MIS SEVEN XD

Proven Success Meets Enhanced Stability

TABLE OF CONTENTS

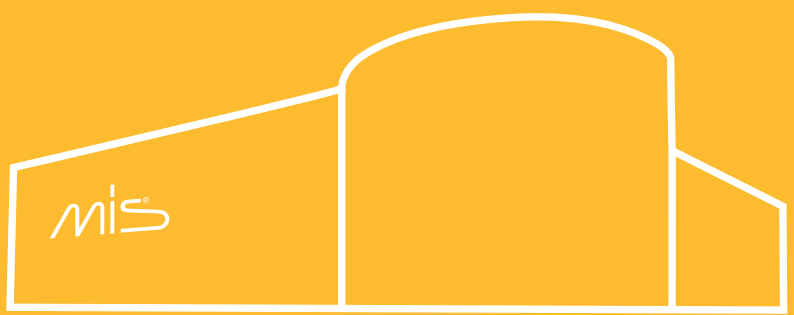
For more than a decade, the SEVEN implant has been our best seller. The SEVEN's primary and biological stability, backed by extensive research, have given it superior benefits in both bone preservation and soft tissue management. Its reliable, proven success and cost effectiveness have provided millions of patients and doctors with an intuitive solution for consistently successful results.

The MIS Quality System complies with international quality standard ISO 13485: 2016 - Quality Management System for Medical Devices, with Medical Device Directive 9342//EEC, and with EU Medical Device Regulation MDR 2017745/.

Please note, that not all products are registered or available in every country/region.

IFUs for MIS products may be found at: https://ifu.mis-implants.com. Adobe Acrobat is required to view the IFU file on the website. This software may be freely downloaded from the Adobe website.

SEVEN XD Implant on
the MIS Website



Additional information may be added to the product descriptions without prior notice.

SEVEN XD Product Catalog

Internal Hexagon

BENEFITS

HIGH INITIAL STABILITY

The SEVEN's root-shaped geometry and unique threads are designed to enable excellent primary stability, offering the ultimate choice for a wide range of clinical cases. This allows for a simpler and faster implant placement.

BONE PRESERVATION

The SEVEN implant incorporates the **platform-switching** design concept. This feature has been largely documented to minimize crestal bone loss.

The straight neck, combined with the compatible XD drills, may lead to crestal bone preservation.

Micro-rings on the neck of the implant are designed to facilitate an increase in bone to implant contact (BIC). This design concept may reduce pressure on the cortical bone and has been reported to be associated with less crestal bone loss when compared with other implant design features.

ESTHETICS

The SEVEN prosthetic line features a concave emergence profile. This abutment profile was designed to give more room for soft tissue ingrowth. The gold-shaded abutments minimize the reflection through the gingiva; it allows enhanced esthetic results in a thin gingival environment.

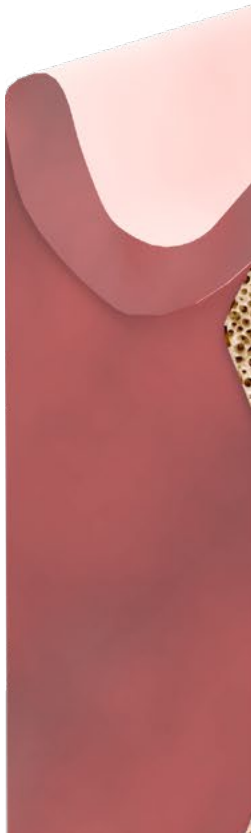
SAFETY

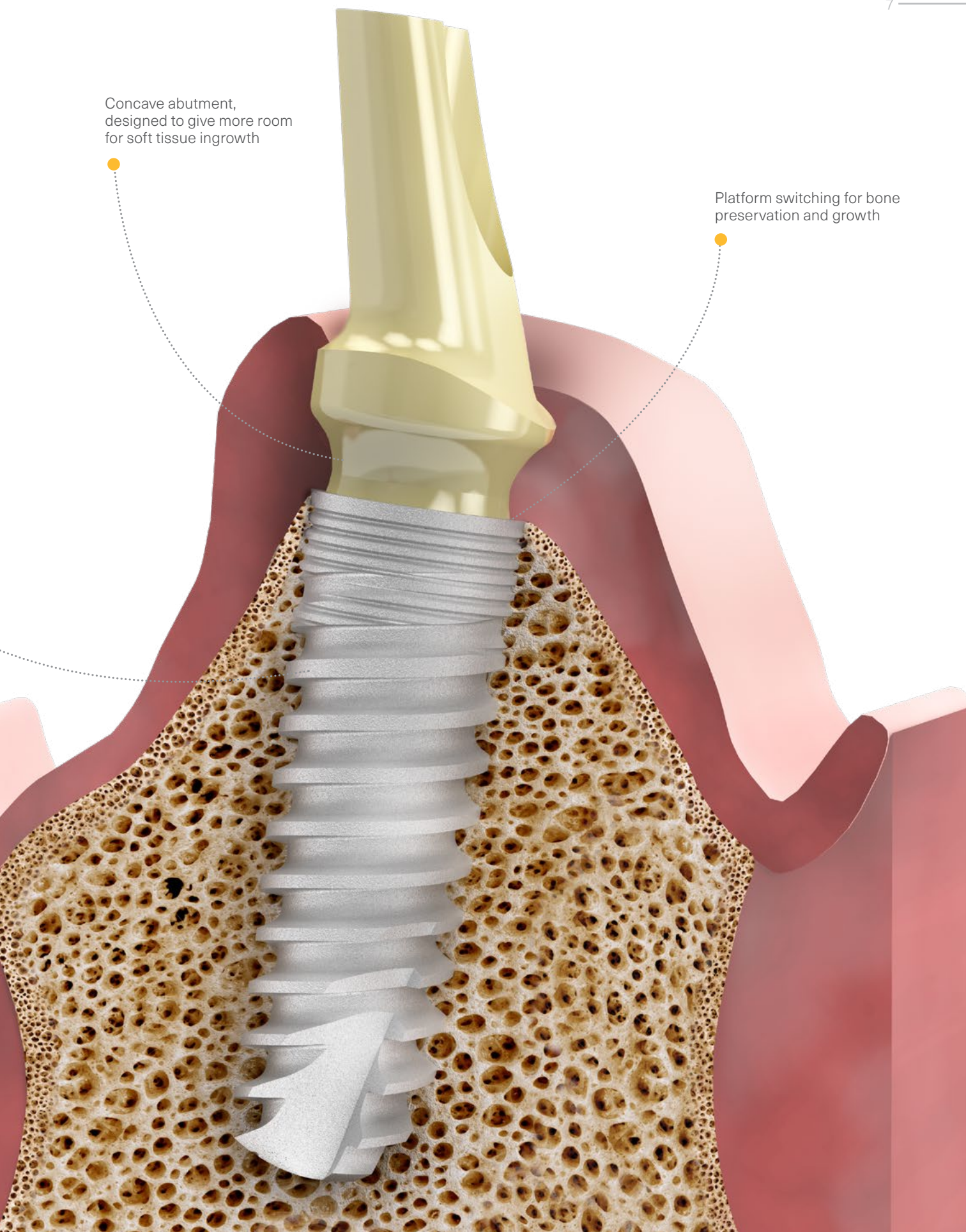
The dome-shaped apex of the implant prevents over-insertion for safer implant placement. Each SEVEN implant is supplied with XD - single-use, sterile drills, designed for optimal implant-drill compatibility and high initial stability, while ensuring safe and simplified procedures.

CLINICAL SUCCESS

The surface roughness and micro-morphology of MIS implants are a result of sandblasting and acid-etching. It has been documented to be highly osseo-conductive in type IV bone. The MIS surface technology has been acclaimed for its high cleanliness, making it one of the most outstanding surfaces on the market.

Unique thread design enables high primary stability




Concave abutment, designed to give more room for soft tissue ingrowth
Platform switching for bone preservation and growth

NEW. SHARP. EVERY SINGLE TIME.

MIS XD are single-use, sharp, sterile drills, delivering a full procedure in every implant package. These single-use drills are designed for optimal implant-drill compatibility and high initial stability, while ensuring safe and simplified procedures.

XD SHARP

MIS XD, supplied in every implant package, are always sharp. Using sharp drills in every drilling procedure prevents drill wear and deformation.

XD STERILE

MIS XD, supplied in every implant package, are always sterile. This eliminates the need for post-surgery sterilization and reduces the risk of cross-contamination and infection.

XD SAFE

MIS XD, supplied in every implant package, are always compatible with the implant shape and dimensions. MIS XD are designed for depth control, which provides more visibility and confidence in every drilling procedure.

