

TWS Knee Instruments



Advantages of Titanium Nitride (TiN) Coating on TWS Osteotome Instruments



Material Type: Titanium Nitride (TiN) Coating on Osteotome Instruments

Surface Hardness: Extremely high (~2400 HV)

Metal Ion Release: Minimized and Blocked

Abrasive Wear: Very low, Prone to third-body scratches

Advantages of Titanium Nitride (TiN) Coating on TWS Osteotome Instruments



Applying a **Titanium Nitride (TiN) Coating** which produces the characteristic gold finish onto surgical gouges offers substantial structural and clinical enhancements:

Titanium Nitride (TiN) coating on revision knee surgery instruments and implants provides critical mechanical, chemical, and biological benefits that enhance surgical precision and long-term implant survival.

- **Allergy Protection:** Acts as a physical barrier that minimizes the release of harmful nickel, cobalt, and chromium ions from base alloys, protecting metal-sensitive patients from localized inflammatory immune reactions.
- **Extreme Surface Hardness:** Increases the surface hardness up to four times compared to standard cobalt-chromium alloys. This heavily resists scratch damage caused by bone fragments or surgical debris.
- **Substantial Wear Reduction:** Lowers the coefficient of friction and limits microscopic abrasions. This yields a significant reduction in polyethylene insert wear, lowering the risk of debris-induced osteolysis.
- **Excellent Biocompatibility:** Highly inert and non-toxic ceramic layer that safely integrates with surrounding biological tissues without causing adverse reactions.
- **Enhanced Corrosion Resistance:** Blocks corrosive body fluids and synovial joint fluids from deteriorating the underlying metallic substrate over time.
- **Improved Wettability:** Creates a smoother surface that maximizes fluid retention. This ensures superior lubrication across articulating surfaces during knee movement.

Advantages of Titanium Nitride (TiN) Coating on Osteotome Instruments



Core Advantage	Description & Clinical Value
Exceptional Surface Hardness & Wear Resistance	The Titanium Nitride (TiN) layer drastically multiplies the surface hardness of the underlying stainless steel. This keeps the cutting edge extremely sharp and resistant to dulling , even when repeatedly striking hard bone cement or dense cortical bone, reducing the need for intraoperative instrument changes.
Low Friction Coefficient (Lubricity)	The microscopic surface of a Titanium Nitride (TiN) coating is ultra-smooth. This dramatically lowers cutting and sliding resistance, allowing the gouge to glide seamlessly through narrow femoral canals. The surgeon experiences less physical fatigue and smoother, more controlled force delivery .
Anti-Glare Surface	The gold matte or satin finish significantly dampens the specular reflection of metallic steel. Under intense operating room theater lights and surgical microscopes, it prevented distracting glare and visual fatigue , keeping the deep surgical site highly visible.
Enhanced Corrosion & Autoclave Resistance	Surgical tools endure harsh environments, including blood exposure and repeated high-pressure steam sterilization (autoclaving). PVD coating acts as an inert chemical barrier that protects against pitting, rusting, and chemical degradation , exponentially lengthening the instrument's lifespan.
Biocompatibility & Cleanability	Materials like TiN are highly biocompatible and safe for direct human tissue contact. Furthermore, the dense, non-porous layer prevents organic tissue or bacterial bio-burden from adhering tightly to the metal, making the instrument significantly easier to clean and sterilize between cases.

TWS Titanium Nitride (TiN) Coating Osteotome



TWS 79-6520/02TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 2mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/03TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 3mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/04TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 4mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/05TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 5mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/06TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 6mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/07TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 7mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/08TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 8mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Osteotome



TWS 79-6520/09TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 9mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/10TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 10mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/12TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 12mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/14TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 14mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/15TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 15mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/16TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 16mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/18TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 18mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Osteotome



TWS 79-6520/20TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 20mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/22TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 22mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/25TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 25mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/28TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 28mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/30TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 30mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/35TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 35mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6520/40TN	TWS Osteotome, Flat and Straight Titanium Nitride (TiN) Coating 40mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Osteotome



