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**Meta Dental Corp.**  
(Meta Biomed Co., Ltd)  
82-06 Grand Avenue, Elmhurst, NY 11373  

1 (800) 730 - META (6372)  
Tel: (718) 639 - 7460 | Fax: (718) 639 - 7408  
Email: service@metadentalco.com  
URL: www.metadentalco.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 denti-lingual 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. Obtain 4~6mm short of the apex.

4. 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 flow of warm gutta percha to bring the needle up from the canal.

7. Downpack warm gutta percha with appropriate cold pluggers.

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

Pen Set

Gun Set

Reorder Parts

Specification

<table>
<thead>
<tr>
<th>Component</th>
<th>Input/Output</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master Charger</td>
<td>Input</td>
<td>100V~240V</td>
</tr>
<tr>
<td></td>
<td>Output</td>
<td>DC 9V 1.8A</td>
</tr>
<tr>
<td>Master Gun</td>
<td>Heater</td>
<td>DC 3.6V 8W</td>
</tr>
<tr>
<td></td>
<td>Heating Time</td>
<td>2 Minutes</td>
</tr>
<tr>
<td>Master Pen</td>
<td>Heating Time</td>
<td>1 Second</td>
</tr>
<tr>
<td>Operating Time</td>
<td>Gun</td>
<td>Continuous for 2 hours</td>
</tr>
<tr>
<td></td>
<td>Pen</td>
<td>Continuous for 1.5 hours</td>
</tr>
<tr>
<td>Master Battery</td>
<td>Li-ion</td>
<td>ICR18650-26 (Samsung SDI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.6V 2,600mA</td>
</tr>
</tbody>
</table>
E & Q Cordless

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 for 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 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 flow of warm gutta percha to bring the needle up from the canal.

6. Downpack warm gutta percha with appropriate cold pluggers. 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

- 7 -
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:

<table>
<thead>
<tr>
<th>ISO STANDARD</th>
<th>NON-STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>#8</td>
<td>X-Fine</td>
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<tr>
<td>#10</td>
<td>Fine-Fine</td>
</tr>
<tr>
<td>#15</td>
<td>Medium-Fine</td>
</tr>
<tr>
<td>#20</td>
<td>Fine</td>
</tr>
<tr>
<td>#25</td>
<td>Fine-Medium</td>
</tr>
<tr>
<td>#30</td>
<td>X-Fine</td>
</tr>
<tr>
<td>#35</td>
<td>Medium-Large</td>
</tr>
<tr>
<td>#40</td>
<td>Large</td>
</tr>
<tr>
<td>#45</td>
<td>X-Large</td>
</tr>
<tr>
<td>#50</td>
<td>Assorted (XF-M)</td>
</tr>
</tbody>
</table>

- 8 -
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

<table>
<thead>
<tr>
<th>ISO STANDARD</th>
<th>NON-STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>#8</td>
<td>○ XX-Fine</td>
</tr>
<tr>
<td>#10</td>
<td>○ X-Fine</td>
</tr>
<tr>
<td>#15</td>
<td>○ Fine</td>
</tr>
<tr>
<td>#20</td>
<td>○ Medium</td>
</tr>
<tr>
<td>#25</td>
<td>○ Coarse</td>
</tr>
<tr>
<td>#30</td>
<td>○ X-Coarse</td>
</tr>
<tr>
<td>#35</td>
<td>○ 15/40</td>
</tr>
<tr>
<td>#40</td>
<td>○ 45/80</td>
</tr>
<tr>
<td>#45</td>
<td>○ Assorted (XXF – XC)</td>
</tr>
<tr>
<td>#50</td>
<td>○ Assorted (XXF – XC)</td>
</tr>
</tbody>
</table>
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: 400 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)
**Applications:**
- Apexification
- Temporary or permanent root canal treatment
- Pulpotomies in deciduous teeth
- Root resorption treatment

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

**Components:**
- 2.2g paste in a syringe
- 20 pre-bent disposable plastic 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.

Root Resorption
About 1 year after Metapex treatment
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.
Calcium Hydroxide with Barium Sulfate
Temporary Root Canal Filling Material

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

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
- 20 pre-bent disposable plastic 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.
Adseal

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: 44 mm
- Film Thickness: 3.3 μm
- Radiopacity: 5.44 mm/mmAL
- Solubility: 0.0324%
### Biocompatibility:

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytotoxicity (ISO 10993-5)</td>
<td>Agar Diffusion</td>
</tr>
<tr>
<td></td>
<td>- Freshly mixed</td>
</tr>
<tr>
<td></td>
<td>- Set material</td>
</tr>
<tr>
<td></td>
<td>Mild non</td>
</tr>
<tr>
<td>Irritation (ISO 10993-10)</td>
<td>Oral</td>
</tr>
<tr>
<td></td>
<td>No irritation</td>
</tr>
<tr>
<td>Systemic toxicity (ISO 10993-11)</td>
<td>Acute</td>
</tr>
<tr>
<td></td>
<td>Safe</td>
</tr>
<tr>
<td>Implantation (ISO 10993-6)</td>
<td>Acceptable</td>
</tr>
<tr>
<td></td>
<td>(no edema)</td>
</tr>
</tbody>
</table>

### Components:
- 13.5 g dual syringe (Base 9g, Catalyst 4.5g)
- 1 Spatula
- 1 Mixing Plate
- 1 Direction for use
- Dimension: 80 × 200 × 43 (mm)
- 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.
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\textsuperscript{2+})
- Easier filing with lubricating action
- Produces the cleanest canal wall after smear layer removal

Components:
- 2 MD-ChelCream 5.4 mL syringe
- 10 pre-bent disposable plastic 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
- 1 100mL bottle
- 1 1cc syringe
- 2 pre-bent disposable plastic 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 or Pink 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 Plastic Tips

- Safe and easy to use
- Prevents cross contamination
- Quantity: 100pcs/bag
- Reorder Tips for: Metapaste, Metapex, ChelCream, and Cleanser Syringes.

Handheld X-Ray Film Viewer

Advantages:
- Easy to operate and handle
- Compact and handy
- Battery operated for mobility
- Electro luminescent light source emits light without heat
- Body design is suitable for either hand
- Allows the patient to view the film during consultation
- The plastic magnifier that covers the view area enhances the image clearness of the film and you can see more details.

Specification:
- Lighting: Cold Cathode Fluorescent Light Lamp
- Voltage: 3 AAA alkaline batteries (4.5 VDC, 90mA)
- Viewing Area: 37 x 42mm
- Product Size: 150 x 54 x 20 (mm)
- Box Size: 160 x 60 x 25 (mm)
- Weight: 150g

Note: Batteries not included.