XD SIMPLE

MIS XD, supplied in every implant package, are single-use drills. Single-use drills allow for a simple and quick procedure while eliminating cleaning, re-sterilization and reduce managing drill replacement in the surgical kits.

Bone Protection

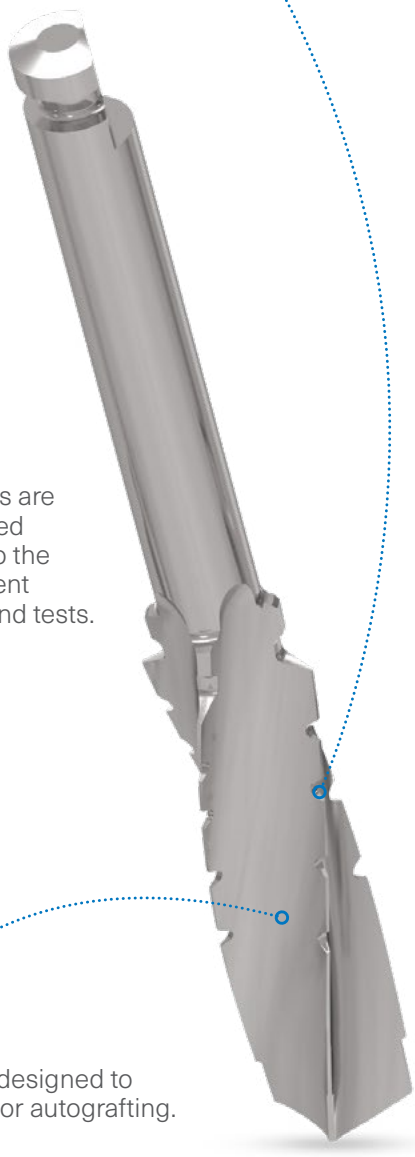
Studies have shown that bone temperature increase is directly correlated with higher drill usage. MIS XD are new and sharp every single time.

Depth Planning

Predetermined drill length and diameter, matching the relevant implant shape and dimension may enhance initial stability. Drills are marked for depth control.

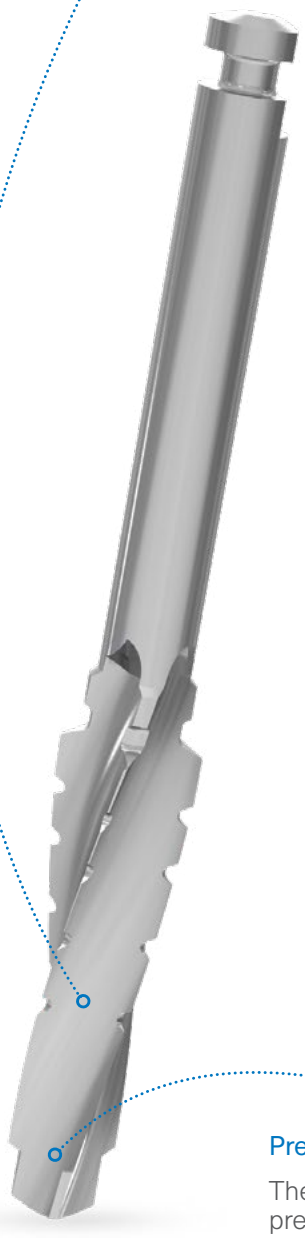
Strength

MIS XD drills are manufactured according to the most stringent standards and tests.



Bone Collection

MIS XD blades are designed to collect bone chips for autografting.



Precise Positioning

The tip of the step drill has the same diameter as the previously used drill, which provides a more precise positioning of the drill inside the osteotomy.

MIS XD GUARANTEED QUALITY

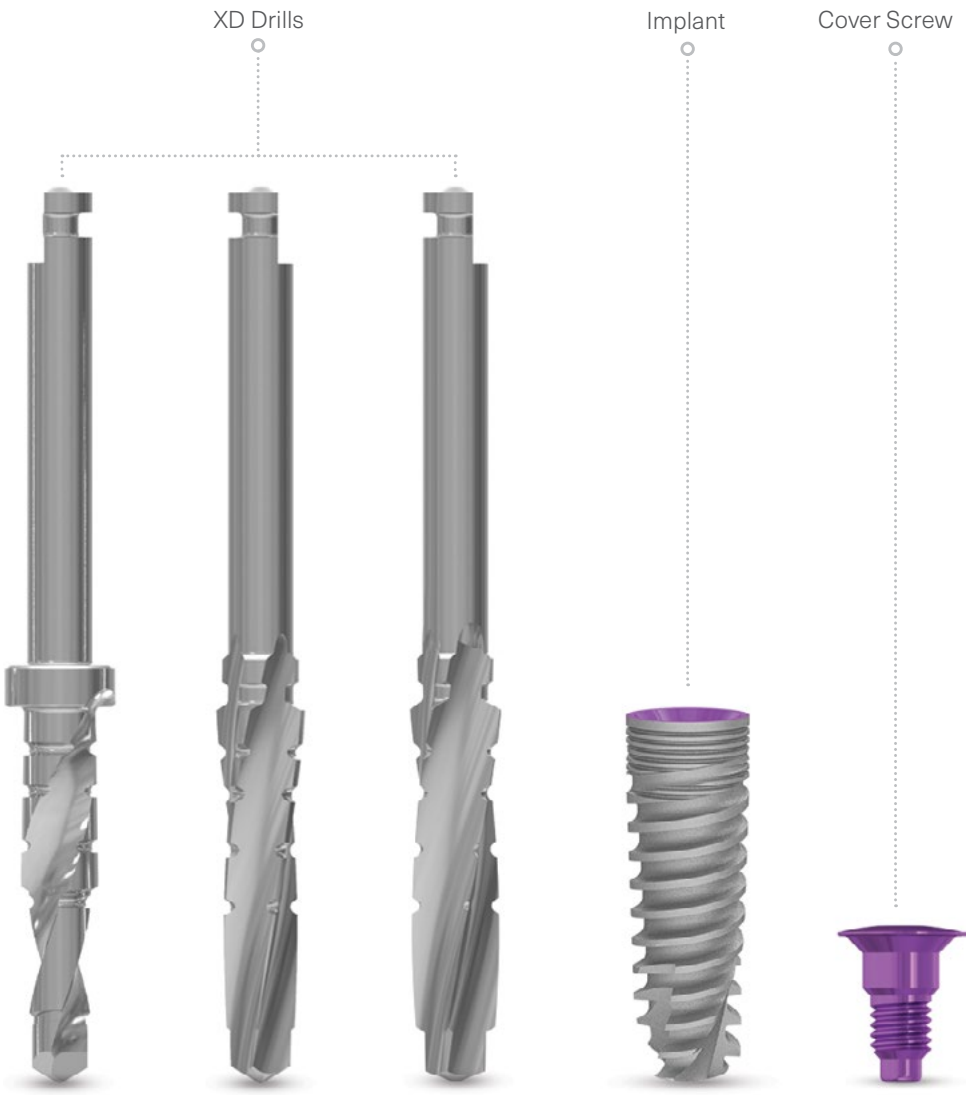
MIS XD have successfully passed the strictest quality tests:

- Corrosion test: MIS XD have shown no corrosion under stringent conditions.
- Bending test: MIS XD have shown good performance under the requirements of ISO 8325:2004.
- Drilling ability test: Clinicians testify a reliable drilling ability of MIS XD at user evaluation.
- Hardness test: MIS XD meet the requirements of ISO 1797:2017.

REVOLUTION IN A BOX!

Each SEVEN implant is supplied with a sterile cover screw and XD single-use drills.

The SEVEN package was designed to be user-friendly during surgery, providing clear identification of the implant's dimensions and easy to use with gloves.



Implant diameter & platform indication

The outer tube is color-coded, indicating the implant platform. The numeric indication specifies implant diameter and length.

Prosthetic platform indication

Prosthetic components are marked by specific colors, representing platform diameters.

Implant identification markings

Quick identification of implant size and length. Sticker on the box lid, specifies implant diameter, length and platform size.

Easy pull tab

The convenient pull tab facilitates quick and easy opening during surgery.

