Instructions

ACORN
NANO-MICRO HYBRID
VISIBLE LIGHT-CURED COMPOSITE RESTORATIVE
AND DENTIN/ENAMEL ONE STEP LIGHT-CURED BONDING AGENT

SUITABLE FOR
Class I, II, III, IV and V restorations. Fabrication of extraoral tempered inlays and onlays
by direct or indirect method. Fabrication of extraoral tempered custom made veneers

CONTAINS

Syringe Operatory Kit
Shade A-1  4.5 g
Shade B-2  4.5 g
Shade A-2  4.5 g
Shade A-3  4.5 g
Shade A-4  4.5 g
Shade B-3  4.5 g
Shade C-2  4.5 g
Shade D-3  4.5 g
Z-Bond Bonding Agent  7 cc
Enamel Conditioner  12 g
Accessories and Instructions

Single Dose Capsules Kit
Shade A-1  10x.25 g
Shade B-2  10x.25 g
Shade A-2  10x.25 g
Shade A-3  10x.25 g
Shade A-4  10x.25 g
Shade B-3  10x.25 g
Shade C-2  10x.25 g
Shade D-3  10x.25 g
Z-Bond Bonding Agent  7 cc
Enamel Conditioner  12 g
Accessories and Instructions

THE FOLLOWING ACORN SHADES AVAILABLE SEPARATELY

Acorn Shade B-1
Acorn Shade C-3
Acorn Incisal

DENT ZAR, INC.

Dent Zar, Inc.
19643 Trull Brook Dr.
Tarzana, CA 91356
U.S.A.
Head Office
800-444-1241, or
818-857-3010
Fax: 818-857-3013

24-28 St Leonards Road #82
Windsor, Berkshire SL4 3BB
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0-800-960-750
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0-800-234-0732

125 A 1030 Denman St #304
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Suite V15, 9 Crofts Avenue
Suit 260, 453a Mt Eden Road
Sydney
Auckland 1024
Australia
New Zealand
1-800-152-583, or
0-800-449-892, or
1-800-105-486
1-800-442-535

E-mail: dentzar@yahoo.com.
OUTSTANDING FEATURES OF THE MATERIAL

- A highly polishable, photocuring, nano-micro hybrid composite for anterior and posterior restorations.
- High nano-micro hybrid filler content contributes to low shrinkage, low water sorption, low coefficient of thermal expansion and good wear and scratch resistance.
- The total filler load is 71%. The total filler volume is 56.51%.
- Excellent x-ray opacity for future diagnosis
- Superior esthetics due to a well-balanced opacity, and availability of multiple shades.
- Outstanding color stability.
- Excellent marginal integrity.
- The shelf life is 3 years when stored at 23°C (74° F). Cool storage prolongs shelf life.
- Does not stick to the end of the insertion instrument.
- Light-cure hydrophilic, one step, Dentin/Enamel bonding agent is supplied in the kit in order to provide optimal marginal seal.

PROPERTIES OF THE MATERIAL

Acorn is a light-cure, nano-micro hybrid which is based on BIS-GMA resin and inorganic filler particles of 0.007-0.70 microns.

The total filler load is 71%. The total filler volume is 56.51%.

PHYSICAL DATA

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Depth of cure</td>
<td>2.6 mm</td>
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<tr>
<td>Flexural strength</td>
<td>126 MPa</td>
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<tr>
<td>Diametral tensile strength</td>
<td>59 Mpa</td>
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<tr>
<td>Compressive strength</td>
<td>290 Mpa</td>
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<tr>
<td>Shrinkage stress</td>
<td>1.7 Mpa</td>
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<tr>
<td>Volumetric shrinkage</td>
<td>2.3%</td>
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<tr>
<td>Biocompatibility</td>
<td>Excellent</td>
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<tr>
<td>Visual opacity</td>
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<tr>
<td>Water sorption</td>
<td>15 mg/µm³</td>
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<tr>
<td>Water solubility</td>
<td>0.2 mg/µm³</td>
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<tr>
<td>Radiopacity</td>
<td>Strong</td>
</tr>
<tr>
<td>Polishability</td>
<td>High gloss</td>
</tr>
</tbody>
</table>

CURING OF ACORN COMPOSITE

Acorn cures to the depth of 2.90 mm. To minimize the effects of polymerization shrinkage, curing in layers is recommended especially, if the restoration is more than 2.5 mm deep.

ADDITIONAL NOTES

- Do not use any resin to adjust viscosity of composite restorative material.
- Do not store the composite material in proximity to eugenol containing products, nor let the composite come into contact with materials containing eugenol. Eugenol can impair the hardening of the composite and cause discoloration.
- Contact of resin pastes with skin should be avoided, especially by anyone known to have resin allergies.
CLINICAL PROCEDURES

CAVITY PREPARATION

Tooth should be cleaned with non-fluoridated prophy-paste.
Shade selection should take place when teeth are still wet, thus having their natural appearance.

Anterior
Class III, IV and V adhesive should be done with enamel margin beveling.

