

NIRANIUM X-3 Non-Precious Ceramic C&B Alloy

Indications for Use: Dental crowns and bridges.

Contraindications: Not for use as inlay or partial denture framework.

Waxing: Quality wax should always be used along with accepted waxing techniques. We recommend that waxing should be made with calibrated wax 0.35 mm or 0.40 mm. This procedure is important to assure proper flow of the metal. When the wax-up is made for acrylic facings, standard retention methods should be used. Avoid use of plastics as this material leaves a residue inside the mold which could contaminate NPX-III.

Spruing: When correctly used, all spruing techniques are acceptable.

Cross Bar and Sprues: Sprue bridge using 8 or 10 gauge to connect each unit to the Cross Bar. Use 6 or 8 gauge for Cross Bar and for sprue leads connecting Cross Bar to sprue former. Be sure that wax-up is about 1/4" (5-6 mm) from top of ring. Always use one layer of ring liner to allow proper expansion of investment when using metal casting rings. Liner is not required when using plastic rings/ringless systems.

Investing: Use a good debubbler over the pattern and leave it wet. Use CB-30 or similar quality phosphate-bonded investment. We recommend that investment be mixed with recommended liquid for better expansion.

Burnout (Always follow manufacturer's instructions) Before placing ring in the oven, the investment must set for one hour. Place rings in a cold oven and bring temperature to 1600°F (871°C), or if using a Rapid Fire Investment, place the ring in hot furnace at 1600°F (871°C). When the furnace recovers the 1600°F (871°C) heat soak for 1 hour. For each additional ring in the oven increase the soak time 15 minutes more to the burnout cycle. This will allow the rings to heat soak properly.

Melting and Casting: Gas/oxygen torch or induction melting may be used. If torch is used, propane or natural gas is recommended.

Caution: Wear OSHA approved eye protection recommended for torch melting.

- 1) Wind casting machine two extra turns than normally used for gold castings.
- 2) Use a **quartz crucible** to melt NPX-III. *Never use any crucibles that have been used for other alloys!*
- 3) Use a multiple orifice torch. Adjust oxygen regulators to approximately 25-30 pounds. The inner blue cone should be approximately 1/4" (5-6 mm) long.

Keep torch moving to allow even distribution of heat to all ingots. Cast after all ingots slump and there are no dark areas visible.

Induction Melting: Set power to high and make sure shadow is disappearing and alloy is slumping. Automatic casting machines should be set at a temperature of 2525°F (1385°C) with a 5 second heat-soak.

Casting Surface Preparation: Grind and shape using same procedure as for Gold Ceramic alloys. Always use "aluminum-oxide" mounted points. Diamond discs and carbide burs may also be used. Ultra-sonically clean casting in distilled water. Remove cases with tweezers. **DO NOT TOUCH CASES WITH FINISHERS!** Dry case with tissue before degassing.

Degassing: Place casting in porcelain furnace. Start degassing at 1200°F (649°C), under vacuum. Raise temperature to 1825°F (995°C), hold at temperature for 3 minutes, release vacuum and remove casting for porcelain furnace.

Porcelain Steps: Opaque: Mix opaque in a thin slurry. Apply as usual. Fire opaque at 1820°-1830°F (993-999°C) under vacuum. This slightly higher temperature is important to achieve an eggshell sheen. **Body and Glazing:** Follow manufacturer's instructions.

Soldering: Use catalog #0302 for pre-soldering. For post-soldering, use catalog #0410 with #0411 paste flux. May also use catalog #0408 welding rod with #0409 powder flux.

Clinical Instructions: Apply dental cement per manufacturer's instructions.

WARNINGS

The use of a respirator and a dust/fume collection system is required, see SDS for proper handling instructions.

NPX III is a prescription only device under the direction of a dental technician or dentist.

NPX III is intended for use by dentist and trained dental technicians. Do not use if patient is known to be allergic to any components of the alloy.

Remove partial denture before entering any MRI.

CAUTION: Wear OSHA approved eye protection recommended for torch melting.
Contains Nickel and should not be used for individuals with known nickel sensitivity.
Contains Beryllium, grind with adequate ventilation.



Manufacturer



Caution



Batch code

Rx ONLY

Niranium

Division of CMP Industries, LLC



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