NARROW PLATFORM

Implant Range

Length	8mm	10mm	11.50mm	13mm	16mm
Ø3.30mm		MF7-D10330 	MF7-D11330 	MF7-D13330 	MF7-D16330 

Insertion Tools

MT-HLI21

Long motor insertion tool, internal hex., narrow platform

MT-HSI21

Short motor insertion tool, internal hex., narrow platform

MT-LRH21

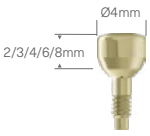
Long ratchet insertion tool, internal hex., narrow platform

MT-SRH21

Short ratchet insertion tool, internal hex., narrow platform

Implant Cover Screw and Healing Caps

Thin

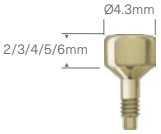


MH-N2330
MH-N3330
MH-N4330
MH-N6330
MH-N8330

Standard concave

MH-N0440
MH-N0540
MH-N0640

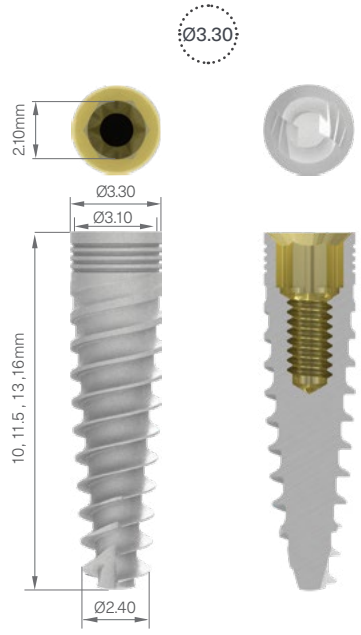
Anatomic



MH-52330
MH-53330
MH-54330
MH-55330
MH-56330

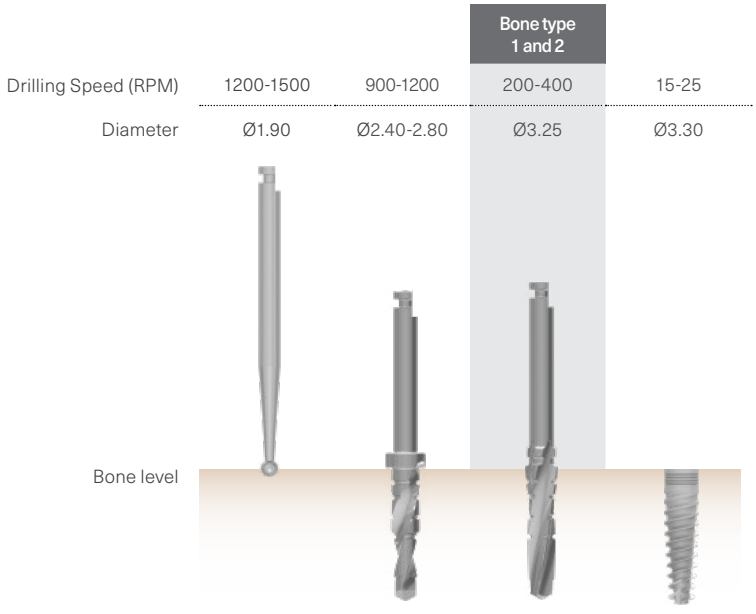
Cover screw

Technical Information



Material:
Titanium Alloy Ti 6Al 4V ELI
Sand-Blasted and Acid-Etched

Ø3.30mm Drilling Protocol



Do not use the last drill for bone types 3 and 4. The drilling sequence is illustrated using a 13mm implant.
Procedures recommended by MIS cannot replace the judgment and professional experience of the surgeon.

STANDARD PLATFORM

Implant Range

Length	6mm	8mm	10mm	11.50mm	13mm	16mm
Ø3.75mm		MF7-D08375 	MF7-D10375 	MF7-D11375 	MF7-D13375 	MF7-D16375 
Ø4.20mm	MF7-D06420 	MF7-D08420 	MF7-D10420 	MF7-D11420 	MF7-D13420 	MF7-D16420 

Insertion Tools

MT-HLI10

Long motor insertion tool, internal hex., standard/wide platform

MT-HSI10

Short motor insertion tool, internal hex., standard/wide platform

MT-LRH20

Long ratchet insertion tool, internal hex., standard/wide platform

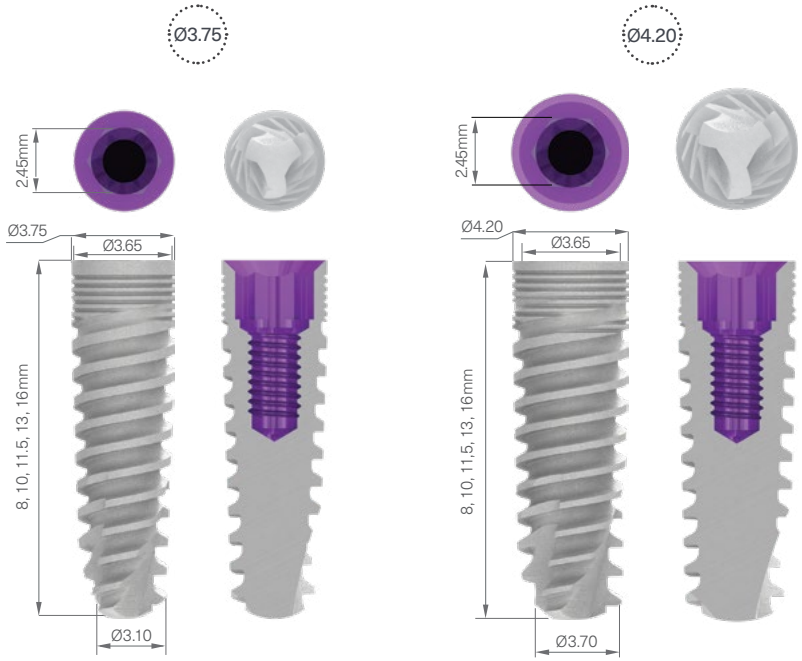
MT-SRH20

Short ratchet insertion tool, internal hex., standard/wide platform

Implant Cover Screw and Healing Caps

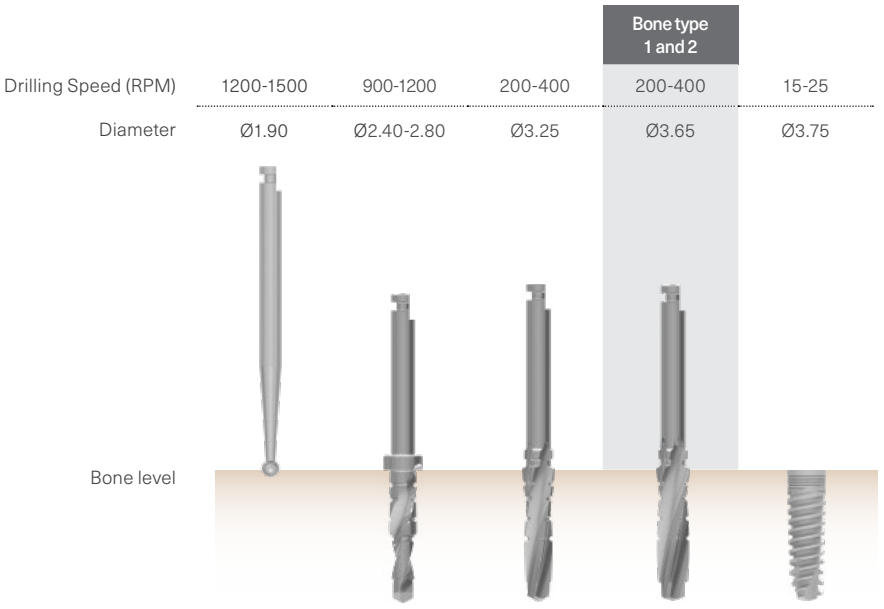
Thin	Standard	Standard concave	Anatomic	Cover screw
				
Ø4mm 3/4/5/6mm	Ø4.8mm 3/4/5/6mm	Ø4.8mm 4/5/6mm	Ø5.5mm 3/4/5/6mm	
MH-03375 MH-04375 MH-05375 MH-06375	MH-A3375 MH-A4375 MH-A5375 MH-A6375	MH-S0448 MH-S0548 MH-S0648	MH-53375 MH-54375 MH-55375 MH-56375	

