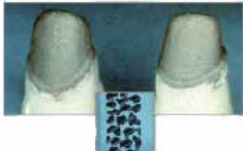


# CAPTEK NANO TECH SHEET

Captek Nano materials provide a unique, and arguably the best, restorative solution for implants, crowns over endodontically treated teeth, patients at risk for periodontal disease, and many other clinical challenges you face. The new stronger Captek Nano formula is perfectly designed into three solution-specific thicknesses that will maximize results in all areas throughout the mouth. A thicker, tougher version is utilized for high stress situations while an ultra-thin version is available for breathtaking anterior esthetics.

**CAPTEK NANO - CAPILLARY CASTING TECHNOLOGY** Captek Nano capillary casting technology is a new approach to ceramometal restorations. Using a refractory die technique, two layers of a metal impregnated wax are placed on the die. The first layer, Captek P, contains a gold-platinum-palladium combination. The layer is press-fit to the die and trimmed at the margin. The die is then fired in a porcelain furnace producing a high-platinum, high-palladium coping that contains a microscopic capillary network. The second layer, Captek G, is 97% gold and is press-fit to the die and trimmed over the Captek P coping. This is then fired in a porcelain oven. The molten Captek G is drawn into the capillary network of the Captek P to totally encapsulate the gold-platinum-palladium combination within the gold. The final Captek Nano coping is a high strength metal composite with a deep yellow-gold appearance.

Captek P after firing  
The metal particles interconnect to form a capillary network.



Captek G after firing  
Captek G melts over Captek P capillaries forming the internal supporting skeleton.



## CAPTEK NANO - 3 NEW & IMPROVED VERSIONS

The re-engineered Captek Nano materials provided from DAL offer up to 33% more strength and three new oxide-free materials - perfectly engineered to maximize esthetics and bacteria control while achieving the strength requirements for any clinical situation. Based on each particular case, the experts at Studio Arts Dental Lab will choose one of the following Captek materials:

- Captek Nano Bridge and Implant™ is perfect for high strength and maximum toughness (i.e., bruxers, large molars, bridges and implant restorations).
- Captek Nano Esthetic Zone™ is the thinnest core material available at under .2 mm and is perfect for absolutely gorgeous upper and lower anterior restorations.
- Captek Nano Universal™, at only .235 mm, allows for maximum tooth conservation while balancing the strength and esthetic requirements necessary for premolars and small molars.



Route 611, Fountain Court, Suite 13 | Bartonsville, PA 18321  
Phone: (570) 688-1040 | Fax: (570) 688-1045

## CAPTEK NANO MATERIAL PROPERTIES

A Captek Nano coping is a high noble yellow gold composite alloy that has an overall composition of about 88.2% gold, 9.0% platinum-group metals (including 4.0% pure platinum) and 2.8% silver.

### CERAMCO®3 PORCELAIN TO CAPTEK NANO



Ceramco®3 Porcelain to Captek Nano single crowns on teeth #7-10. A 360o Captek Nano collar was prescribed to maximize the periodontal health of the ankylos left central #9.

## THE BENEFITS OF CAPTEK NANO

**Natural Esthetics:** The oxide-free gold color of the Captek Nano coping produces an excellent background for porcelain application. The warm gold simulates the internal color that the pulp produces in the tooth, producing life-like shades without opacity. And because Captek Nano requires only a thin layer of opaque, the unpleasant bright, high-value appearance of thicker opaque layers often seen at ceramometal crown margins is eliminated.

**Minimal Thickness:** Reduced-thickness Captek Nano copings and thin opaque layers help to prevent overcontouring of the porcelain and enables normal emergence profile with conservative tooth reduction.

**Elimination of Dark or Discolored Margins:** Your patients will appreciate the outstanding color matches and the elimination of graying at the margins.

**Precision Fit:** Captek Nano is formed directly on the die, producing an excellent fit (about 14.5-17.5 microns) and a significantly smaller marginal opening than conventional porcelain fused to metal restorations.<sup>1</sup>

**Maximum Strength:** Load bearing capacity of Captek Nano crowns is approximately 75 kg. The value for bridges is approximately 210 kg, which is equivalent to conventional porcelain fused to metal restorations.<sup>2</sup> Additionally, Boston University research suggests that ceramic shear bond strength of Captek Nano is at least equal to that of conventional ceramometal crowns and that they have a high resistance to impact fracture.<sup>3</sup>

**Biocompatible:** Clinicians have observed that tooth surfaces restored with Captek Nano appear relatively plaque free and were associated with more healthy periodontal tissues. Captek Nano metal surfaces appear to support approximately 1/10 the number of bacteria as natural teeth and may be a preferred surface in restoring abutments with periodontal disease affliction.

## PREPARATION/CEMENTATION

No bonding or aggressive preparations, just the standard PFM prep and cementation. Any type of tooth preparation can be used. This would include knifeedge, chamfer, bevel and shoulder preparations for metal or porcelain margins.

## SHADE SELECTION

Select shade with a Vita Lumin Shade Guide or Vita 3D-Master Shade Guide. DAL is a certified Vitapan 3D-Master Shade System laboratory featuring the Omega 900 3D porcelain system.

## IMPRESSION

Preferably a polyether or polysiloxane material. It is necessary to send impression with the case in order to pour a second solid model for contact verification.

## FINISHING/POLISHING

Captek Nano veneered with high-fusing porcelain - use conventional finishing/polishing procedures. Captek Nano veneered with low-fusing, low-abrasion porcelain - use a medium/coarse grit diamond with a small amount of water spray (w/high-speed handpiece) for adjustments. To polish, first use a pre-polisher (gray wheels and points) and finish with a porcelain polishing wheel or point (Dialite, Brasseler USA) with optional diamond polishing paste.