META BIOMED

Endodontics | Restorative | Bone Graft

META BIOMED

SAVING THE NATURAL TOOTH

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Endodontics

[en-doh-don-tiks]

the branch of dentistry dealing with the cause, diagnosis, prevention, and treatment of diseases of the dental pulp, usually by removal of the nerve and other tissue of the pulp cavity and its replacement with suitable filling material; pulp canal therapy; root canal therapy.

— Jenner Argueta D.D.S. – M.Sc.
Guatemalan Endodontics Academy President

Aurum Blue files allow me to work efficiently and safely at the same time. Their cross-sectional design combined with the NiTi controlled memory alloy are the perfect combination for providingcutting efficiency, great flexibility and outstanding fatigue resistance.

Controlled Memory File
Aurum Blue

Blue; the color of extreme elasticity & fracture resistance

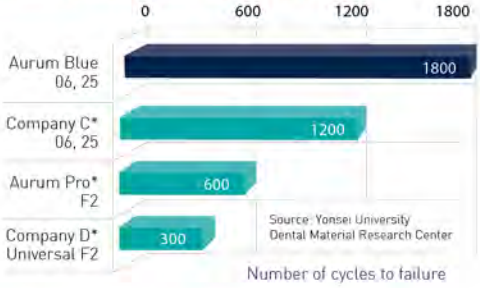
20/.10 20/.04 25/.06 35/.04

Advantages

- **Martensitic Alloy**
  Aurum Blue stays as Martensite form at room temperature due to special heat treatment, it gives super flexibility by which Aurum Blue has strong resistant for cyclic fatigue.
- **Super Flexible Alloy**
  It significantly reduces the risk of ledging, transporation or perforation of canals
- **Pre-bendable**
  much easier access to a canal orifice
- **Electro-polished**
  Roughness of surface can cause micro cracks ending up fractures. Electro-Polishing removes roughness and reduces possibilities of fracture caused by micro cracks.

Comparison

- **Extremely resistant to fracture**

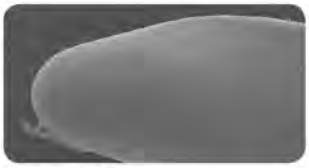


- **Cross-section, efficient and safe**

- Square Shape : Siz below 25/.04
- Excellent Centering, Resistant to fracture

- Convex Triangular Shape : Siz above 25/.06
- Resistant Torsional Stress while maintaining Flexibility

Clean surface of Aurum Blue



Non-cutting tip

Glide Path File

Aurum G

13/.025 17/.025

Blue; the color of extreme elasticity & fracture resistance

Advantages

- **Increased Flexibility**
  Advanced heat treatment technology gives it enhanced flexibility and it offers you many advantages over manual stainless steel files.

- **Surface Treatment**
  It results in significantly reduced fractures caused by micro cracks

Item List

Contents	17mm	21mm	25mm	31mm
Aurum Blue, 4/pack				
Sequence Pack (20/.10, 20/.04, 25/.06, 35/.04)		○	○	○
CF (20/.10)	○			
T1 (20/.04)		○	○	○
T1.5 (25/.04)		○	○	○
T2 (25/.06)		○	○	○
T2.5 (30/.04)		○	○	○
T3 (35/.04)		○	○	○
T4 (40/.04)		○	○	○
T4.5 (45/.04)		○	○	○
Aurum G • 4/pack				
Assort Pack (13/.025 3pcs, 17/0.25 3pcs)		○	○	○
13/.025		○	○	○
17/.025		○	○	○

Aurum Blue, Aurum G Protocol

• **Standard**

• **Complex**

Aurum Blue RPM: 500, Torque: 2.0 Ncm
Aurum G RPM: 300, Torque: 1.5 Ncm

• **Post Op**

Familiar Sequence, Different Flexibility

Aurum Pro

Advantages

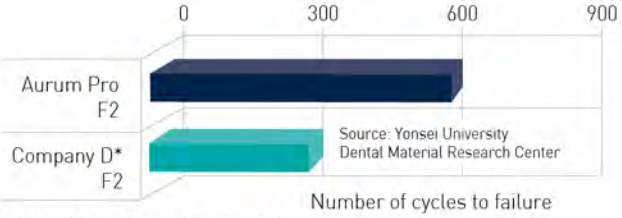
- **Conservative System;**
  - Aurum Pro (5%,5%,6%) VS Protaper (7%,8%,9%)
    Less taper leads you to accomplish conservative cutting.
    More dentin structure can be saved.
  - Amazing Flexibility; distinctive flexibility against original due to unique technology.
    Aurum Pro shows reduced transportation rate in Curved- Root Canal System.