Technical Information

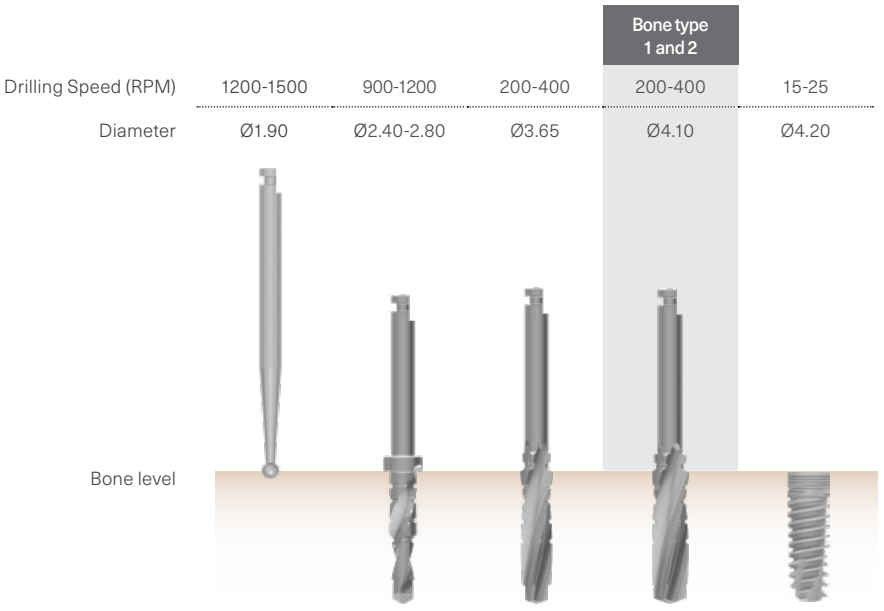


Material:
Titanium Alloy Ti 6Al 4V ELI
Sand-Blasted and Acid-Etched

Ø3.75mm Drilling Protocol



Ø4.20mm Drilling Protocol



Do not use the last drill for bone types 3 and 4. The drilling sequence is illustrated using a 13mm implant.
Procedures recommended by MIS cannot replace the judgment and professional experience of the surgeon.

WIDE PLATFORM

Implant Range

Length	6mm	8mm	10mm	11.50mm	13mm	16mm
Ø5mm	MF7-D06500 	MF7-D08500 	MF7-D10500 	MF7-D11500 	MF7-D13500 	MF7-D16500 
Ø6mm*	MF7-06600 	MF7-08600 	MF7-10600 	MF7-11600 	MF7-13600 	

*SEVEN 6mm implants are not available with XD drills

Insertion Tools

MT-HLI10
Long motor insertion tool, internal hex., standard/wide platform

MT-HSI10
Short motor insertion tool, internal hex., standard/wide platform

MT-LRH20
Long ratchet insertion tool, internal hex., standard/wide platform

MT-SRH20
Short ratchet insertion tool, internal hex., standard/wide platform

Implant Cover Screw and Healing Caps

Thin

MH-W3500
MH-W4500
MH-W5500

Standard concave

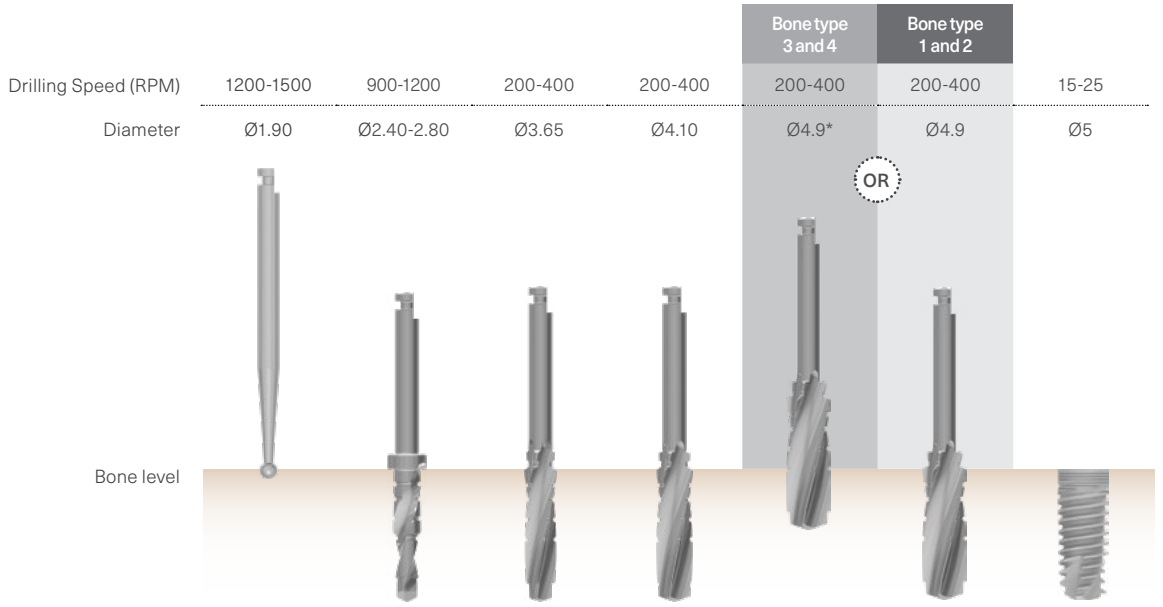
MH-W0455
MH-W0555
MH-W0655

Anatomic

MH-W3630
MH-W4630
MH-W5630

Cover screw

Ø5mm Drilling Protocol



* When placing Ø5 implants in soft bone, the last drill should be drilled to the first depth indicator, which is 6mm deep. For 8mm length implants, the first depth marking is 4mm deep.

Do not use the last drill for bone types 3 and 4. The drilling sequence is illustrated using a 13mm implant.

Procedures recommended by MIS cannot replace the judgment and professional experience of the surgeon.

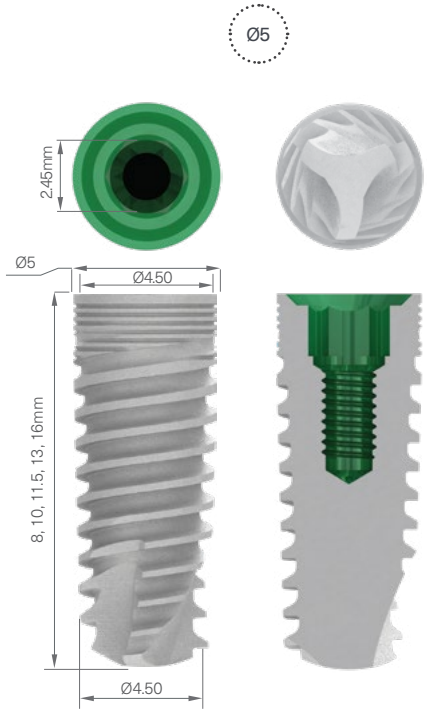
Ø6mm Drilling Protocol

For SEVEN Ø6mm implants, use the SEVEN surgical kit (MK-T048).

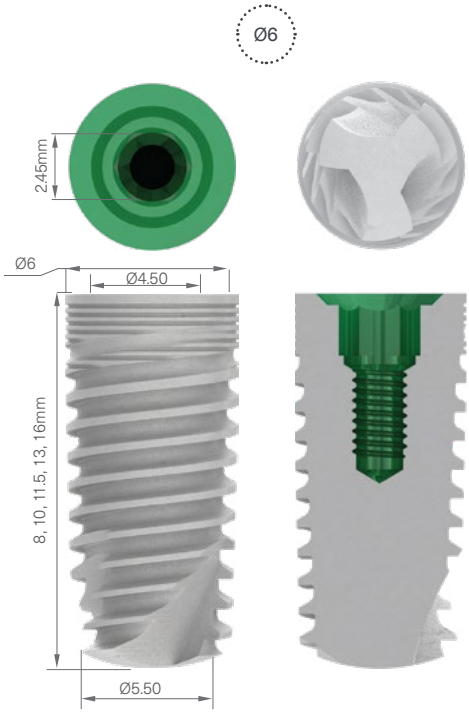
Do not use the final drill for bone types 3 and 4. The drilling sequence is illustrated using a 13mm implant.

Procedures recommended by MIS cannot replace the judgment and professional experience of the surgeon.

Technical Information



Material:
Titanium Alloy Ti 6Al 4V ELI
Sand-Blasted and Acid-Etched



Material:
Titanium Alloy Ti 6Al 4V ELI
Sand-Blasted and Acid-Etched

XD PLACEMENT SET

MIS XD Drills provide a full drilling protocol in every implant package, eliminating the need for a surgical kit. For this reason, we've developed a smaller placement set that includes all the essential instruments needed during surgery: Marking drills, countersinks, insertion tools, and a surgical torque ratchet.

