

Endodontic Series

**META
DENTAL**

YOUR
GUARANTEE OF
QUALITY



V.2

META

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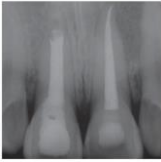
URL: www.metadental.com

Cordless Gutta Percha Obturation Systems

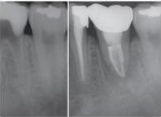


Unique Benefits

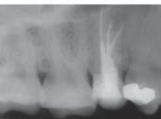
- ✓ New Slim design allows better control and excellent tactile feedback.
- ✓ Easy to Master 3-dimensional filling technique.
- ✓ Excellent apical control and obturation of anatomically complicated canals
- ✓ Low voltage enables safe operation.
- ✓ Extra standby battery offers instant power when needed.

Gutta Percha Obturation

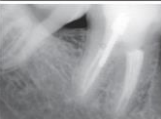
Maxillary right central incisor, after apexification



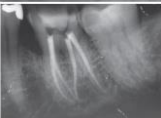
Mandibular left 1st molar, after transplantation, C-shape



Maxillary right 2nd premolar, 3 canals with post



Mandibular left 1st molar, mesial 4 orifices



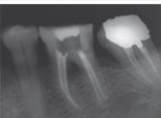
Mandibular left 1st molar, 'S' curved dentilingual canal



Mandibular left 2nd molar, C-shape canal



Maxillary right 1st molar, mesiobuccal curved canal



Mandibular left 1st molar, 4 canals



Mandibular right 2nd molar, mesial lateral canal, distal hook shape

Combination Technique with Gun & Pen



1. Fit a master apical cone that matches the taper of the canal being obturated and check for tug back.



2. Select appropriate Pen tip. Pre-fit the tip 4~6mm short of the working length and adjust the stopper to mark reference point.



3. Coat the master cone with sealer and insert into canal. Cut the excess gutta percha over the orifice using the Pen. Obturate 4~6mm short of the apex.



4. Apply pressure on the melted gutta percha until it hardens. Apply heat to separate Pen from gutta percha. Now Apical & accessory canals are perfectly obturated.



5. After inserting the Gun needle into the Root Canal, wait for 5 seconds.



6. Pull the trigger slowly and backfill with warm gutta percha. Allow the warm gutta percha to bring the needle up from the canal.



7. Downpack warm gutta percha with cold pluggers. Apply pressure with a larger plugger.



8. The root canal is fully obturated 3-dimensionally.

Components

Pen Set



Master Pen



Master Charger & Battery



Pen Tips



Gutta Percha (04,06 Taper)

Gun Set



Master Gun



Master Charger & Battery



Gun Needles



Gutta Percha Bars



Heat Insulator



Accessory Tools

Reorder Parts



Master Battery



Pen Tips (XF,F,FM,M,ML)



Gun Needles (20,23,25ga)



Gutta Perchas

Specification

Master Charger	Input Output	100V~240V DC 9V 1.8A
Master Gun	Heater Heating Time	DC 3.6V 8W 2 Minutes
Master Pen	Heating Time	1 Second
Operating Time	Gun Pen	Continuous for 2 hours Continuous for 1.5 hours
Master Battery	Li-ion	ICR18650-26 (Samsung SDI) 3.6V 2,600mA

Cordless Gutta Percha Obturation System



Advantages:

- ✓ Easy & Quick obturation
- ✓ Accurate and predictable filling
- ✓ Excellent apical control to achieve 3-dimensional hermetic sealing
- ✓ Two independent and efficient cordless units
- ✓ Mobility without limitation from wall sockets
- ✓ No more tangled and straightening cords during operation
- ✓ Lowest prices from the replacement parts

Downpack with E&Q Pen



1. Fit a master apical cone that matches the taper of the canal being obturated and check for tug back.



2. Select appropriate Pen tip. Pre-fit the tip 4~6mm short of the working length and adjust the stopper to mark reference point.



3. Coat the master cone with sealer and insert into canal. Cut the excess gutta percha over the orifice using the Pen. Obturate 4~6mm short of the apex.



4. Apply pressure on the melted gutta percha until it hardens. Apply heat to separate Pen from gutta percha. Now Apical & accessory canals are perfectly obturated.

Backfill with E&Q Gun



5. After inserting the Gun needle into the Root Canal, wait for 5 seconds. Pull the trigger slowly and backfill with warm gutta percha. Allow the warm gutta percha to bring the needle up from the canal.