- **The system you trust**
  The most commonly used rotary file system

- **Incredible strength**
  100% more resistant to cyclic fatigue than Company D

Comparison

- **Extremely resistant to fracture**



* Not a Meta Biomed trademark

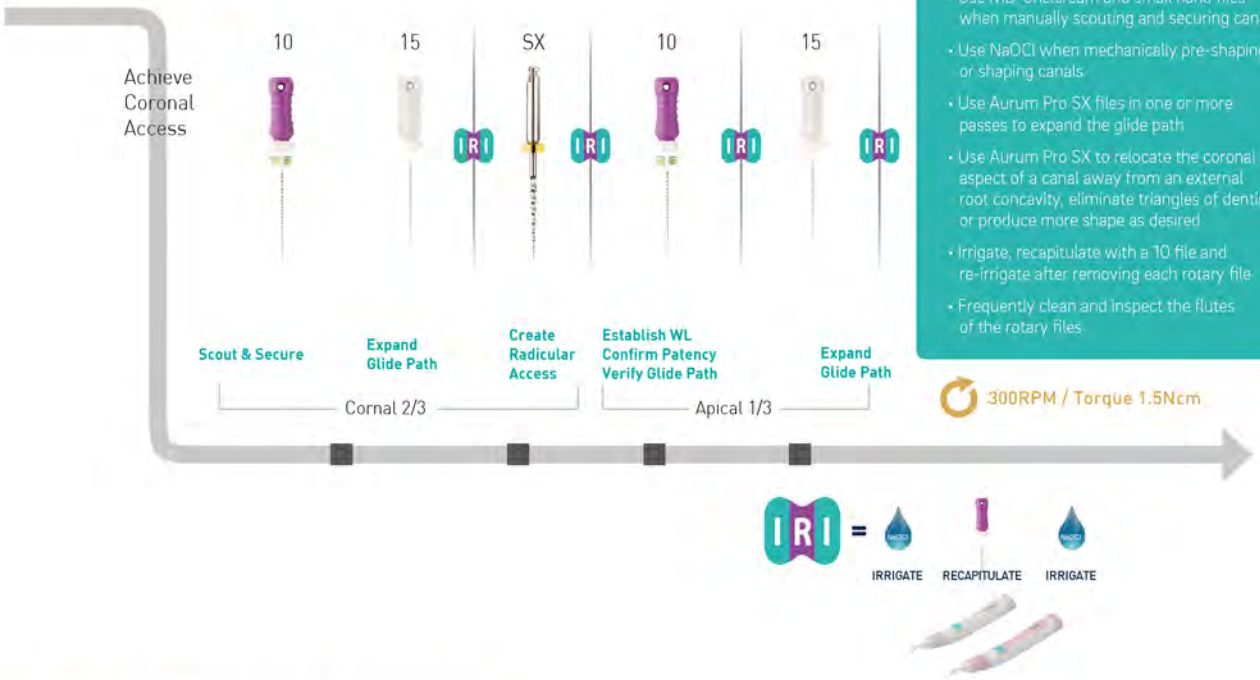
Matching GP&PP

Absorbent Paper Points

Gutta Percha Points

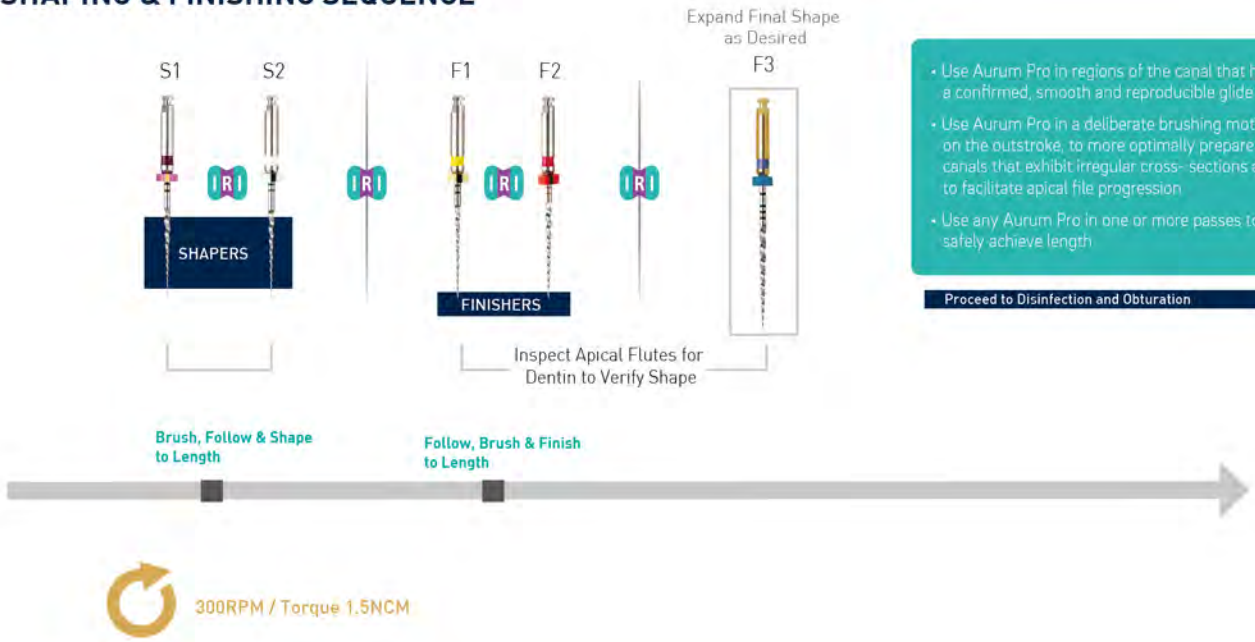
Aurum Pro Protocol

Access & Glide path



- Use MD-Chelcream and small hand files when manually scouting and securing canals
- Use NaOCl when mechanically pre-shaping or shaping canals
- Use Aurum Pro SX files in one or more passes to expand the glide path
- Use Aurum Pro SX to relocate the coronal aspect of a canal away from an external root concavity, eliminate triangles of dentin, or produce more shape as desired
- Irrigate, recapitulate with a 10 file and re-irrigate after removing each rotary file
- Frequently clean and inspect the flutes of the rotary files

SHAPING & FINISHING SEQUENCE



- Use Aurum Pro in regions of the canal that have a confirmed, smooth and reproducible glide path
- Use Aurum Pro in a deliberate brushing motion, on the outstroke, to more optimally prepare canals that exhibit irregular cross- sections and to facilitate apical file progression
- Use any Aurum Pro in one or more passes to safely achieve length

Proceed to Disinfection and Obturation

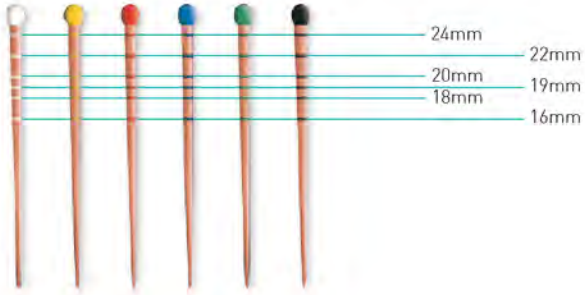
.02/.04/.06/.08/Aurum Pro(F1~F3) Gutta Percha Points

Gutta Percha Points

Advantages

- Profer stiffness, flexibility
- Excellent radiopacity
- Various sizes, tapers and packages

Length Marked



Size & Specification

- **02 Taper:** 8~140
- **04, 06 Taper:** 15~80
- **08 Taper:** 15~40
- **Non Standard**
  - Non-Standard: XF, FF, MF, F, FM, M, ML, L, XL
  - Japanese Type: JF-S, JF-M, JF-L, JS, JM, JL, JL-S, JL-M, JL-L
  - De Trey Type: XX-F, X-F, Fine, Medium
  - Protaper Size(F1~F5)

Specifications

Size	Taper (Points)				Packing Type
	02(120)	04(60)	06(60)	08(60)	
8	○				Please check Page 12
10	○				
15	○	○	○	○	
20	○	○	○	○	
25	○	○	○	○	
30	○	○	○	○	
35	○	○	○	○	
40	○	○	○	○	
45	○	○	○		
50	○	○	○		
55	○	○	○		
60	○	○	○		
70	○	○	○		
80	○	○	○		
90	○				
100	○				
110	○				
120	○				
130	○				
140	○				

Shelf Life

- Four years from the production date.

.02/.04/.06/.08/Aurum Pro(F1~F3) Paper Points

Absorbent Paper Points

Advantages

- Highly absorbent
- Sterilized individual packages
- Various sizes, tapers and packages

Length Marked

Size & Specification

- **02 Taper:** 8~140
- **04, 06 Taper:** 15~80
- **08 Taper:** 15~40
- **Non Standard**
  - Non-Standard: XX-Fine, X-Fine, Fine, Medium, Coarse, X-Coarse
  - Protaper Size(F1~F5)

Specifications

Size	Taper (Points)				Packing Type
	02(120)	04(60)	06(60)	08(60)	
8	○				Please check Page 12
10	○				
15	○	○	○	○	
20	○	○	○	○	
25	○	○	○	○	
30	○	○	○	○	
35	○	○	○	○	
40	○	○	○	○	
45	○	○	○		
50	○	○	○		
55	○	○	○		
60	○	○	○		
70	○	○	○		
80	○	○	○		
90	○				
100	○				
110	○				
120	○				
130	○				
140	○				

Shelf Life

- Five years from the production date.

Private Labels are available in all packages

Packing Type

6 Vial Packing (Square)

- Code : P.31
- Regular Packing Points :
  - GP: 60/120 Points - PP: 60/200 Points
- Dimension : 84×51×16(mm)

6 Vial Packing (Round)

- Code : P.31
- Regular Packing Points :
  - GP: 60/120 Points - PP: 60/200 Points
- Dimension : 84×51×16(mm)

Sliding Type Dispenser

- Code : P.71
- Regular Packing Points :
  - GP: 60/120 Points - PP: 60/200 Points
- Dimension : 70×45×12(mm)

4 Compartment Dispenser

- Code : P.51
- Regular Packing Points :
  - GP: 60/120 Points - PP: 60/200 Points
- Dimension : 77×45×13(mm)

Endo Organizer

- Code : P.11
- Spill Proof 12 Compartments
- Size : ISO 15 - 80
- Color Coded Available
- Regular Packing Points :
  - GP: 240 Points - PP: 400 Points

Blister Cell

- Code : P.61
- Regular Packing Points : 180 / 200 Points
- Dimension : 163×54×11(mm)
- Available for PP only

Calcium Hydroxide with Iodoform
Metapex

Advantages

- Excellent antibacterial effect and radiopacity
- Premixed paste
- Syringe type for easy delivery of the paste into the canal
- Disposable tips for prevention of cross-contamination

Composition

- Calcium Hydroxide, Iodoform, Silicon oil

Applications

- Weeping canal
- Formation of a hard tissue barrier(Apexification)
- Root canal filling for deciduous teeth
- Internal & external root resorption

Components

- 2.2g paste in a syringe (2 syringe packing available)
- Disposable tips
- One ring rotator for direction control of the tip
- Dimension : 228×61×22(mm)
- Weight : 46g

Shelf life

- Two years from the production date.