XD Placement Set

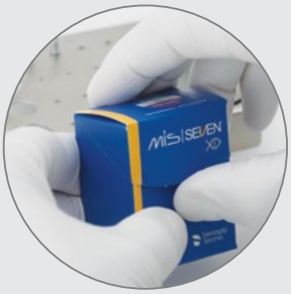
1. Marking drills
2. Insertion tools
3. Countersinks
4. Surgical torque ratchet

XD Organizer Tray

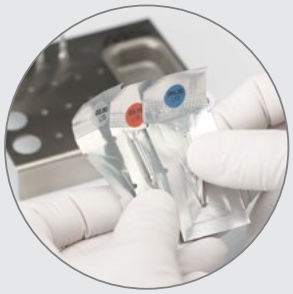
The XD Organizer Tray is designed to support the XD procedure by providing a convenient place to store the XD drills during surgery. Please note that the organizer isn't included in the surgical kit and should be sterilized prior to surgery.

Pre Surgery Steps

1. Sterilize the XD Placement Set and Organizer Tray.

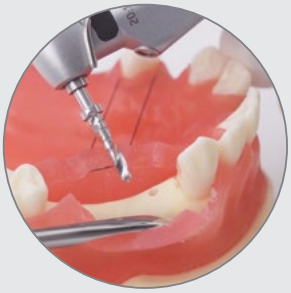


2. Open the implant package and place the implant's tube onto the organizer tray.



3. Open the XD pouches.

4. Arrange the drills on the organizer according to the drilling sequence, using the colored stickers on the pouch.



5. Ready for surgery!

XD PLACEMENT SET

MK-SVXD

① 

MT-TDN19
Marking drill, external irrigation, Ø1.9mm

② 

MT-PDM24
Position drill mill, Ø2.4mm

③ 

CT-P2416
Pilot drill for 16mm length implants, Ø2.4/2mm

④ 

MT-DE001
Drill extender

⑤ 

CT-BTC24
Body try in , Ø2.4mm

⑥ 

MT-CSN33
Countersink, narrow platform

⑦ 

MT-GDN33
Countersink, standard platform

⑧ 

MT-GDN50
Countersink, wide platform

⑨ 

MT-HLI21
Long motor insertion tool, internal hex., narrow platform

⑩ 

MT-LRH21
Long ratchet insertion tool, internal hex., narrow platform

⑪ 

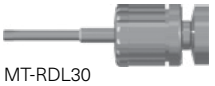
MT-HLI10
Long motor insertion tool, internal hex., standard/wide platform

⑫ 

MT-LRH20
Long ratchet insertion tool, internal hex., standard/wide platform

⑬ 

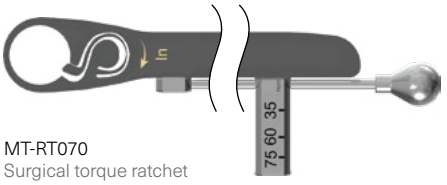
MT-RMR10
Long direct hand and ratchet key, standard/wide platform

⑭ 

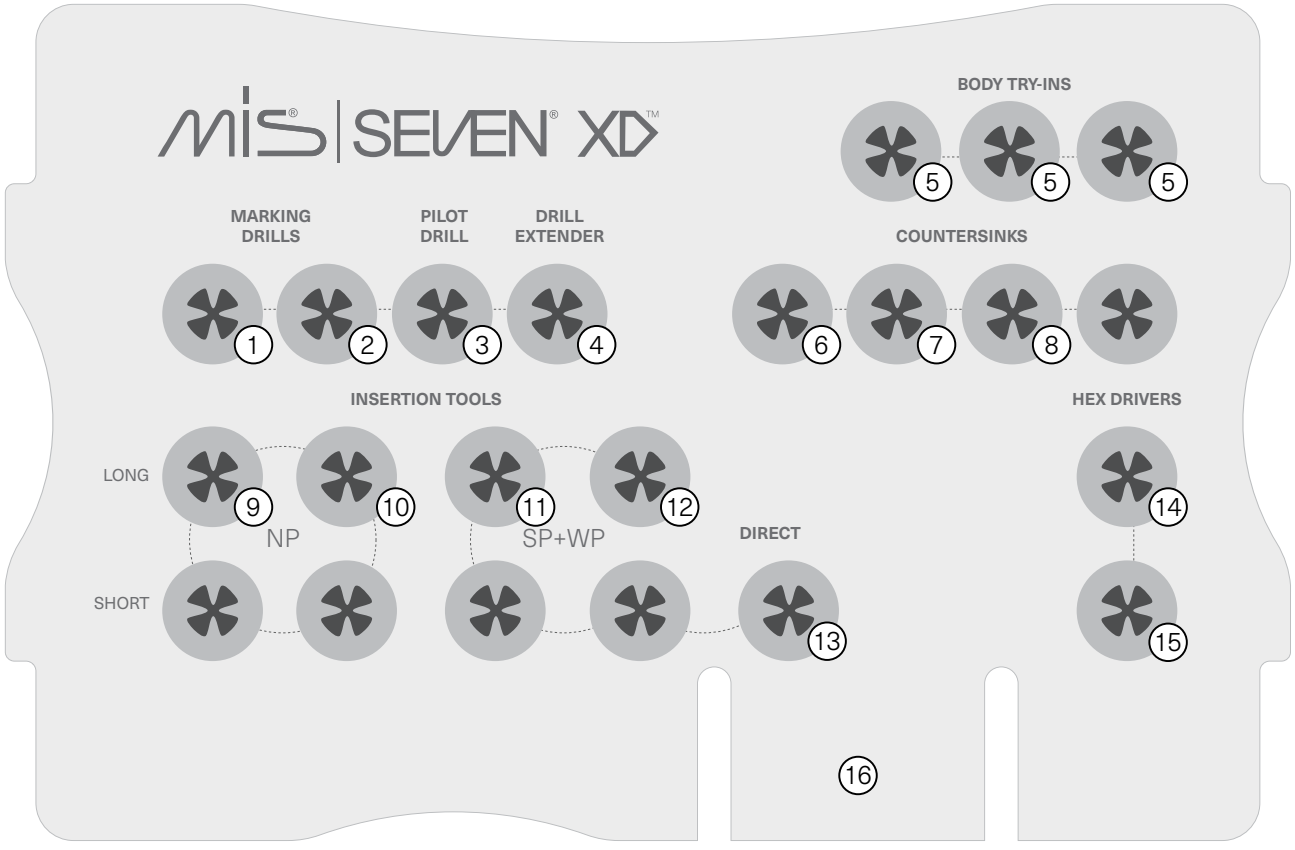
MT-RDL30
Long driver for 0.05 inch hex.

⑮ 

MT-RDS30
Short driver for 0.05 inch hex.

