

# SECURITY

## HIGH NOBLE WHITE CERAMIC ALLOY

### Au & Pt Group: 80%

PROPERTIES*	
Melting Range	2120-2300°F 1160-1260°C
Coefficient of Thermal Expansion from 25-500°C	14.2
from 25-600°C	14.5
Density	13.0 g/cm <sup>3</sup>

CHEMISTRY	
Gold	40%
Palladium	40%
Silver	9%
Indium	6%
Zinc	3%
Tin	2%
Rhenium	<1%

AFTER PORCELAIN FIRING*	
Hardness	255 HV
Tensile Elongation	20%
Tensile Yield Strength/Proof Stress	78,230 psi / 540 Mpa
Ultimate Tensile Strength	110,230 psi / 772 MPa
Modulus of Elasticity	17.4 x 10 <sup>6</sup> psi / 120,000 MPa

\* Test methods conform to ISO Standard 9693 and ANSI/ADA 38

## PROCESSING TECHNIQUE

- WAXING** 0.3mm for single units and 0.5mm for bridgework
- INVESTMENT** Phosphate-bonded high heat investment with or without carbon
- BURNOUT** 1550°F (850°C).
- MELTING AND CASTING** Wind the casting arm one more time than normal (3-4 winds).  
Multi-orifice torch: 10 psi fuel and 20 psi oxygen (0.7 bars fuel and 1.4 bars oxygen).  
Heat until cloudy surface clears before releasing the casting arm. **DO NOT OVERHEAT.**  
**DO NOT USE CASTING FLUX.**  
Casting temperature ~2400°F (1315°C).
- FINISHING** Finish with aluminum oxide stones. Blast porcelain receiving surfaces with non-recycled aluminum oxide. Clean in ultrasonic for 10 minutes.
- CONDITIONING (Degassing, Oxidation)**  
Oxidize at 1850°F (1010°C) in vacuum. Hold for 5 minutes. Bench cool.  
Do not remove oxide.
- SOLDERING**
- |             |   |
|-------------|---|
| Pre-solder  | PWS or LX Solder                                    |
| Post-solder | 1400 Solder   |
| Flux        | Brown Fluoride Flux (for both pre & post soldering) |

*Jensen Technical Service is available 8:00 AM - 8:00 PM EST by calling 1-800-243-2000*

