

SECURITY

HIGH NOBLE WHITE PORCELAIN ALLOY

Jensen Dental's **SECURITY** Alloy offers cost-conscious customers the ability to purchase a high-noble PFM dental alloy at an economical price. Since SECURITY has the smallest amount of gold possible to be classified as a "high noble" alloy (40%), it may be less expensive than other products that contain more gold. SECURITY's properties make it ideal for just about any PFM application. A strong alloy, it's great for single units, short- and long-span bridges.

PROPERTIES	
Melting Range	2120°-2300°F (1160°-1260°C)
Coefficient of Thermal Expansion	
from 25°C to 500°C	14.2x10 ⁻⁶ K ⁻¹
from 25°C to 600°C	14.5x10 ⁻⁶ K ⁻¹
Density	13.0 g/cm ³

CHEMISTRY	
Gold	40%
Palladium	40%
Silver	9%
Indium	6%
Zinc	3%
Tin	2%
Contains less than 1% Rhenium	
Au & Pt group - 80%	
Classification - High Noble	

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 ⁶ psi (120,000 MPa)

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.
OXIDATION	Oxidize from 1200°F (650°C) to 1850°F (1010°C) at 145°F/min (80°C/min) in vacuum with 5 minutes hold time. Bench cool. Proceed with normal opaque technique.
SOLDERS AND FLUX	Pre-solder: PWS or LX Solder Post-solder: 1400 Solder Flux: Brown Fluoride Flux (for both pre & post soldering)

5225Y r2