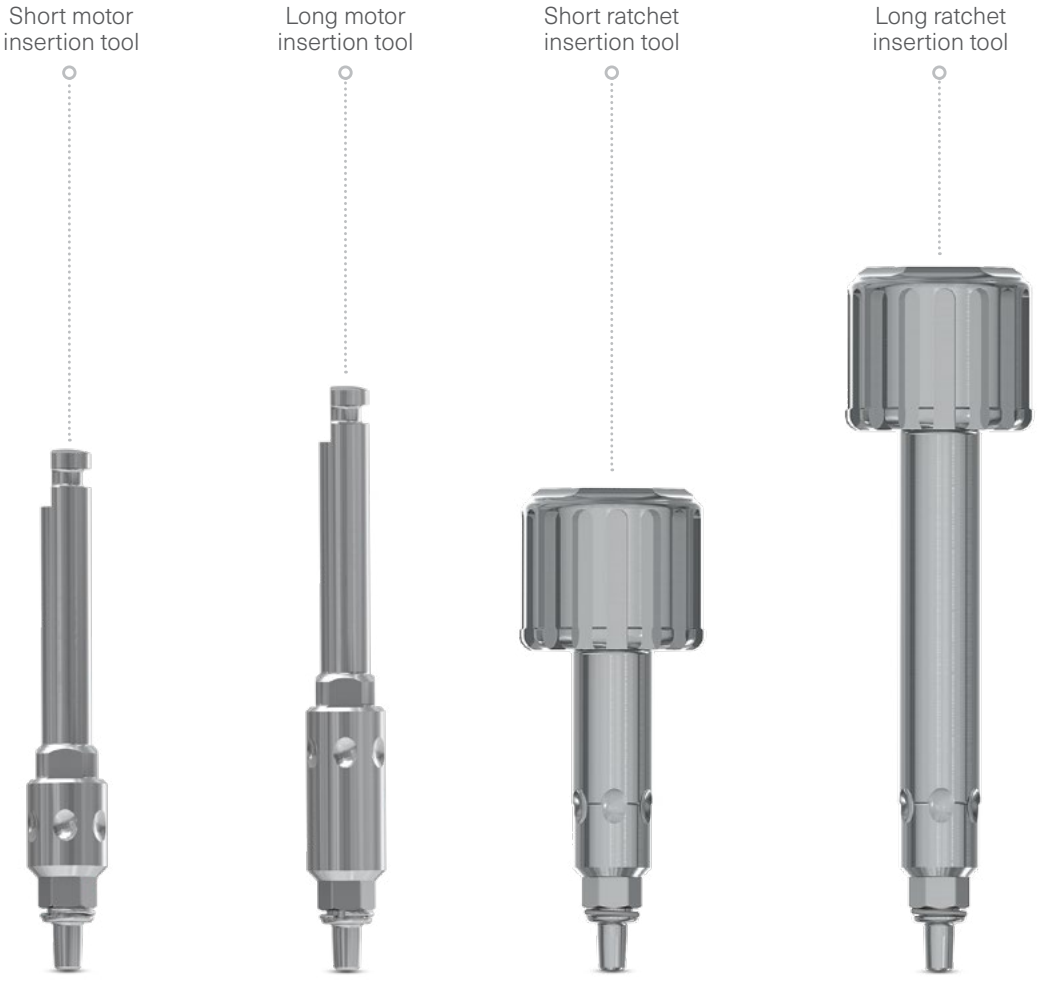
⑯ 

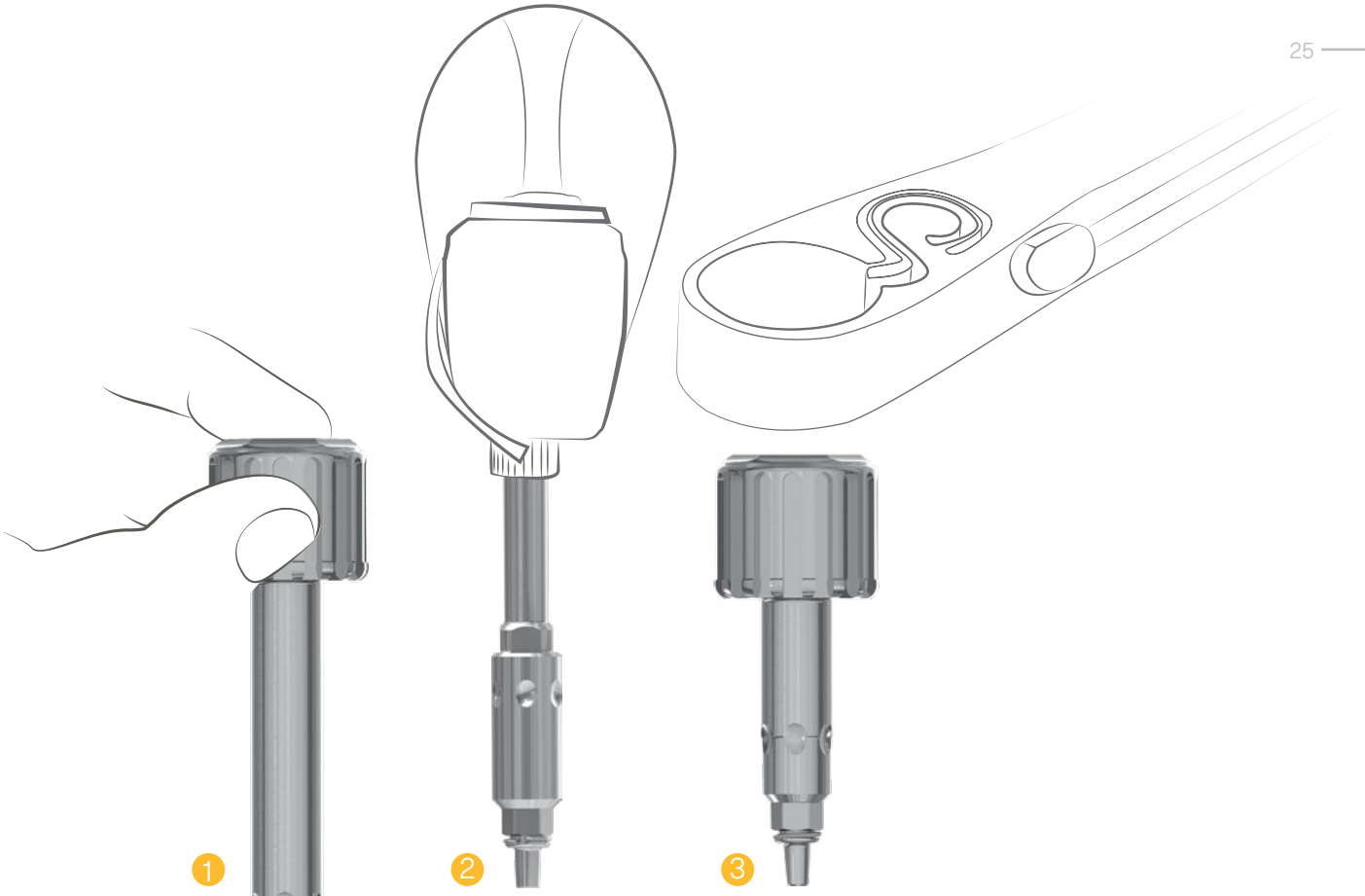
MT-RT070
Surgical torque ratchet


MIS | SEVEN® XD™
BODY TRY-INS
5
5
5
MARKING DRILLS
PILOT DRILL
DRILL EXTENDER
COUNTERSINKS
1
2
3
4
6
7
8
INSERTION TOOLS
HEX DRIVERS
LONG
9
10
11
12
14
NP
SP+WP
DIRECT
SHORT
13
15
16

INSERTION TOOLS

SEVEN implant placement tools are specially designed to facilitate quick and reliable implant procedures.



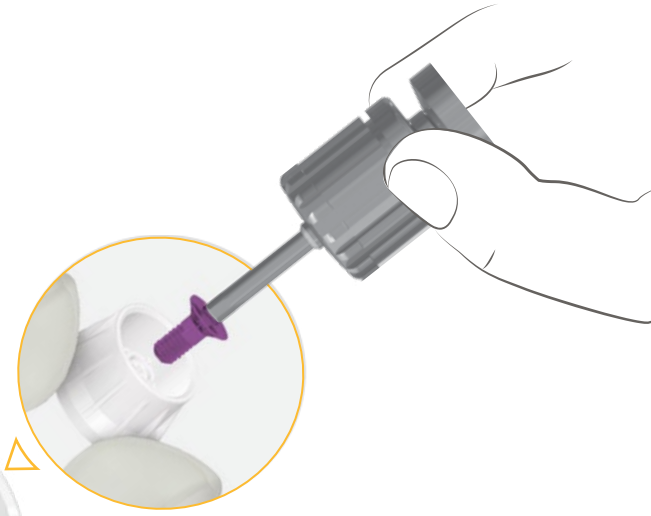


Insertion tools should be fully inserted into the implant connection. Complete insertion of the tool optimizes the transfer of force during implant placement and allows for easy removal if needed.