6. Downpack warm gutta percha with cold pluggers. Apply pressure with a larger plugger. The root canal is fully obturated 3-dimensionally.

Specifications:

1) E&Q Charger	1. Input 2. Output	100V ~ 240V DC 9V, 1.8A
2) E&Q Gun	1. Heater 2. Temperature Sensor 3. Heating Time	DC 3.6V, 8W J-Type 2 Minutes
3) E&Q Pen	1. Temperature Sensor 2. Heating Time	K-Type 1 Second
4) Operating Time	1. Gun 2. Pen	Continuous for 1 hour Continuous for 30min
5) E&Q Battery (Ni-MH Type)	1. Pen 2. Gun	2/3AA x 3EA DC 3.6V, Max 4.5V 4/5A x 3EA DC 3.6V, Max 4.5V

Components:



E&Q Charger



E&Q Gun



E&Q Pen



Gutta Percha Bars



Gutta Percha Points



Pen Tips



Heat Insulator



Cleaning Tools



Gun Needles



Multi-Tool

Gutta Percha

Gutta Percha Points



Made from the Finest Gutta Percha Uniformly Hand Rolled

- ✓ Combination of stiff and flexible properties provide ideal working qualities
- ✓ Uniform and non-distorting crimp
- ✓ Excellent radiopacity
- ✓ Long shelf life and freshness assured
- ✓ Suitable for vertical and lateral condensation
- ✓ Variety in the selection of sizes and packaging available

Special Length Marked Gutta Points

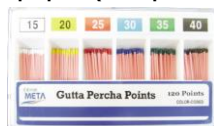


For Accurate Depth Measurement and Insertion (Patent Pending)

- ✓ Uniform and non-distorting crimp
- ✓ Variable sizes and packages available
- ✓ Non-Standardized (Accessory Sizes)
- ✓ Accurate insertion of the working length
- ✓ No need to mark working length on the points
(Assurance of the accurate insertion after filling)
- ✓ Time saving with safe, easy and fast filling
- ✓ Variety in the selection of sizes and packaging available

Available Packaging:

Spill proof (6 Compartment Dispenser)



Packaging Code: P.21
Points: 120 points
Order Code: GPCB
L x W x H: 80x51x16(mm)
Color Coded: Yes
Length Marked: No
Sizes: Standard & Non Standard

Vials (6 Round Vials)



Packaging Code: P.31
Points: 120 points
Order Code: GPCV
L x W x H: 80x51x16(mm)
Color Coded: Yes
Length Marked: No
Sizes: Standard & Non Standard

.04 Taper Gutta Percha



Packaging Code: P.21
Points: 60 points
Order Code: GP04
L x W x H: 80x51x16(mm)
Color Coded: Yes
Length Marked: Yes
Sizes: ISO #15 - 80

.06 Taper Gutta Percha



Packaging Code: P.21
Points: 60 points
Order Code: GP06
L x W x H: 80x51x16(mm)
Color Coded: Yes
Length Marked: Yes
Sizes: ISO #15 - 80

Endo Organizer (Spill proof 12 Compartments)



Packaging Code: P.11
Points: 240 points
Order Code: ENDOGP
L x W x H: 110x110x30(mm)
Color Coded: Yes
Length Marked: No
Sizes: ISO #15/40 (assorted only)
 ISO #15/80 (assorted only)

Available Sizes:

ISO STANDARD

#8 ----- ○	#55 ----- ●
#10 ----- ●	#60 ----- ●
#15 ----- ○	#70 ----- ●
#20 ----- ●	#80 ----- ●
#25 ----- ●	#90 ----- ○
#30 ----- ●	#100 ----- ●
#35 ----- ●	#110 ----- ●
#40 ----- ●	#120 ----- ●
#45 ----- ○	#130 ----- ●
#50 ----- ●	#140 ----- ●

NON-STANDARD

- X-Fine
- Fine-Fine
- Medium-Fine
- Fine
- Fine-Medium
- Medium
- Medium-Large
- Large
- X-Large

ASSORTED

- 15/40
- 45/80
- Assorted (XF-M)

Paperpoints

Absorbent Paperpoints



Hand Rolled for Extra Absorbency

- ✓ Rigid enough to insert in canals without curling or bending
- ✓ Rolled firmly to hold shape when withdrawn from the canal
- ✓ Highly absorbent
- ✓ Sterilized individual packages
- ✓ Variety sizes and packages available