Clinical Cases

Apexification

Pulp necrosis on #21 of 8 year-old boy took place by trauma

About 1 year after Metapex treatment

Root Resorption

Internal resorption on disto-lingual root

Root perforation by infiammatory resorption

Calcium Hydroxide with Barium Sulfate
Metapaste

Advantages

- Easy cleaning and removing with good water solubility
- Excellent antibacterial effect and radiopacity
- Premixed paste
- Syringe type for easy delivery of the paste into the canal
- Disposable tips for prevention of cross-contamination

Composition

- Calcium Hydroxide, Barium Sulfate, Poly Propylene Glycol

Applications

- Weeping canal
- Formation of a hard tissue barrier(Apexification)
- Temporary root canal filling
- Internal & external root resorption

Components

- 2.2g paste in a syringe (2 syringe packing available)
- Disposable tips
- One ring rotator for direction control of the tip
- Dimension : 228×61×22(mm)
- Weight : 46g

Shelf life

- Two years from the production date.

Clinical Cases

Apexification

Before treatment

- Large apical foramen with an incomplete apex
- Note the root resorption on the lateral surface

Metapaste filling

Three months later

- After removal of the paste, it shows a formation of the apical barrier

Six months later

- Excellent healing without further root resorption

To locate real apical foramen

- About 1-2 months after, X-ray shows exactly where the real apical foramen is

Resin Based Sealer
ADSEAL

Advantages

- Excellent biocompatibility
- Easy to mix paste-paste
- Hermetic sealing ability
- Nonstaining to the teeth
- Insoluble in tissue fluids
- Good radiopacity

Applications

- Permanent root canal sealing
- Thermal obturation

Components

- 13.5g dual syringe
- Base 9g (Epoxy resin, Calcium phosphate)
  Catalyst 4.5g (Amines, Bismuth subcarbonate)
- Spatula
- Mixing Pad
- Dimension : 55x180x40(mm)
- Weight : 98g

Composition

- Base-Epoxy oligomer resin, Ethylene glycol salicylate, Bismuth subcarbonate
- Catalyst-Poly butanediol aminobenzoate, Calcium Phosphate, Bismuth subcarbonate

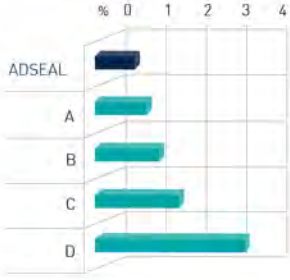
Shelf Life

- Two years from the production date.

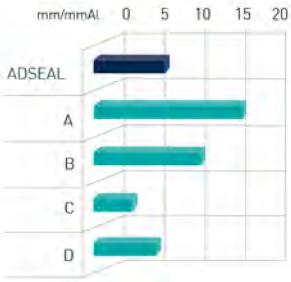
Physical and Chemical Properties

- **Flow**

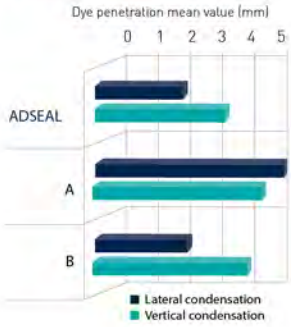
- **Solubility**



- **Radiopacity**



- **Material Properties**



- Working Time : 35 Minutes at 23°C (73°F)
- Setting Time: 45 Minutes at 37°C (99°F)
- Film Thickness: 3.3 ㎛

Calcium Silicate-based Bioceramic Sealer
CeraSeal

Advantages

- Calcium silicate-based bioceramic sealer
- Premixed: easy to use
- Anti Microbial (pH 12.73)
- High biocompatibility
- Harmless to human body
- No shrinkage and expansion
- Perfect sealing ability
- Proper setting time
- Prevent from wash-out phenomena
- Excellent Radiopacity: 8mm Al

Specifications

- **Setting time**
  - 3.5 hour
- **pH**
  - 12
- **Radiopacity**
  - 8mm Al
- **Flowbility**
  - 23mm

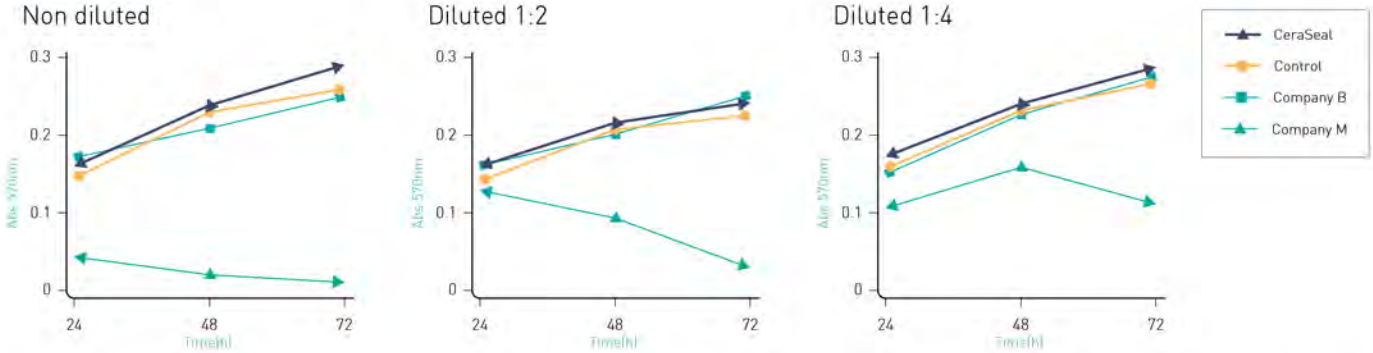
Components

- 2g Pre-mixed syringe x 1EA
- Intra canal tips x 10EA

Shelf Life

- Two years from the production date.

Test Result



- This test result shows and proves that even if CeraSeal has high pH (12.73) as time goes by it induces cells' proliferation. So it's harmless to human body, also it has excellent biocompatibility understandably.

EDTA Cream for Root Canal Cleaning and Preparation

MD-ChelCream

Advantages

- Removal of inorganic substances by chelation (EDTA-Ca 2+)
- Easier filing with lubricating action
- Produces the cleanest canal wall after smear layer removal

Applications

- Root canal preparation with files and reamers
- Presence of calcifications in the canal
- Narrow canals in posterior teeth
- Smear layer removal

Components

- MD-ChelCream 7g(5.4ml)×2
- Disposable tips
- Dimension : 186×45×30(mm)
- Weight : 59g

Composition

- EDTA, PEG

Shelf Life

- Two years from the production date.

EDTA Solution

MD-Cleanser

Advantages

- Removal of inorganic substances by chelation (EDTA: Ca^{2+})
- Easier instrumentation by softening dentin canal wall
- Produces the cleanest dentinal walls after smear layer removal

Applications

- Presence of calcification in the canal
- Narrow canals on posterior teeth
- Smear layer removal

Components

- MD-Cleanser : 100 ml
- 1cc syringe
- Disposable tips
- Dimension : 106 x 50 x 53 mm
- Weight : 138g

Composition

- EDTA, Water, Ammonia water

Shelf Life

- Two years from the production date.

