

i-ON SCREW



900+ Compatible Implant System
ONLY AT HOIL DENTAL

***Nanohardness at least 5 times,
Elasticity at least 3 times more than uncoated***



Significantly Prevents **Screw Loosening**

- ✓ Lower the coefficient of friction (approx. from **0.4 to 0.2** in dry conditions).
- ✓ For the same tightening torque, a more predictable preload can be achieved.
- ✓ This **reduces the risk of screw loosening**, a common complication in implant prosthetics.

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Enhanced **Antibacterial Properties**

- ✓ Smooth i-ON coatings ($Ra \leq 0.05 \mu m$) show reduced plaque retention compared to rough titanium.
- ✓ Lower the risk of peri-implantitis by limiting bacterial colonisation.

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Increased **Wear Resistance**

- ✓ A hard coating that **protects screw threads** from wear during multiple tightening/untightening cycles.
- ✓ Prevents deformation or "cold welding" often seen with titanium screws.
- ✓ Potentially increases the **reusability and longevity** of screws.

Enhanced **Corrosion Resistance**

- ✓ The oral environment exposes screws to saliva, pH fluctuations, and bacterial metabolites.
- ✓ i-ON coating acts as a **stable barrier** against oxidation and galvanic corrosion.
- ✓ Helps reduce ion release and maintain **long-term biocompatibility**.

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Aesthetic **Benefit**

- ✓ i-ON coating produces a golden hue rather than gray titanium.
- ✓ Prevents grayish shine-through in the **anterior zone** when gingival tissue is thin.
- ✓ **Improves the esthetic outcome** in visible areas.

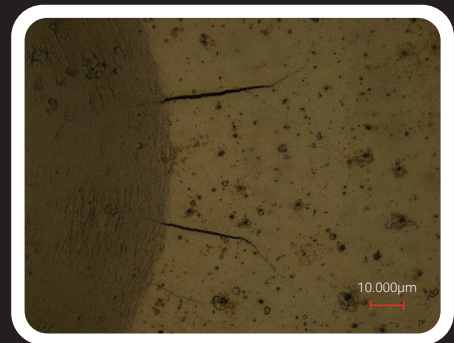
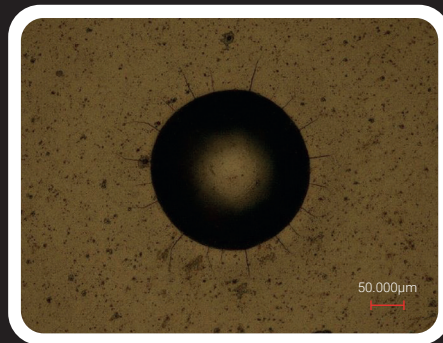


Medical Titanium Nitride Coating (i-ON Coating)

Efficacy of i-ON Coating

Through rigorous testing conducted by our specialised research laboratory, we have examined the Nanoindentation and fatigue characteristics of Custom Abutments before and after i-ON Coating application.

The results, as displayed in the table below, unequivocally indicate significant improvements in **surface hardness**, with an increase of at least **5-fold**. Additionally, the elasticity, as represented by **Young's Modulus**, has demonstrated a minimum **3-fold** enhancement.

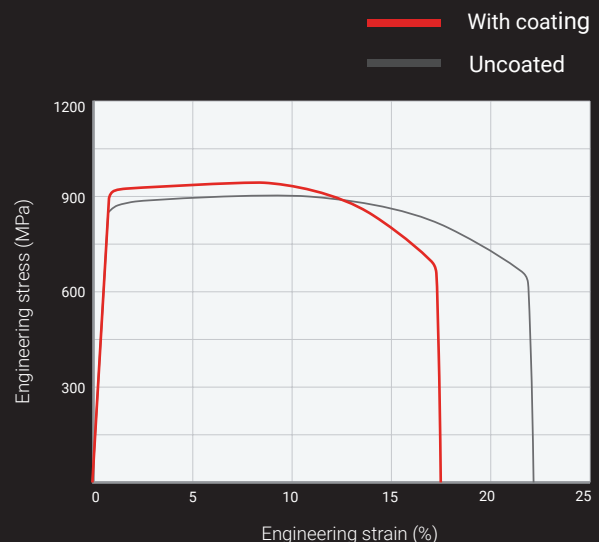


Effects on Screws



Property	Before Coating	After Coating
Nanohardness (Nanoindentation)	5.1 ± 1.1 GPa	27.1 ± 3.4 GPa
Young's Modulus (Elasticity)	141 ± 18 GPa	450 ± 49 GPa
Fatigue Characteristics (Fatigue Test Results)	21.9%	17.7%

These findings not only underline the remarkable performance enhancement achieved through i-ON Coating but also highlight its potential to significantly reduce fatigue related concerns in our products.



References

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i-ON Screw

Available Implant System



900+ Compatible Implant System
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A series compatible with

ARUM® NB / SD
ADIN® CLOSEFIT™ / Multi-Unit / TOUAREG™ S&OS&SWELL /
/ UniFit™
ALPHA-BIO TEC® CONCIAL / Internal Hex / Multi-Unit
ANTHOGRY® AnthoFit® OI / Axiom® BL / Axiom® TL /
/ Axiom® Multi-Unit®
ASTRA TECH™ EV™ / EV™ Multi-Base / EV™ PROFILE / Multi-Unit®
/ Angled(TCA) / OsseoSpeed™ TX
AVINENT® OCEAN