Available Sizes

ISO STANDARD

#8 ----- ○	#55 ----- ●
#10 ----- ●	#60 ----- ●
#15 ----- ○	#70 ----- ●
#20 ----- ●	#80 ----- ●
#25 ----- ●	#90 ----- ○
#30 ----- ●	#100 ----- ●
#35 ----- ●	#110 ----- ●
#40 ----- ●	#120 ----- ●
#45 ----- ○	#130 ----- ●
#50 ----- ●	#140 ----- ●

NON-STANDARD

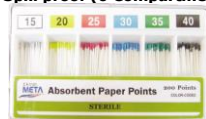
- XX-Fine
- X-Fine
- Fine
- Medium
- Coarse
- X-Coarse

ASSORTED

- 15/40
- 45/80
- Assorted (XXF – XC)

Available Packaging

Spill proof (6 Compartment Dispenser)



Packaging Code: P.21
Points: 200 points
Order Code: PPCB
L x W x H: 84x51x13(mm)
Color Code: Yes
Sizes: Standard & Non-Standard

Vials (6 Round Vials)



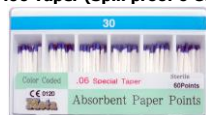
Packaging Code: P.31
Points: 200 points
Order Code: PPCV
L x W x H: 84x51x16(mm)
Color Code: Yes
Sizes: Standard & Non-Standard

.04 Taper (Spill proof 6 Compartments)



Packaging Code: P.21
Points: 60 Points
Order Code: PP04
L x W x H: 84x51x16(mm)
Color Code: Yes
Sizes: ISO #15 - 80

.06 Taper (Spill proof 6 Compartments)



Packaging Code: P.21
Points: 60 Points
Order Code: PP06
L x W x H: 84x51x16(mm)
Color Code: Yes
Sizes: ISO #15 - 80

Cell Pack 180



Packaging Code: P.61
Points: 180 points
Order Code: PP180
L x W x H: 120x54x12(mm)
Color Code: No
Sizes: Non-Standard

Cell Pack 200



Packaging Code: P.61
Points: 200 points
Order Code: PP200
L x W x H: 162x54x11(mm)
Color Code: No
Sizes: Standard & Non-Standard

Endo Organizer (Spill proof 12 Compartments)



Packaging Code: P.11
Points: 480 points
Order Code: ENDOPP
L x W x H: 110x110x30(mm)
Color Code: Yes
Sizes: ISO #15/40 (assorted only)
 ISO #15/80 (assorted only)

Calcium Hydroxide with Iodoform Root Canal Filling Material with Excellent Radiopacity



Applications:

- ✓ Apexification
- ✓ Exposed pulp in pulp capping and pulpotomy
- ✓ Leaking canal
- ✓ Root canal filling

Advantages:

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

Components:

- ✓ 2.2g paste in a syringe
- ✓ 20 disposable tips
- ✓ One ring rotator for direction control of the tip
- ✓ Dimension: 228x61x22(mm)
- ✓ Weight: 83g

Clinical Cases

Apexification



Pulp necrosis on #21 of an 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 inflammatory resorption

Directions:

1. After root canal preparation, clean and dry the canal.
2. Use the ring rotator for easy re-direction of the tip.
3. Insert the tip into the canal.
4. Fill the canal completely by pushing the syringe plunger while slowly withdrawing the tip.
5. Remove excess paste with a sterilized cotton pellet.
6. Discard the used tip, fix a new one and secure its placement with the use of the ring rotator.

Cautions:

- ✓ Do not overfill beyond the apex.
- ✓ Avoid direct exposure to sunlight.
- ✓ Keep the syringe capped all the time.
- ✓ Store in dry and cool area (10°C ~ 25°C / 50°F ~ 77°F).
Improper storage can cause dryness or separation of the paste.

Shelf Life:

- ✓ Two years from the production date.

Metapaste

Calcium Hydroxide with Barium Sulfate Temporary Root Canal Filling Material



Applications:

- ✓ Apexification
- ✓ Pulp capping and pulpotomy
- ✓ Leaking canal
- ✓ Temporary root canal filling
- ✓ Internal & external root resorption

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

Components:

- ✓ 2.2g paste in a syringe
- ✓ Disposable tips
- ✓ One ring rotator for direction control of the tip
- ✓ Dimension: 228 × 61 × 22 (mm)
- ✓ Weight: 83g

Clinical Cases

Apexification:



Before treatment

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



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.

Caution:

- ✓ Do not overfill beyond the apex.
- ✓ Avoid direct exposure to sunlight.
- ✓ Keep the syringe capped at all times.
- ✓ Store in dry and cool area (10°C ~ 25°C / 50°F ~ 77°F).
Improper storage can cause dryness or separation of the paste.