Clinical Case

Application method

After root canal preparation

After MD-Cleanser application (x1000)

After MD-Cleanser application (x7000)

New

Get better result with EQ-S

Go to page 25

Fiber post

NexPost

Advantages

- Radiopaque
- Translucent
- Opitimal flexural strength(close to dentin)
- Excellent light translucency for efficient light cure deep into the root canal

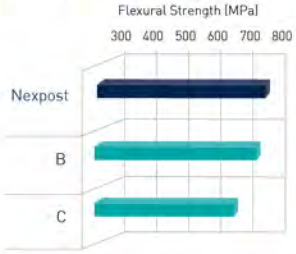
Composition

- Glass Fiber
- Bis-GMA based resin

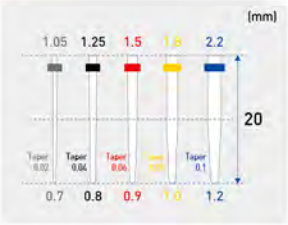
Components

- NexPost Full Kit
  - Drill x 5EA, Post 5size 25EA (1.05, 1.25, 1.5, 1.8, 2.2)
- NexPost Small Kit
  - Drill x 3EA, Post 3size 15EA (1.05, 1.25, 1.5)
- NexPost Refill
  - Post x 5EA
- NexPost Drill Refill
  - Drill x 1EA

Strength test



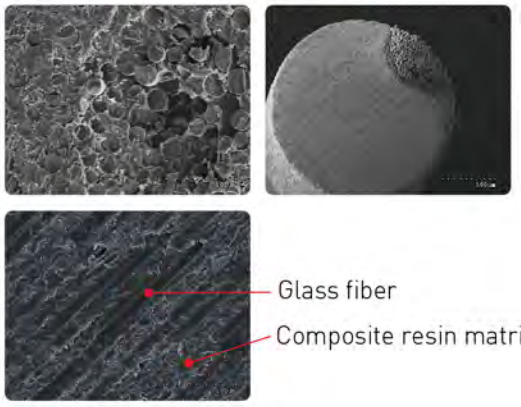
Sizes



Physical and Chemical Properties

Light Transmission Radiopacity

Scanning Electron Microscope



Shelf Life

- Three years from the production date.

Dual-cured core build-up Meterial

NexCore

Advantages

- Suitable viscosity and flowability for post cementation and core build-up
- Dual curing: Light-curing and self-curing are possible and stress from polymerization failure of resin
- Biocompatibility (ISO:10993)
- Easy to mix by auto-mixing type, Direct injection: Intraoral-Tip, Endo-Tip
- Radiopaque
- 3 Shade (Tooth, White: Ceramic restoration, Blue: Metal restoration)
- Similar Cuttability likes dentin (Flexural modulus: NexCore 14.2GPa)

Applications

- Post adhesions and core build-up in restorations

Components

- NexCore Cartridge 50g paste 1ea, Automix-tip 30ea, Intraoral-tip 30ea
- NexCore Cartridge Refill 50g paste 1ea (Shade: Tooth, White, Blue)
- NexCore Dual Syringe 9g paste 2ea, Automix-tip 20ea, Intraoral-tip 10ea, Endo-tip 10ea
- NexCore Dual Syringe Refill 9g paste 1ea (Shade: Tooth, White, Blue)

Shelf Life

- Two years from the production date

Physical Properties

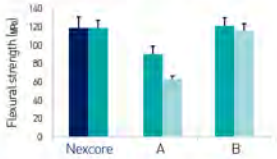
- **Composition**
  - Barium glass, Ytterbium trifluoride, Fumed silica Bis-GMA, TEGDMA
- **Physical Properties**

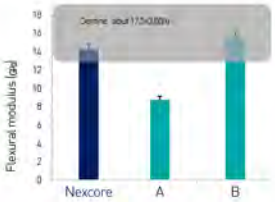
Working time	1:50 ~ 2:20 min
Setting time	4:00 ~ 5:00 min (Self-cure) 20 ~ 40 sec (Light-cure)
Flexural strength (light curing)	115.52 MPa
Water Sorption, Solubility	16.5/ 2.3 $\mu g/mm^2$
Radio-opacity	Optical density was equivalent with optical density at 4.2mm aluminum step wedge
Shade and color stability	No change in color and identical to the shade guide.

* Tested in accordance with ISO 4049

- **Flexural strength, modulus**

Polymerization shrinkage rate





- **Radio-opacity**

- **Compilation of physical properties parameter**

Endodontic Equipment

[en-doh-don-tik] [ih-kwip-muh-nt]

medical devices used for the diagnosis and treatment of diseases of the dental pulp.

— Rich Mounce, DDS

I've tried them all and the Meta Biomed Apex stands out as the most user-friendly, reliable and accurate apex locator made today. It is indispensable in my hands. And I love the Meta Biomed obturator. Cordless, streamlined and reliable. No bells and whistles. The Meta Biomed Obturator makes my warm vertical obturation simple and efficient.

⚠ **WARNING:** This product can expose you to chemicals including Lead and Lead Compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Electronic Apex Locator
i-Root

i-Root is the 5th generation Apex Locator by dual frequency type. i-Root can measure the apical constriction exactly.

Advantages

- Best accuracy in any root canal condition (Dry, Bleeding, Wet, Saline, EDTA, NaOCl or Chlorhexidine etc...)
- Simultaneous visual and sound measurement
- Color display
- Stylish and ergonomic design
- Simple and easy to use
- Self test for the system checking
- Auto power off function
- Stable and durable in wide range of condition
- Computer monitoring & Patient Management

Contents

- 1 i-ROOT main unit
- 1 Probe cord
- 1 File holder A
- 2 File holder B
- 5 Lip clips

	Battery	Monitor connection
i-Root S	Rechagable Battery	O
i-Root A	Rechagable Battery	X
i-Root 100	AA Battery(3ea)A	X

Specifications

- **Dimensions**
  - W110 × D100 × H117㎜
- **Screen**
  - W79 × D70㎜
- **Battery**
  - Lithium-Ion, DC8.2V 2200mAh
- **Continuous use**
  - 60 hours
- **AC-Adapter**
  - AC 100 ~ 240V, (50 ~ 60Hz)
- **Weight**
  - 390g

Electronic Apex Locator

Rootor

Available in the certain countries.

Accuracy guaranteed by the latest multiple frequency technology meets hand-held size for the best efficiency of your endodontic treatment.

Advantages

- Accuracy in any root canal conditions (Dry, bleeding, wet, saline, EDTA, NaOCl, Chlorhexidine and etc)
- Color display
- Stylish and ergonomic design
- Auto power-off for saving battery life
- Stability and measurement reliability

Contents

- 1 ROOTOR main unit
- 1 Probe cord
- 1 File holder A
- 2 File holder B
- 5 Lip clips

Specifications

- **Rated voltage**
  - DC 4.5 V
  (Alkaline battery size AAA DC1.5V x 3ea)
- **Input current**
  - less than DC 60mA
- **Power consumption**
  - less than 0.27 VA
- **Patient auxiliary current**
  - less than AC 10uA

Endodontic Micro Motor
ES-100

Advantages

- **Excellent Hand-piece**
  - Chemical Resistant
  - Durable Contra-angle with Small head
- **Powerful Performance**
  - RPM: 250~800 RPM(16:1)
  - Torque: 0.6~6.4 NCM
  - 10hrs of working time(2200mAh)
- **Torque Auto Reverse**

Specifications

- **Control Unit**
  - Rated Input : 7.2V, 1.2A
  - Dimension : ø16.7 x L63mm
  - Weight : 443g

Contents

- 1 Control unit
- 1 Hand piece
- 1 Contra angle
- 1 AC adapter

Auto Reverse

AUTO REVERSE

When the preset torque is reached[1], the handpiece drive runs in an anti-clockwise direction[2], freeing the file. Then drive then stops[3].

