensile Strength:	100,000 psi
Elongation:	10%
Melting Range:	2200-2300°F / 1205-1260°C
Casting Temperature:	2455°F / 1345°C
Density g/cm <sup>3</sup> :	14.2
Thermal Expansion	14.2 @ 500°C / 14.4 @ 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 to 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 10 minutes soak time for each additional ring.

**MELTING:** Multi-orifice gas/oxygen torch or induction. Do not use flux. Do not use carbon crucible. Add 50% of new alloy to the cleaned button(s).

**CASTING:** Allow metal to pool to a shiny mirror surface and cast immediately. 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/DEGASSING:** Air fire at 1200-1900°F (650-1038°C). A light gray oxide will appear. Do not remove oxide. Proceed for porcelain application.

**OPAQUING:** Fire one thin slurry. Use regular opaque coat(s) to mask remaining oxide show through.