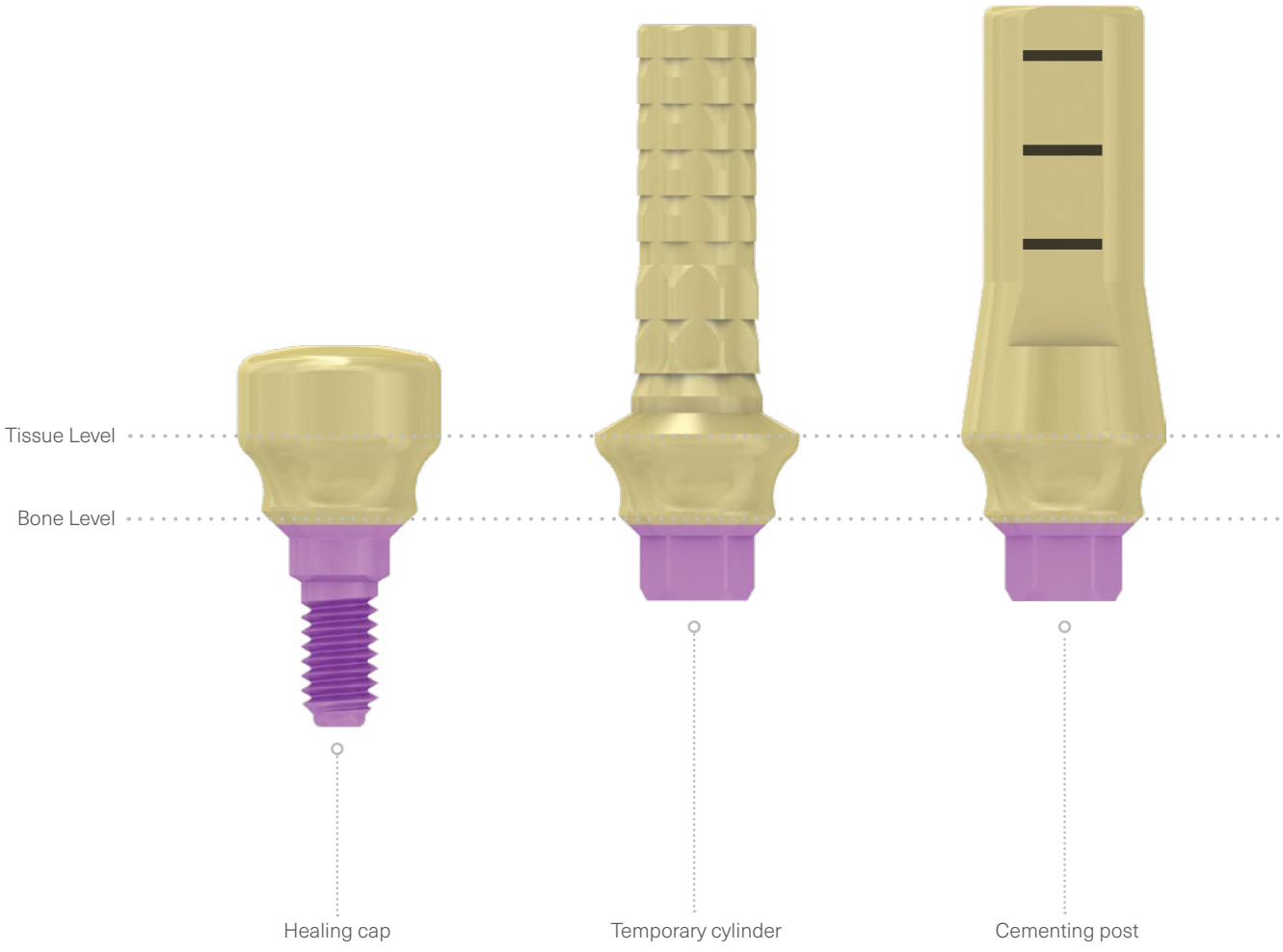
The tool cannot secure an implant without being fully inserted into its connection point.

INSERTION OPTIONS:

1. Manual insertion
2. Motor insertion
3. Ratchet insertion



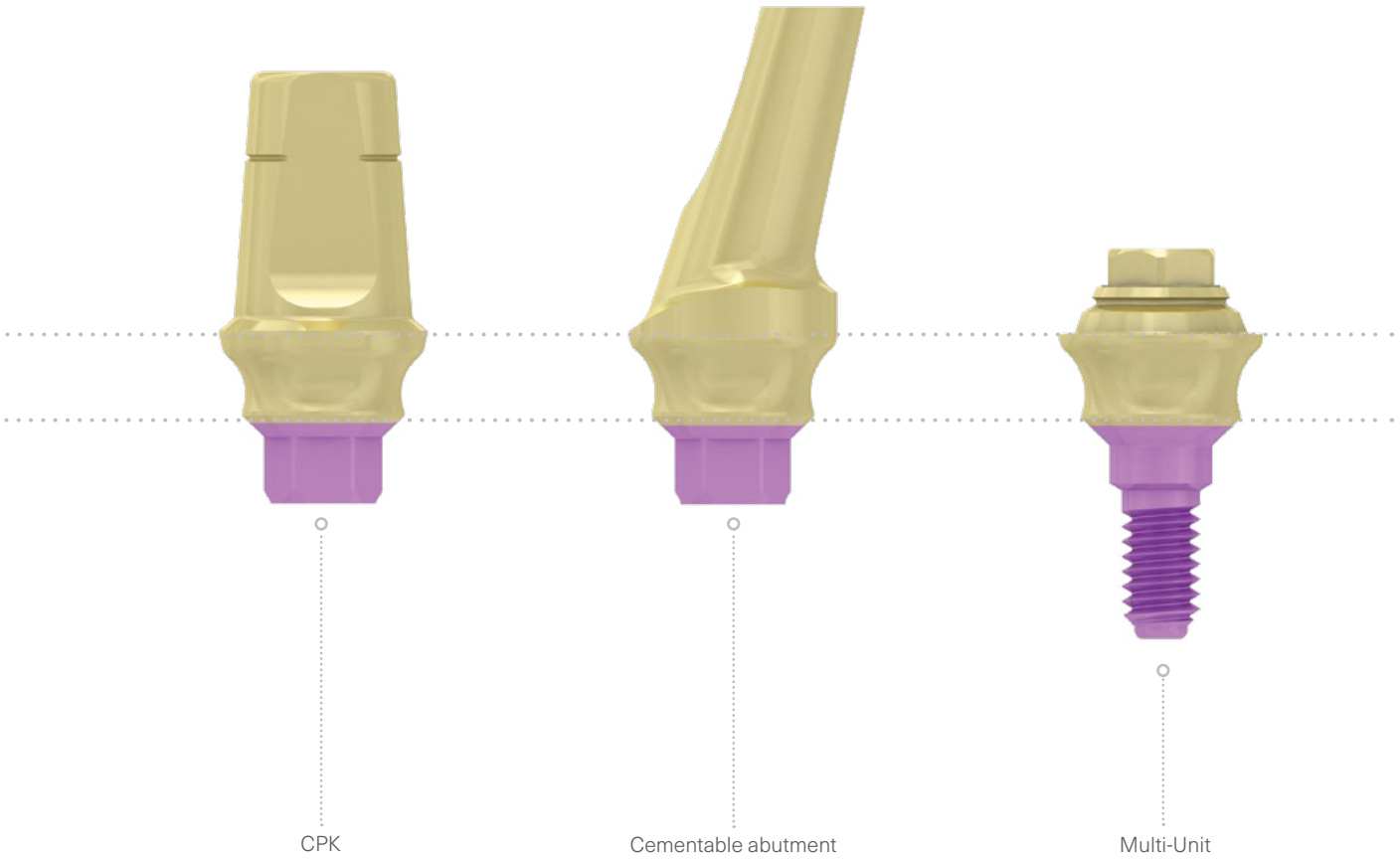
PROSTHETIC OPTIONS



Consistent, Concave Abutment Profile

MIS prosthetic line features a concave emergence profile. This abutment profile was designed to give more room for soft tissue ingrowth.

The gold-shaded abutments minimize the reflection through the gingiva; it allows enhanced esthetic results in a thin gingival environment.



CLINICAL CASE

Upper left central incisor restored with MIS SEVEN implant

Dr Jairo A. Sáenz Barboza, Costa Rica

BACKGROUND

A 37-year-old female with vertical and horizontal root fractures, no relevant medical conditions.

DIAGNOSIS

- Non restorable horizontal fracture.
- Root canal, large metallic post and core, and a metal-ceramic crown.

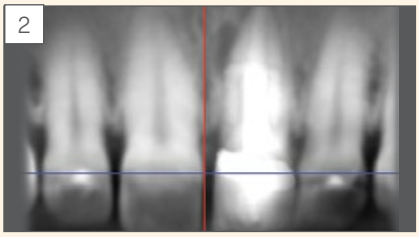
TREATMENT

A traumatic extraction, immediate implant placement, bone grafting in the buccal gap (Gen-oss, Osteobiol, Italy), and connective tissue grafting collected from the palate. A resin-bonded restoration was used during the integration process.

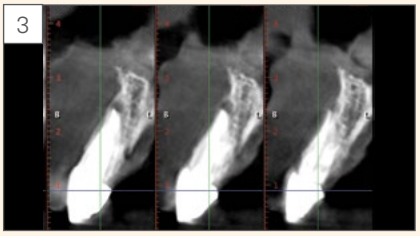
In the second stage, a screw-retained temporary restoration was fabricated on a PEEK abutment.

For the final restoration, a titanium base with a feldspathic veneered zirconium restoration was used.