Auto Forward

AUTO REVERSE

When the preset torque is reached in Auto Forward mode[1], the file automatically turns in the opposite direction[2], freeing the file, then continues rotating in a clockwise direction[3]

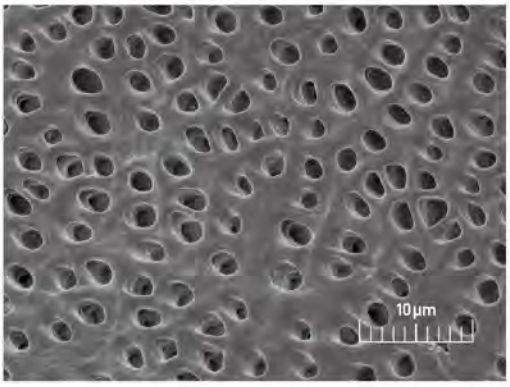
Cordless Sonic Endo Irrigator
EQ-S

Advantages

- Excellent cleaning efficiency
- Less pressure toward the apical foramen
- Special shaped and flexible tip
- Cordless
- Ergonomic design
- Light body
- Easy operation

Powerful Cleaning

- After the usage of EQ-S with MD-Cleanser



Specifications

- **Dimension**
  - W24 x H25 x L183 (including tip)
- **Weight**
  - 43g
- **Tip Size**
  - Small(15/02, White)
  - Medium(25/02, Red)
  - Large(35/02, Green)
- **Tip Length**
  - 23mm
- **Tip Length mark**
  - 18mm, 20mm
- **Battery**
  - Alkaline AA Battery (Not included)
- **Operation time**
  - 9 hours

Motorized Cordless Obturator
GENESYS

Advantages

- Convenient cordless device using battery
- Cordless & electric motorized filling system
- New cartridge needle to refill GP pellet
- 360° rotation at cartridge needle
- High capacity lithium-ion battery
- Simple, easy & quick to use

Specifications

Pack

- **Dimension**
  - 153mm x 27mm x 25mm (W x L x H)
- **Weight**
  - 90g (Including battery)
- **Battery**
  - 3.6Vdc/1900mAh
- **Range of setting temperature**
  - 140 ~ 300˚C
- **Auto shutoff**
  - 5 minutes
- **Battery**
  - Lithium-ion battery
- **Charger**
  - Input : 9.0V
  - Single charger size : 165mm x 80mm x 47mm (W x L x H)
  - Twin charger size : 230mm x 80mm x 47mm (W x L x H)

Fill

- **Dimension**
  - 223mm x 27mm x 26mm (W x L x H)
- **Weight**
  - 177g (Including battery)
- **Battery**
  - 3.6Vdc/1900mAh
- **Range of setting temperature**
  - 140 ~ 200˚C
- **Auto shutoff**
  - 5 minutes
- **Adapter**
  - Input : 100-240V, 50/60 Hz
  - Output : 9.0V, 2.0 A
  - Size : 84mm x 46mm x 32mm

Warm Gutta Percha Obturation
EQ-V

The Best Choice for Continuous Wave Obturation

Fill Cartridge
Clean

Unique Structure of EQ-V Fill

EQ-V Fill Kit (Refillable)

EQ-V Pack Kit

Advantages

- Chemically Resistant & Ergonomically Designed Body (remain intact after 1week of immersion in cavicide)
- Durable & Flexible GP Cartridge
- Easy maintenance due to unique structure
- Outstanding Heating Performance
  (Fill: 35Sec to reach 200C, Pack: Instantly reaches set temperature)

Specifications

Fill

- **Weight**
  - 177g (Including Battery)
- **Battery**
  - 3.6Vdc / 1900mAh
- **Setting Temperature**
  - 160 or 200˚C
- **Auto Shutoff**
  - 5 minutes

Pack

- **Weight**
  - 90g (Including Battery)
- **Battery**
  - 3.6Vdc / 1900mAh
- **Setting Temperature**
  - 180 or 230˚C
- **Auto Shutoff**
  - 5 minutes

Type	Contents											
	Fill Unit (Refill)	Pack Unit	Battery	Single Charger	Dual Charger	Pack Tip (50/04, 60/05)	Refill Cartridge (25G) (6pcs/ 1pack)	Bending Tool	Cleaning Tool	AC Adapter	Power Cord	GP bar (100pcs/ bottle)
EQ-V Full kit (Refill)	○	○	○		○	○	○	○	○	○	○	○
EQ-V Fill kit (Refill)	○		○	○			○	○	○	○	○	○
EQ-V Pack Kit		○	○	○		○				○	○	

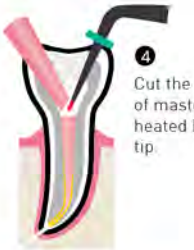
Warm Gutta Percha Obturation Tech Guide

Obturation Sequence

❶ Select master cone and put it into the prepared root canal and check Tug-back.

❷ Insert pack tip down 5mm shorter than working length and set the rubber stop.

❸ Apply ADSEAL (root canal sealer) at the end of the master cone and insert it into the canal.



❹ Cut the upper part of master cone with heated EQ-V pack tip.

❺ Compact the softened GP down with condenser.

❻ Insert pack tip 2mm short from reference point while activating pack tip.

❼ Stop activating pack tip, push it using residual heat and stay 10 seconds to cool it down. With Residual heat, condense up to reference point.

❽ then activate the pack tip for 1 second

❾ Take it out quickly (GP will remain only from apex to 5mm)

❿ Compact remaining GP in the apical part with condenser.

Put GP bar into the EQ-V Fill device and set the desired temperature

※Caution!
Before injecting needle into canal, check if melted GP is coming out of needle.

⓫ Place tip of EQ-V fill cartridge right upon the GP in the apical part. inject melt GP by pulling trigger around 3mm.

⓬ Right after finishing injection of GP, compact it with EQ Condenser.

⓭ Repeat 12~13 steps until root canal is fully obturated.

Clinical Cases

Mandibular right 1st molar, mesial 4 orifices

Mandibular left 1st molar, 'S' curved distolingual canal

Mandibular left 2nd molar, C-shape canal

Courtesy of PS Kim, DDS, MSD, Ph D.

Flexible Hand Plugger

EQ Condenser

Advantages

- Flexible NiTi tip & Steel type stainless tip
- Smooth edge and flat end
- Practical length marking
- Excellent chemical resistance
- Lightweight
- Anti-crack and rotation prevention
- Color coded

Specifications

- **NiTi tip**

Marking	Working length	Taper
N40	0.40mm	0.02
N60	0.60mm	0.01
N80	0.80mm	0.01

- **STS tip**

Marking	Working length	Taper
N80	0.80mm	0.04
N100	1.00mm	0.02
N120	1.20mm	0.01

Polywave Curing Light
Glare

Advantages

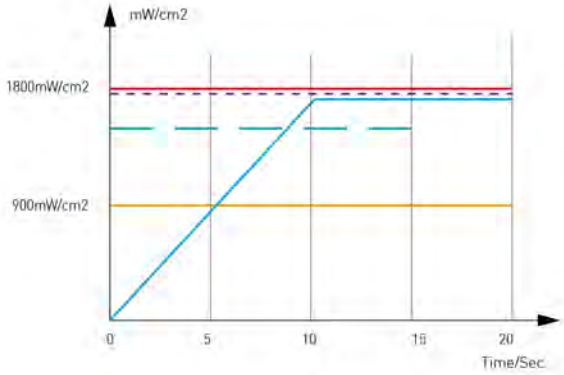
- High Intensity: 1800mW/cm²
- Focused light: deep, uniform curing
- Dual wavelength LED: 405&460nm
- 5 types of curing: High, Low, Soft start, Pulse, Ortho mode
- Slim head& 330° head twist
- Angled hand piece
- OLED screen
- Big capacity battery: 2600mAh
- Interchangeable battery pack

5 types of light curing

- User can select curing type such as High, Low, Soft start, Pulse mode. Curing time also can be adjusted.