TWS 79-6220/03TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 3mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/04TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 4mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/05TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 5mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/06TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 6mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/07TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 7mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/08TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 8mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/09TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 9mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Osteotome



TWS 79-6220/10TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 10mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/11TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 11mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/12TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 12mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/13TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 13mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/14TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 14mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/15TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 15mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6220/16TN	TWS V Tip Osteotome Titanium Nitride (TiN) Coating 16mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Osteotome



TWS 79-6420/03TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 3mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/04TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 4mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/05TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 5mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/06TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 6mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/07TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 7mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/08TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 8mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/09TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 9mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Osteotome



TWS 79-6420/10TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 10mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/11TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 11mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/12TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 12mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/13TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 13mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/14TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 14mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/15TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 15mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6420/16TN	TWS Point Tip Osteotome Titanium Nitride (TiN) Coating 16mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Chisel



TWS 79-6620/04TN	TWS Intercondylar Femoral Chisel, Bayonet Titanium Nitride (TiN) Coating 4mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6620/06TN	TWS Intercondylar Femoral Chisel, Bayonet Titanium Nitride (TiN) Coating 6mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6620/08TN	TWS Intercondylar Femoral Chisel, Bayonet Titanium Nitride (TiN) Coating 8mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6620/10TN	TWS Intercondylar Femoral Chisel, Bayonet Titanium Nitride (TiN) Coating 10mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol
TWS 79-6620/12TN	TWS Intercondylar Femoral Chisel, Bayonet Titanium Nitride (TiN) Coating 12mm Cutting Width, 20cm Length, Material: Stainless Steel and Tufnol

TWS Titanium Nitride (TiN) Coating Cement Rongeur

Striking black and gold aesthetic TWS Titanium Nitride (TiN) Coating Cement Rongeur

TWS Titanium Nitride (TiN) coated cement rongeurs are specialized surgical instruments used primarily in orthopedic and spinal surgeries to precisely remove bone, soft tissue, and excess bone cement. The coating acts as a durable, biocompatible ceramic layer that drastically improves cutting performance and instrument longevity.



Benefits of Titanium Nitride (TiN) Coating

- **Enhanced Durability:** The Titanium Nitride (TiN) Coating layer achieves a hardness 2600 HV, making it significantly harder than standard stainless steel and highly resistant to dulling.
- **Wear Protection:** It shields the jaws of the rongeur from abrasive wear caused by aggressive materials like PMMA bone cement, minimizing the risk of metal flaking into the surgical site.
- **Lower Friction:** The low coefficient of friction allows for smoother, cleaner cuts through bone and ligament.
- **Biocompatibility & Corrosion Resistance:** TWS Titanium Nitride (TiN) is highly inert and resistant to bodily fluids and standard sterilization methods, such as autoclaving.

TWS Titanium Nitride (TiN) Coating Cement Rongeur

Striking black and gold aesthetic TWS Titanium Nitride (TiN) Coating Cement Rongeur

TWS Titanium Nitride (TiN) coated cement rongeurs are specialized surgical instruments used primarily in orthopedic and spinal surgeries to precisely remove bone, soft tissue, and excess bone cement. The coating acts as a durable, biocompatible ceramic layer that drastically improves cutting performance and instrument longevity.



TWS 79-6320/06TN	TWS Ferris-Smith Handle Cement Grasping Rongeur 6mm Teeth Width, 180cm long, Titanium Nitride (TiN) Coating Black Coated Shaft and Gold Grasper Material: Stainless Steel
TWS 79-6320/08TN	TWS Ferris-Smith Handle Cement Grasping Rongeur 8mm Teeth Width, 220cm long, Titanium Nitride (TiN) Coating Black Coated Shaft and Gold Grasper Material: Stainless Steel
TWS 79-6320/10TN	TWS Ferris-Smith Handle Cement Grasping Rongeur 10mm Teeth Width, 330cm long, Titanium Nitride (TiN) Coating Black Coated Shaft and Gold Grasper Material: Stainless Steel