Pre op

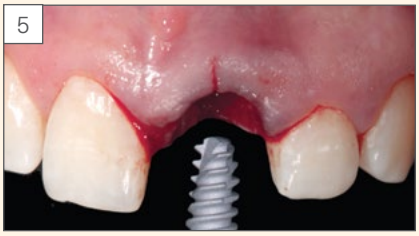


Initial X-Ray

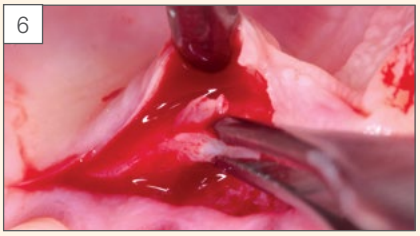


Initial CBCT

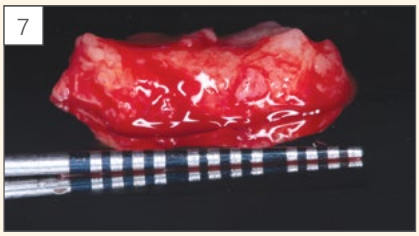
Tooth extraction



Implant placement



Palatal soft tissue graft harvesting



Connective tissue

Soft tissue grafting

Temporary restoration on peek abutment before designing the emergence profile

Temporary restoration being adhered to temporary abutment

Temporary restoration with proper emergence profile

Insertion of temporary restoration

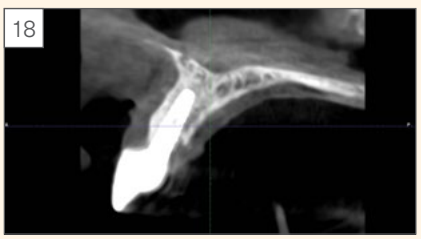
Temporary restoration after allowing the tissue to heal and mature

Final restoration

Final result - front

Final result - occlusal

Emergence profile result



Final result, 6 months after delivery

SURFACE QUALITY

All MIS implants undergo the same surface treatments; sand-blasting and acid-etching. The research study was done on the SEVEN implant, however the results are valid for all MIS implant surfaces.

Identification Card and Codification of the Chemical and Morphological Characteristics of 62 Dental Implant Surfaces. Part 3: Sand-Blasted/Acid-Etched (SLA Type) and Related Surfaces (Group 2A, main subtractive process).

Background and Objectives

Dental implants are commonly used in dental therapeutics, but dental practitioners only have limited information about the characteristics of the implant materials they take the responsibility to place in their patients. The objective of this work is to describe the chemical and morphological characteristics of 62 implant surfaces available on the market and establish their respective Identification (ID) Card, following the Implant Surface Identification Standard (ISIS). In this third part, surfaces produced through the main subtractive process (sand-blasting/acid-etching, SLA-type and related) were investigated.

Materials and Methods

Eighteen different implant surfaces were characterized: Straumann SLA (ITI Straumann, Basel, Switzerland), Ankylos (Dentsply Friadent, Mannheim, Germany), Xive S (Dentsply Friadent, Mannheim, Germany), Frialit (Dentsply Friadent, Mannheim, Germany), Promote (Camlog, Basel, Switzerland), Dentium Superline (Dentium Co., Seoul, Korea), Osstem SA (Osstem implant Co., Busan, Korea), Genesio (GC Corporation, Tokyo, Japan), Aadva (GC Corporation, Tokyo, Japan), MIS Seven (MIS Implants Technologies, Bar Lev, Israel), ActivFluor (Blue Sky Bio, Grayslake, IL, USA), Tekka SA2 (Tekka, Brignais, France), Twinkon Ref (Tekka, Brignais, France), Bredent OCS blueSKY (Bredent Medical, Senden, Germany), Magitech MS2010 (Magitech M2I, Levallois-Perret, France), EVL Plus (SERF, Decines, France), Alpha Bio (Alpha Bio Tec Ltd, Petach Tikva, Israel), Neoporos (Neodent, Curitiba, Brazil). Three samples of each implant were analyzed.

Superficial chemical composition was analyzed using XPS/ESCA (X-Ray Photoelectron Spectroscopy/Electron Spectroscopy for Chemical Analysis) and the 100nm in-depth profile was established using Auger Electron Spectroscopy (AES). The microtopography was quantified using optical profilometry (OP). The general morphology and the

nanotopography were evaluated using a Field Emission-Scanning Electron Microscope (FE-SEM). Finally, the characterization code of each surface was established using the ISIS, and the main characteristics of each surface were summarized in a reader-friendly ID card.

Results

From a chemical standpoint, in the 18 different surfaces of this group, 11 were based on a commercially pure titanium (grade 2 or 4) and 7 on a titanium-aluminium alloy (grade 5 or grade 23 ELI titanium). 4 surfaces presented some chemical impregnation of the titanium core, and 5 surfaces were covered with residual alumina blasting particles. 15 surfaces presented different degrees of inorganic pollutions, and 2 presented a severe organic pollution overcoat. Only 3 surfaces presented no pollution (and also no chemical modification at all): GC Aadva, Genesio, MIS SEVEN®. From a morphological standpoint, all surfaces were microrough, with different microtopographical aspects and values. All surfaces were nanosmooth, and therefore presented no significant and repetitive nanostructures. 14 surfaces were homogeneous and 4 heterogeneous. None of them was fractal.

Discussion and Conclusion

The ISIS systematic approach allowed to gather the main characteristics of these commercially available products in a clear and accurate ID card. The SLA-type surfaces have specific morphological characteristics (microrough, nanosmooth, with rare and in general accidental chemical modification) and are the most frequent surfaces used in the industry. However they present different designs, and pollutions are often detected (with blasting/etching residues particularly). Users should be aware of these specificities if they decide to use these products.

Identification card of the MIS SEVEN surface, following the Implant Surface Identification Standard (ISIS) codification

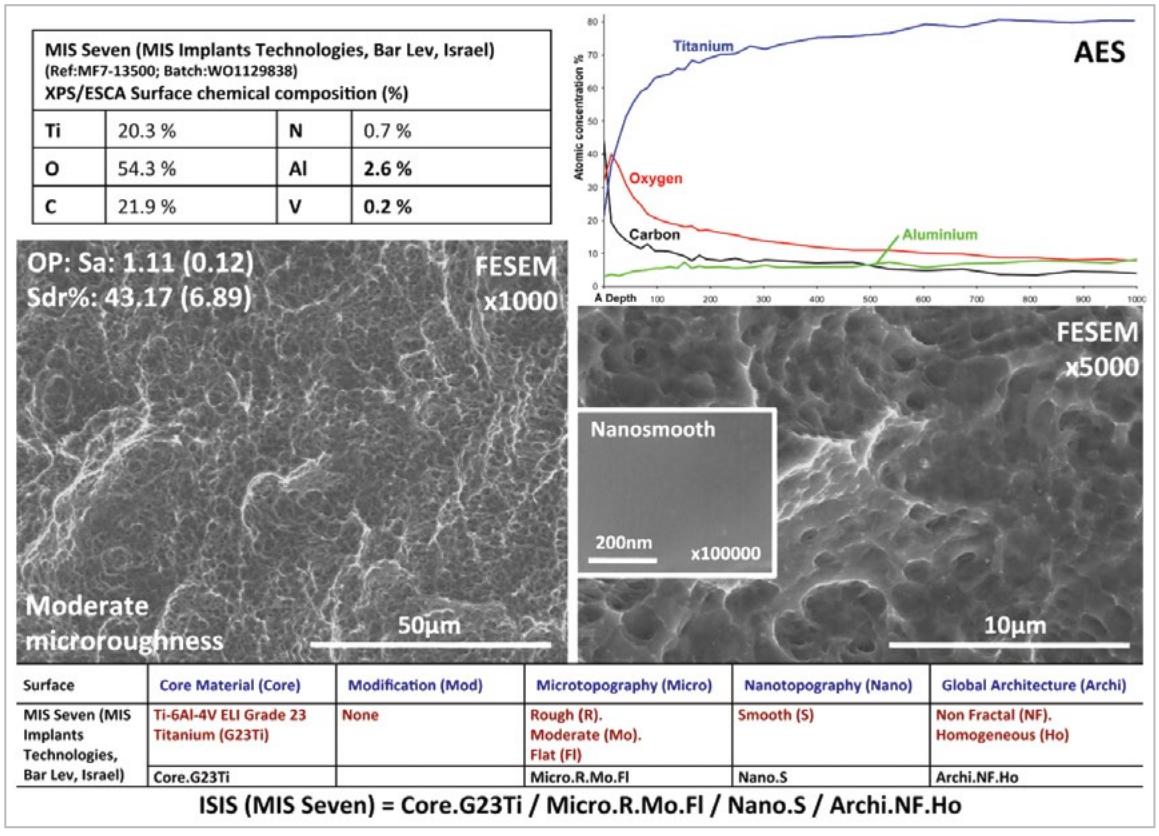


Fig. 1

Identification Card of the MIS SEVEN® surface: MIS Seven (MIS Implants Technologies, Bar Lev, Israel; Figure 1) was a sandblasted/acid-etched surface on a grade 23 ELI (Extra Low Interstitials) titanium core. No pollution or chemical modification was detected. the surface was moderately microrough, nanosmooth, and homogeneous all over the implant.

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