Specifications

- **Wave length**
  - 400~490(nm)
- **Screen**
  - OLED
- **Power source**
  - Lithium-ion-battery 2600mAh
- **Light source**
  - High powe dual wavelength LED
- **Weight**
  - approx. 130g



— **High mode**
Quick polymerization with high intensity.

— **Low mode**
Slow plolymerization with low intensity.

— **Soft start mode**
Special mode to avoid polymerization shrinkage.

--- **Pulse mode**
Special mode to avoid polymerization shrinkage.

-- **Ortho mode**
Special mode for bracket attachment.
5cycles of 2sec curing followed by 1sec rest.

Restorative

[ri-stawr-uh-tiv, -stohr-]

the branch of dentistry that deals with the restoration of diseased, injured, or abnormal teeth to normal function, as by crowns.

— Gregori M. Kurtzman, DDS

I have been using Meta Biomed products in my practice for a number of years and they are always easy to use. Meta Biomed provides quality products that make treatment on my part easier and more predictable.

Light-curing Type Cavity Liner

Biner LC

Advantages

- Excellent biocompatibility with dentin and pulp
- Light curing type cavity liner, cure extremely hard
- Chemically bonds to adhesives an composites
- Insoluable in water and oral fluids
- Radiopacity
- Flow-on-demand handling and easy dispensing
- Heating Barrier

Applications

- Protect pulp of the tooth
- Lining under all filling materials
- Protection when applying the total etch technique

Composition

- Hydroxyapatite, UDMA, Photoinitator
- Barium aluminium silicate

Components

- Biner LC 2g X 2 Syringes
- 10ea disposable tips

Physical properties

- **Flexural strength**
  - More than 100 MPa
- **Sensitivity to ambient light**
  - Homogeneous for 60s
- **Linear Expansion**
  - 2~3 %
- **Radiopacity**
  - Yes
- **Depth of Cure (40 sec.)**
  - 2mm

Shelf Life

- Three years from the production date.

37% Phosphoric Acid

Meta Etchant

Advantages

- Easy dispensing and application
- No residue, rinse out completely
- Thixotropic characteristics(not runny)

Applications

- Conditioning of surface for dentine and enamel with composite and inlay / onlay

Components

- 3g X 3Syringes, 20 tips

Composition

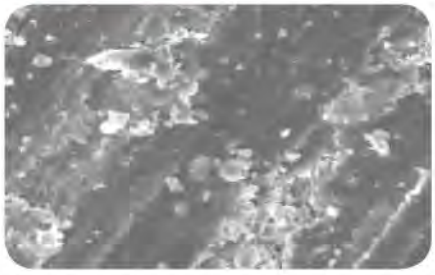
- Phosphoric acid, H2O, Xanthan gum

Shelf life

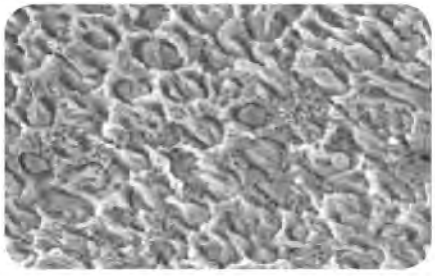
- Two years from the production date

Clinical Case

- **Enamel SEM**



Before Meta Etchant application(x2000)



After Meta Etchant application(x2000)

5th Generation Bonding System

Meta P&Bond

Advantages

- Superior bonding strength
- 5th Generations Adhesive
- One step priming and bonding
- Ethanol base adhesive
- Wet bonding type

Applications

- Bonding for direct composite, porcelain, composite, metal repair, set amalgam, post, porcelain veneer, amalgam and indirect bonding procedures with Metacem adhesive resin cement.

Components

- Meta P&Bond 5g
- Micro brush 10EA

Composition

- Bis-GMA, PMGDM, 2-Hydroxyethylmethacrylate, Ethyl alcohol

Physical Properties

- Dentin shear bonding strength 10.75MPa
- Enamel shear bonding strength 30.76MPa

Shelf life

- Two years from the production date

Hybrid Composite Resin

Nexcomp

Unidose Type is Available

Advantages

- Low 1.6% shrinkage for superior marginal integrity Various shade
- Filled with Various nano sized filler for excellent polishability.
- Optimum handling - Excellent Sculptability for restoring natural shape and function. Non-Slumping. Non-Sticky

Applications

- Class Ⅰ, Ⅱ, Ⅲ, Ⅳ, Ⅴ restorations
- Diastema closures
- Direct veneers
- Composite and porcelain repairs

Components

- Nexcomp Kit
  - 4g x 7 Syringe (A1, A2, A3, A3.5, B2, A2E, B2E)
  - Meta P&Bond 5g
  - Meta Etchant 3g
- Nexcomp Refill
  - 4g x 1 Syringe (A2E, B2E, A1, A2, A3, A3.5, A4, B1, B2, B3, C2, C3, D2, D3, TL, WT, OP, OA2, OA3)g

Composition

- Bis-GMA, UDMA, Bis-EMA
- Barium aluminium boro silicate

Shelf life

- Three years from the production date.

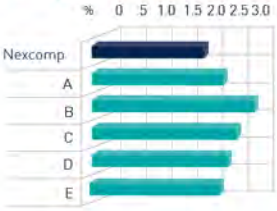
	Nexcomp
Principle organic component of polymer base	Bis-GMA, Bis-EMA, Urethane dimethacrylate, Triethylene glycol dimehacrylate
Range of dimensions of inorganic filler particles	0.01 to 0.7 ㎛
percentage by volume of total inorganic fillers	wt 75%
Recommended external energy source	Specification required of Light curing device: usual dental halogen/LED lamps with light intensity of more than 400㎽/㎠ and wavelength range of 430~480㎚

Physical and Chemical Properties

- **Compressive Strength**

- **Flexural Strength**

- **Polymerization Shrinkage Rate**



Clinical Cases

- **Before**

▲ Mesial fracture

▲ Cervical abrasion

▲ Class I cavity

- **After**

▲ complete Necomp restoration

▲ After restoration

▲ Restoration with Nexcomp

RESTORATIVE

Hybrid Flowable Composite Resin

Nexcomp Flow

Advantages

- Low viscosity, light-cured, radiopaque flowable composite resin.
  - Filled with Various nano sized filler for excellent polishability.
  - Excellent Radiopacity
  - Available in 14 shades including opaque and translucent
  - No slumping and running

Applications

- Restoration of invasive cavity
- Pits and fissure sealing
- Base and Liner for direct restoration
- Repair acrylic temporary materials
- Repair of esthetic indirect restorations

