INTEGRITY
WHITE CERAMIC ALLOY

PROPERTIES

Melting Range	2050° to 2375°F
Coefficient of Thermal Expansion	
from 25°C to 500°C:	13.8x10^{-6}C^{-1}
from 25°C to 600°C:	14.1x10^{-6}C^{-1}
Density	10.9 g/cm^3
Grain Size	15 microns
Hardness	250 HV
Tensile Elongation	30%
Tensile Yield Strength (PSI)	79,200
Ultimate Tensile Strength (PSI)	114,000
Elastic Modulus (PSI)	13.7x10^6

CHEMISTRY

Palladium	75%
Silver	7%
Gold	6%
Indium	6%
Gallium	6%

Contains less than 1% Ruthenium and Rhenium

Classification - Noble

PROCESSING TECHNIQUE

WAXING
Wax to a minimum thickness of 0.4mm for single units and 0.5mm for bridge work.

SPRUING
Indirect spruing with 10 gauge sprues from an 8 gauge runner bar is recommended. If multiple units are individually sprued in a single ring, units should be separated by a minimum of 4mm (3/16").

INVESTMENT
A high heat phosphate bonded investment must be used. A carbon free investment is preferred.

BURNOUT
Place in a cold furnace and raise temperature to 1450°F (790°C). Hold at temperature a minimum of 1-1/2 hours. Increase the hold time for large or multiple rings.

MELTING AND CASTING
Melt in a high heat crucible using a multi-orifice torch with gas pressure at 10psi and oxygen pressure at 20psi. The ingots will melt together forming a single fluid pool. Heat with the reducing portion of the flame. Cast after heating for 10 seconds after the melt surface appears free of oxides. The casting temperature is 2475°F (1355°C). Do not use a casting flux.

DEVESTING AND FINISHING
Finish all surfaces to receive porcelain coverage with aluminum oxide stones and discs. Blast surfaces with nonrecycled, 50 micron, white aluminum oxide at a pressure of 80psi. Ultrasonically clean for 10 minutes in distilled or deionized water.

CONDITIONING
Oxidize under vacuum by heating from 1200° to 1850°F (650° to 1010°C). Hold for 5 minutes under vacuum at the upper temperature. Remove, bench cool, and proceed with opaquing according to the porcelain manufacturer's instructions.

SOLDERS AND FLUX

Pre-Solder:	Spirit Solder
Post-Solder:	1400 Solder
Flux:	Brown Fluoride Flux for both pre and post soldering