B series compatible with

B&B DENTAL Conexa / Multi-Unit®
BEGO® Internal / Multi-Unit®
BIO3 IMPLANT Conical Connection
BIODENTA® Bone Level
BIOHORIZONS® External® / Internal® / Multi-Unit®
/ Tissue level
BIOMET 3i® Certain® / External® / Multi-Unit®
BIONER IMPLANT
BIOTEC® Internal Hex / Multi-Unit
BIOTECH® BIS EXTERNAL / BIS Octagone Interne / Kontakt /
Multi-Unit
BrainBase Corporation® MYTIS® Arrow Implant
BREDENT Medical Copa SKY® / SKY® / SKY® Multi-Unit®
BTI® EXTERNA® / INTERNA® / Multi-Unit®
BTK® Multi-Unit

C series compatible with

CAMLOG® CAMLOG® / Multi-Unit / iSy®
CONELOG® CONELOG® / Multi-Unit
CLC conic™
CONEXAO® HI
CORE VENT® Internal
CORTEX® CORTEX® / Multi-Unit
COWELLMEDI® INNO Internal
C-TECH® Esthetic Line/Bone level / Multi-Unit

D series compatible with

DEEP®
DENTIS® i-clean / Multi-Unit / Save / s-clean
DENTIUM® NR LINE / SuperLine / SimpleLine / Multi-Unit
DENTSPLY® Ankylos® / Ankylos® Blance base / Xive® / Xive®
Multi-Unit
DIO® SM / UF / UF Multi-Unit
DYNA® PUSHIN Octalock®

E series compatible with

EBI®
EDISON MEDICAL® Clicq Multi-Unit
EUROTEKNIKA™ Aesthetica / Naturactis/Naturall+/Natea+ / Multi-
Unit

G series compatible with

GC Implant® Aadva
Global D® EVL® Multi-Unit / In-Kone® Multi-Unit / Tekka® In-kone
GP Implant Multi-Unit

H series compatible with

HIOSEN® ET / SS / Multi-Unit
HumanTech RATIO®

I series compatible with

IHDEDENTAL Hexacone®
IMPLANT DIRECT® InterActive™ / Swish Active™ / Legacy™ / Multi-
Unit / Swish Plus™ / Tri-Lobe™
IMPLANT SWISS® Bone Level / Multi-Unit
INTRA LOCK GOLD & BLUE
IPD Multi-Unit
IRES® Internal Hex 2.5mm / Internal Octa Tissue / Multi-Unit

J series compatible with

J DENTAL CARE® JD Evolution® / JD Evolution® Plus+ / JD
Icon® / JD Icon® Plus+ / JD OCTA® / Multi-Unit



K series compatible with

KENTEC®
KEYSTONE® Prima Connex®
Klockner® SK2
KYOCERA® FINESIA® Bone-level / Poieix

L series compatible with

LASAK Bioniq®
LEADER Italia® Mores Connection

M series compatible with

MEDENTIKA® Multi-Unit
Medentis Medical® ICX® / ICX® Multi-Unit
MEGAGEN® AnyONE / Anyridge / Blue Diamond / Exfell /
EZ Plus / MINI / MegaFix / RESCUE External / RESCUE Internal /
Multi-Unit
MIS® C1 / Connect / Internal Hexagon / Multi-Unit / V3
MSDI Alef-Spiral Internal Hex

N series compatible with

NEOBIOTECH® IS SYSTEM / IS ACTIVE SCRP / IT SYSTEM
NEODENT® CM / CM Conical / External / GM / GM Conical
NEOSS Pro Active® / Access®
NOBEL BIO CARE® Internal conical connection / External hex
connection / Multi-Unit™ / Internal tri-channel connection / MULTI
AESTHETIC
NORIS® INTERNA HEX / Multi-Unit
NUCLEOSS® T6 BONELEVEL

O series compatible with

OSSTEM® GS(TS) / Multi-Unit / TS-CON Multi-Unit / SS /
SS OCTA Multi-Unit / US
OSTEOCARE® INTERNAL HEX
Osteo Ti Internal Hex
OXY IMPLANT® K1 Line/PSK / Multi-Unit

P series compatible with

PALTOP® INTERNAL HEX / Multi-Unit
PHIBO® TSH
PLATON® PL-SUB

Q series compatible with

Q IMPLANT® QZA

R series compatible with

REX IMPLANTS® Multi-Unit
REX PiezoImplant® TL 1.8 External

S series compatible with

SGS DENTAL® Internal Hexagon / Multi-Unit
SHINHUNG®
SIC® Invent® / Multi-Unit®
SIN IMPLANT® Internal
SLH Implant DC Bone Level
SNUCONE Internal Submerged / Multi-Unit
SOUTHERN IMPLANTS® DEEP Conical / External / IT Connection™ /
M-Series™ / Multi-Unit / Tri-Nex™
STRAUMANN® ANGLE Multi-Unit / Conical Bone Level® / synOcta® /
synOcta® Multi-Unit / Screw Retained Abutment® Multi-Unit / Multi-Unit
/ TLX
Sweden&Martina® CSR / Multi-Unit / Prama / Premium Kohno/
Premium Straight/SP / Premium One / Shelta

T series compatible with

Tatum Integrity Tapered Implant
THOMMEN SPI®
TISMART2 Internal
TITANIUM FIX EXTERNA
TRATE® Internal / Multi-Unit
Tree-Oss® Internal Hex
TRI® Narrow / Octa / Vent / Multi-Unit

W series compatible with

WARANTEC Oneplant

Z series compatible with

ZIACOM® ZIACOM® / External
ZIMMER® Eztetic™ / Spline™ / Swiss Plus™ / Tapered Abutment
SRR Multi-unit / Tapered Screw-Vent® /
Universal Abutment Multi-Unit