Shelf Life

- ✓ Two years from the production date.

Resin-based root canal sealer



Advantages

- ✓ Excellent biocompatibility
- ✓ Easy to dispense & mix
- ✓ Hermetic sealing ability
- ✓ Non-staining to the teeth
- ✓ Insoluble in tissue fluids
- ✓ Good radiopacity

Material Properties

- ✓ Working Time: 35 Minutes at 23°C (73°F)
- ✓ Setting Time: 45 Minutes at 37°C (99°F)
- ✓ Flowability: 44mm
- ✓ Film Thickness: 3.3 μ m
- ✓ Radiopacity: 5.44mm/mmAL
- ✓ Solubility: 0.0324%

Biocompatibility:

Test Method		Results
Cytotoxicity (ISO 10993-5)	Agar Diffusion - Freshly mixed - Set material	Mild non
Irritation (ISO 10993-10)	Oral	No irritation
Systemic toxicity (ISO 10993-11)	Acute	Safe
Implantation (ISO 10993-6)		Acceptable (no edema)

Components:

- ✓ 13.5 g dual syringe (Base 9g, Catalyst 4.5g)
- ✓ 1 Spatula
- ✓ 1 Mixing Plate
- ✓ 1 Direction for use
- ✓ Dimension: 80 × 200 × 43 (?)
- ✓ Weight: 135g

Storage

- ✓ Keep the syringe capped after use
- ✓ Store at 18°C ~ 24°C (64°F ~ 75°F)
- ✓ Avoid UV light

Shelf Life

- ✓ Two years from production date.

MD-ChelCream

19% EDTA Cream

Root Canal Cleaning and Shaping and 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

Advantages:

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

Components:

- ✓ MD-ChelCream 5.4 mL × 2
- ✓ 10 Disposable tips
- ✓ Dimension: 195 × 70 × 30 (mm)
- ✓ Weight: 72g

Directions:

1. Deposit small amount in the canal orifice using the MD-ChelCream syringe.
2. Carefully pump into the canal with a fine file or reamer.
3. Re-apply MD-ChelCream when necessary or until cleaning and shaping is complete.
4. Rinse out MD-ChelCream by irrigation with sodium hypochlorite.

Cautions:

- ✓ Use MD-ChelCream with discretion to prevent perforation
- ✓ Avoid extrusion of the MD-ChelCream into the apex
- ✓ Keep the syringe capped all the time
- ✓ Store in temperature 10°C ~ 25°C (50°F ~ 77°C)

Shelf Life:

- ✓ Two years from the production date.

17% EDTA Solution

Excellent Cleaning, Shaping and Smear Layer Removal
by Chelating Effect



Applications:

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

Advantages:

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

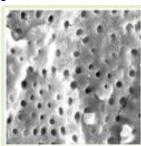
Components

- ✓ MD-Cleanser: 100 mL
- ✓ 1 1cc syringe
- ✓ 2 Disposable tips
- ✓ Dimension: 50 × 115 × 55 (mm)
- ✓ Weight: 138g

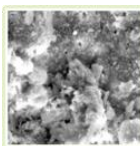
Application Case:



Application
Method



After root canal
preparation



After MD-Cleanser
application (x1000)



After MD-Cleanser
application (x7000)

Shelf Life:

- ✓ Two years from the production date.

Hydraulic Temporary Restorative



Advantages:

- ✓ Easy application and removal
- ✓ Hermetically seals the cavity
- ✓ Excellent stability when set
- ✓ Proper crush strength

Components:

- ✓ 40g White paste in a jar
- ✓ Box size: 38 × 41 × 39(mm)
- ✓ Weight: 55g

Directions:

1. Dry the prepared cavity.
2. Transfer the amounts of MD-Temp required to the cavity by using a suitable instrument.
3. Let the patient bite down on the filling to check for interferences in case of class 1 cavities. Otherwise, be sure to adapt the filling into the cavity walls by contouring it.
4. Remove excess by wiping it off with moist cotton towards the margins of the cavity.
5. As complete setting takes place after an hour, instruct the patient to avoid pressure or abrasion until such time.

Shelf Life:

- ✓ Two years from the production date.

Pre-bent Disposable Tips



- ✓ Pre-bent disposable plastic tips
- ✓ Prevents contamination
- ✓ Easy to use
- ✓ Reorder Tips for: Metapaste, Metapex, ChelCream, and Cleanser Syringes. Other products may vary.
- ✓ Quantity: 100pcs/bag