Components

- Nexcomp Flow set
  - 2g X 5 syringes(A2, A3, A3.5, B2, B3), 20ea disposable tip
  Nexcomp Flow Refill
- - 2g X 2 syringes(A1, A2, A3, A3.5, A4,B1, B2, B3, OA2, OA3, C2, D2, WT, TL), 10ea disposable tip

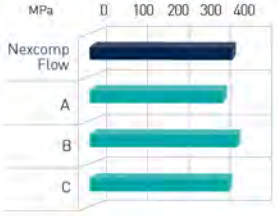
Composition

- Bis-GMA, UDMA, Bis-EMA TMPTMA
- Barium aluminium boro silicate

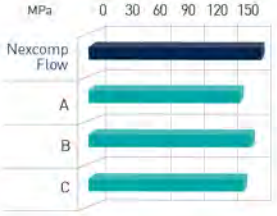
	Nexcomp
Principle organic component of polymer base	Bis-GMA, Bis-EMA, Urethane dimethacrylate, Triethylene glycol dimehacrylate
Range of dimensions of inorganic filler particles	0.01 to 0.7 ㎛
percentage by volume of total inorganic fillers	wt 75%
Recommended external energy source	Specification required of Light curing device: usual dental halogen/LED lamps with light intensity of more than 400㎽/㎠ and wavelength range of 430~480㎚

Physical and Chemical Properties

- **Compressive Strength**



- **Flexural Strength**



Shelf life

- Three years from the production date.

Hybrid Composite Resin

EZFil

Advantages

- Low 1.6% shrinkage for superior marginal integrity
- Various shade
- Equally dispersed filler
- Improved handling
- Non-Slumping, Non-Sticky

Advantages

- Class Ⅰ ,Ⅱ ,Ⅲ ,Ⅳ, Ⅴ restorations
- Core-build up to replace missing tooth
- structure
- Diastema closures
- Direct veneers
- Composite and porcelain repairs

Components

- **EZFil Kit**
  - EZFil 4g Syringe 7EA
    (Shade: A1, A2, A3, A3.5, B1, B2, OP)
  - Meta P&Bond 1EA (5g)
  - Meta Etchant 1EA
  - Meta P&Bond Microbrush 10EA,
    Meta Etchant Disposable Tips 20EA
- **EZFil Refill**
  - EZFil 4g Syringe 1EA
    (Shade: A1, A2, A3, A3.5, A4, B1, B2, B3, B4, C1, C2, C3, C4, D2, D3, D4, OP, TL)

Composition

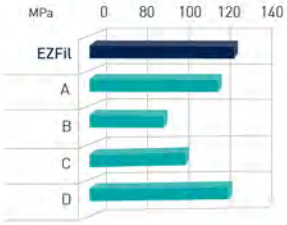
- Bis-GMA, UDMA, Bis-EMA

Shelf life

- Three years from the production date

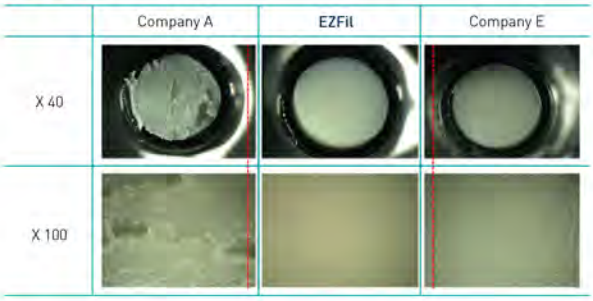
Physical and Chemical Properties

- **Flexural Strength (Mpa)**



- **Shrinkage Rate (%)**

Cross Section



RESTORATIVE

Dual-Cured Resin Cement

Metacem

Advantages

- Easy to use for cosmetic indirect restorations.
- Provides high resistance to compressive force.
- Provides a dual-cure for highly shaded, thick or
- opaque cementation.
- 5 shades correspond with shade guide.
  [A1, A3, B2, TL(Translucent white), OP(Opaque)]

Applications

- Crowns & Bridges (ceramic, composite, porcelain)
- Inlay/Onlay cementation
- Bonding for porcelain veneers

Components

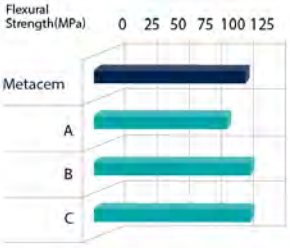
- 1. Metacem set
  - 2 Dual syringe (A3, Translucent white shade, 9g/ea)
  - P&Bond 5g
  - Etchant 3g
  - 20 Mixing tips
  - 20 Etchant disposable tips
  - Spatula
  - Mixing pad
  - 10 Adhesive brush
- 2. Metacem Refill
  - 1 Dual syringe(A1, A3, B2, Translucent white, Opaque, 9g/ea)

Composition

- Base-Bis-GMA, DHEPT,
- Barium aluminium boro silicate
- Catalyst--Bis-GMA , TEGDMA,
- Barium aluminium boro silicate

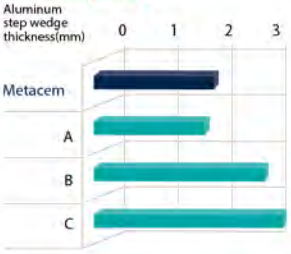
Physical and Chemical Properties

• Flexural Strength



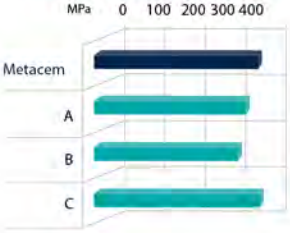
Working time 2 min
Setting time 5 min
Flexural strength 99 MPa
Radiopacity 2.33mm Al/㎜

• Radiopacity



Film thickness <-21㎛
Water absorption 29.3 ㎍/㎟
Water solubility 2.3 ㎍/㎟

• Compressive Strength



Shelf life

- Two years from the production date

Hydraulic Temporary Restorative

MD-Temp Plus

Advantages

- Easy application and removal
- Hermetic seals the cavity
- Excellent stability when sets
- Proper crush strength

Applications

- Temporary cavity filling

Components

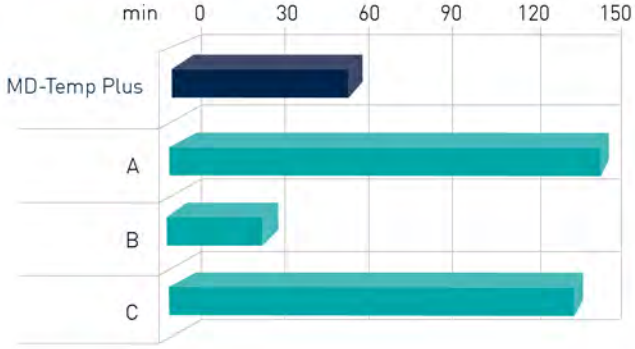
- White or Pink paste in a jar(40g,30g,20g)
- Dimension : 40 x 35 x 39(mm)
- Weight : 52.5g

Composition

- Copolymer
- Zinc oxide
- Calcium sulfate

Physical and Chemical Properties

- **Setting Time**



Shelf Life

- Three years from the production date

RESTORATIVE

Light-curing Type Temporary Filling

NexTemp HV / NexTemp LC

FDA 510(k) Pending

Advantages

- High elasticity
- Easy application
- Tightness for margin sealing
- Easy removal

Applications

- Temporary restoration of prepared cavity(1~6days)
- Temporary filling sealing of cavities

Component

- NexTemp HV : 3g x 3 Syringes (TL, Blue)
- NexTemp LC : 2g x 3 Syringes, 10 ea disposable tip (TL, Blue, Yellow)

Shelf life

- Nextemp HV : Two years from the production date
- Nextemp LC : Three years from the production date

How to Use

1. Prepare

2. Clean and dry

3. Apply

4. Light-cure

5. Polish

6. Remove

Non-Eugenol Temporary Cement

NETC

Advantages

- Paste-paste tube type
- Working time : 1.5 min
- Setting time : 6min
- Especially suitable for patients who are sensitive to eugenol.

