AURIDENT, INC.

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Auritex-KP CERAMIC ALLOY TECHNIQUE OUTLINE

Auritex-KP is a palladium-silver based precious metal ceramic alloy (2.0% gold; 51.5% palladium, 37.5% silver) designed for use in applications where cost considerations preclude the use of higher gold content alloys.

Wax-up: Minimum section thickness should be no less than 0.4mm. Use 8 gauge sprues. Sprue length should not exceed ¼ inch.

Investing and burnout: Use Aurivest investment or equivalent carbon free investment. Carefully follow manufacturer's recommended liquid to powder ratio. To prevent air entrapment in mold during casting, the pattern should be covered by no more than ¼ inch of investment. Burnout at 1450°F allowing one hour for each one inch of ring diameter after reaching the burnout temperature.

Casting: If a spring loaded centrifugal casting machine is used, lock casting machine arm in position after winding three full turns. Use a quartz crucible that has not been previously used for a different alloy. Avoid graphite crucibles or the use of carbon, asbestos, or flux in contact with the metal during melting. If an automatic induction casting machine used, do not use a graphite insert in the crucible. At least 50% new alloy should be added for each casting using a previously used button. A hot propane-oxygen or natural gas-oxygen torch flame should be used with the inner cone of the flame approximately ½ inch long. Cast at a temperature where the metal appears completely molten (2450^{o}F-2500^{o}F or 1340^{o}C-1370^{o}C) but do not overheat. Quench after allowing the ring to bench cool 4 to 5 minutes.

Preparation for Porcelain: Remove adhering investment with brush and ultrasonically clean. If a sandblast is used, maintain air pressure below 30psi to avoid damaging margins. Rough grind with a hard mounted stone to all metal surfaces to which porcelain is to be applied. Heatless stones are not recommended. Clean in an ultrasonic cleaner using distilled water. Avoid contact with fingers.

Degas at 1850°F for 2 minutes in air and 2 minutes in vacuum for a total of 4 minutes. (Either the air exposure or the vacuum exposure may be done first.) In order to reduce the darkness of the oxide layer, the surface may be lightly sandblasted with fine aluminum oxide abrasive (optional). If the surface is sandblasted, clean again in distilled water in an ultrasonic cleaner. After this step, take particular caution to avoid contact between the metal surface and fingers or any other foreign object that could leave a contaminant deposit on the surface.

Recommended Solders: PWS, PSF, WNS

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