Applications

- Temporary cementation of crown&bridges

Component

- Tube Type : Base 40g, Catalyst 14g, Mixing Pad
- Dual Syringe Type : 11g x 2ea, Mixing tip x 2ea, Cap x 2ea, Mixing Pad

Composition

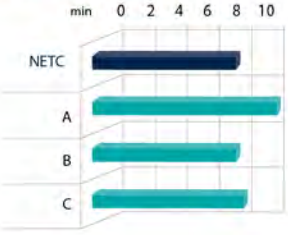
- Base-Zinc Oxide, Mineral oil
- Catalyst-Rosin, Nonanoic acid

Shelf Life

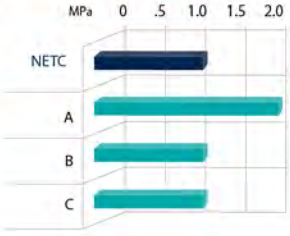
- Two years from the production date

Physical and Chemical Properties

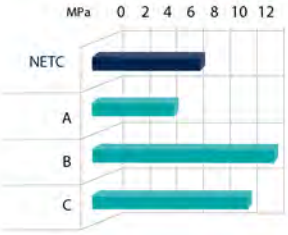
- **Setting Time**



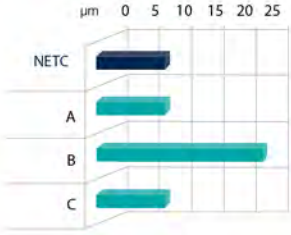
- **Adhesive Strength**



- **Compression Strength**



- **Film Thickness**



NETC complies with the requirments of ISO 3107 (Type Ⅰ , Class 2B)

RESTORATIVE

Hydrophilic Vinyl Polysiloxane Impression Material

Imflex

Advantages

- Easy squeezing with a low extrusion force
- Good mechanical property & High tear strength
- Thixotropic: No flow to proximal and stable
- Controlled air-bubbles during production
- 3D scannable impression material: powder-free

Applications

- Dental impression of inlay, onlay, crown, and bridge preparation
- Treatment Functional impressions

Shelf life

- Two years from the production date

Components

Type	Contents	Working Time	Setting Time
Putty	Base 300ml Catalyst 300ml Measuring Spoon 2EA	1' 30"	3' 30"
Heavy	50ml Cartridge 2EA Auto mixing tip 6EA	1' 30"	3' 00"
Mono Phase	50ml Cartridge 2EA Auto mixing tip 6EA		
Light	50ml Cartridge 2EA Auto mixing tip 6EA Intra Oral tip 2EA		
Putty Fast	Base 300ml Catalyst 300ml Measuring Spoon 2EA	0' 40"	2' 00"
Heavy Fast	50ml Cartridge 2EA Auto mixing tip 6EA	1' 00"	2' 00"
Light Fast	50ml Cartridge 2EA Auto mixing tip 6EA		

Bite Registration

Imflex Bite

Advantages

- Easy squeezing with a low extrusion force
- Good mechanical property & High tear strength
- Thixotropic: No flow to proximal and stable
- Controlled air-bubbles during production
- 3D scannable impression material: powder-free

Applications

- Bite registration (for getting the exact final prosthetic appliance and bite points)

Shelf life

- Two years from the production date

Components

Type	Contents	Working Time	Setting Time
Bite	50ml Cartridge 2EA Auto mixing tip 6EA Rubber-Duck tip 6EA	0' 10"	1' 00"

Rubber-Duck tip : Only for Bite Registration

1. Easy and fast dispensing
2. No flow to interdental
3. Obtain the exact bite point
4. Prevent from deep biting

RESTORATIVE

Regenerative

[ri-ri-jen-er-uh-tiv, -uh-rey-tiv]

the branch of dentistry that deals with the regeneration of jaw bone and tissue to correct the damage caused by periodontal disease in order to support dental implants and/or restore tooth strength.

Silicon Ion Containing 60% HA, 40% B-TCP

DM Bone

Advantages

- Silicon ion containing porous Hydroxyapatite (Si-Content:Avg.0.6 wt%)
- Optimum balance between HA and β-TCP in the ratio(%), 60:40
- Silicon ion technology speeds up the Bone Regeneration & Heal Activation
- Outstanding Biocompatibility(No Biological Rejection, No Disease Transmission)
- Excellent Osteoblastic Activity with wide surface area:72% Porosity

Applications

- Periodontal defects
- Intrabony defects
- Ridge augmentation
- Extraction sites(Implant preparation/placement)
- Sinus lift
- Cystic cavities

Package Specifications (1vial / box)

Size	Weight					
0.3 ~ 0.5mm	0.25g	0.5g	1.0g	2.0g	5g	10g
0.5 ~ 1.0mm	0.25g	0.5g	1.0g	2.0g	5g	10g
1.0 ~ 2.0mm	0.25g	0.5g	1.0g	2.0g	5g	10g

Implant Case

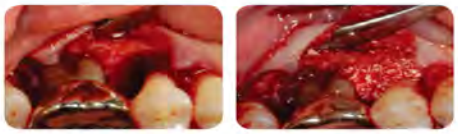


Fig 1. Clinical and radiographic view during surgery. Intrabony defect (Left), BoneMedik-DM placed into intrabony defect.

Fig 2. Clinical view Pre-operative (Left) and Six months post-operative (Right) clinical

Fig 3. Radiographic view of test group. Pre-operative (Left) and six months post-operative radiographic (Right)

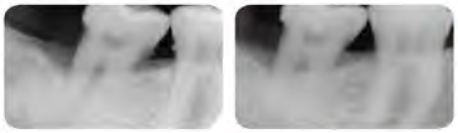


Fig 4. Radiographic view of control group Pre-operative (Left) and six months post-operative radiographic (Right)

100% B-TCP

Sorbone

FDA 510(k) Pending

Advantages

- Excellent osteoconductivity
- Speed up the bone regeneration & heal activation
- Outstanding biocompatibility
  (No biological rejection, No disease transmission)
- Accurate and problem-free implantation
- Easy handling
- Porosity: 55~60%

Applications

- Periodontal defects
- Intrabony defects
- Ridge augmentation
- Extraction sites(Implant preparation / placement)
- Sinus lift
- Cystic cavities

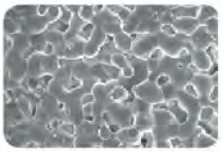
Implant Case

Fig. 1. Radiographic view of pre-implantation (Left), and post-implantation (Right)

SEM Observation of Sorbone

Chip shape of Sorbone

Internal structure of Sorbone



Sorbone surface: Inter-connected nano and micro pores

Components

• Vial Type

Size	Weight			
0.3 ~ 0.5mm	0.25g	0.5g	1.0g	2.0g
0.5 ~ 1.0mm	0.25g	0.5g	1.0g	2.0g
1.0 ~ 2.0mm	0.25g	0.5g	1.0g	2.0g
2.0 ~ 4.0mm	0.25g	0.5g	1.0g	2.0g

• Syringe Type

Size	Weight			
0.3 ~ 0.5mm	--	--	1.0cc	2.0cc
0.5 ~ 1.0mm	0.25cc	0.5cc	1.0cc	2.0cc
1.0 ~ 2.0mm	0.25cc	0.5cc	1.0cc	--

GBR(Window Opening)

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DO-31-17