Posterior
Protect adjacent teeth by wedging with wooden wedges for initial treatment.
Use a tooth conserving preparation. For a secondary treatment remove all old restorations completely.
Isolation
Rubber dam is recommended.
Base lining
Only with deep preparations adjacent to the pulp, a thin layer of Calcium Hydroxide should be placed.
With very deep and extended cavities a build-up of a base lining with glass-ionomer cement is recommended.
Matrix, wedges
Remove wooden wedges and protect adjacent teeth with a matrix band. In distal, place a translucent matrix band and wedge with wooden or light-reflecting wedges.

ACID ETCHING

Enamel
Etch the enamel surrounding the cavity with etchant. Rinse and dry. Or, skip etching and use Dent Zar’s Z-Bond-one step light cure self-etching dentin/enamel bonding agent. Etching is necessary on uncut enamel. (See Z-Bond-one step light-cure self-etching dentin/enamel bonding agent instructions.)
Wash and dry. Place restorative material with a tapping movement and cure.

Dentin
No treatment is needed if using Dent Zar’s Z-Bond-one step light-cure self-etching dentin/enamel bonding agent.

APPLICATION OF THE Z-BOND BONDING AGENT

Please see Z-Bond instructions.

BUILD-UP OF THE RESTORATION WITH ACORN

Due to polymerization shrinkage of composites, all composite restorations must be built up in the layering technique. Due to oxygen inhibition a thin, unpolymerized layer remains on the surface, which is called the dispersion layer. This layer is mandatory for the bond of individual layers and may not be destroyed by touching or influence of moisture.

Anterior
Place Acorn into the cavity and adapt to the cavity walls.
For the convenience of handling, the use of the teflon instruments for placing the restorative into the cavity is recommended.
Place the restorative using short tapping strokes. Avoid spatulating.

Posterior
Initially place the gingiva proximal restoration parts in layers (max 2.5 mm).
Thereafter, complete the occlusal aspects. Again polymerize each layer separately. When lumen wedges are used, irradiation takes place initially from the side through the lumen wedges after the interproximal step is adapted.
HELPFUL HINTS

TRIMMING, FINISHING AND POLISHING
For trimming remove matrix band and wedges. Contour of the restoration and the removal of excessive material is done with fine and superfine diamond burs. Flexible discs, polishing strips or silicone polishers together with composite polishing pastes are used for polishing. High gloss surfaces comparable to microfill composites are attainable with Acorn.

FLUORIDATION
It is recommended to complete a restorative measure with fluoridation of the treated area.

INLAY/ONLAY TECHNIQUE
It is mandatory to read the comprehensive instructions on the inlay technique prior to beginning. The build-up of an inlay restoration with the direct method starts after the isolation of the cavity; with the indirect method, after the isolation of the plaster model with Insulating-Gel; the above-mentioned layering technique must be followed in both cases. The in-mouth pre-cured inlay restoration is removed from the cavity with an Inlay pin and tempered in a Translux Lightbox, a Dentacolor XS or a Unilux AC unit. Inlays are luted with adhesive cement.

STORAGE
The shelf life is 2 years when stored at 23°C (74°F). Cool storage prolongs shelf life. Keep syringes tightly capped between uses.

All kit components, accessories and auxiliaries are available separately.

Revision #2. Revised on 1-5-15
ACORN NANO-MICRO HYBRID VISIBLE LIGHT-CURED COMPOSITE RESTORATIVE

SECTION 1—IDENTIFICATION
Chemical Name: Bisphenol A Diglycidyl Methacrylate (CAS #001565-94-0), Triethylene Glycol Dimethacrylate (CAS #109-16-0) Sodium Fluoride (CAS #7681-49-4) in inorganic filler (CAS #65997-18-4)
Trade Name: Acorn-Nano-Micro Hybrid Visible Light-Cured Composite Restorative.

Dent Zar, Inc.
19643 Trull Brook Drive
Tarzana, CA 91356 Phone: (800) 444-1241, Outside U.S.-818-857-3010, Fax: (818-857-3010)

SECTION II—HAZARDOUS INGREDIENTS
Bisphenol A Diglycidyl Methacrylate and Triethylene Glycol Dimethacrylate.
TLV: Not available.

SECTION III—PHYSICAL DATA
Boiling Point: N/A
Solubility in Water: Negligible
Vapor Pressure: (mm Hg): N/A
Specific Gravity: N/A
Vapor Density (Air=1): N/A
Evaporation Rate: N/A
Percentage Volatile by Volume: N/A
Appearance and Odor: Thick paste in various shades with faint resin odor.

SECTION IV—FIRE & EXPLOSION HAZARD DATA
Flash Point: 240°F
Extinguishing Media: Foam, carbon dioxide or dry chemical
Unusual Fire and Explosion Hazards: None

SECTION V—REACTION DATA
Stability: Stable
Conditions to Avoid: High Temperature, prolonged storage above 35°C, Direct Sunlight, High Intensity Light.
Incompatibility: Strong Acid, Peroxides and other oxidizing agent.
Hazardous Decomposition Products: Carbon Monoxide and Carbon Dioxide, low molecular weight Hydrocarbons and organic acids.
Hazardous Polymerization: May Occur
Conditions to Avoid: Light, open flames, contamination, and prolonged storage above 35° (100°F.)

SECTION VI—HEALTH HAZARD DATA
Skin, Effects of Overexposure: May cause irritation
Skin, First Aid Procedures: Wash with soap and water. If irritation persists, get medical attention.
Eyes, Effects of Overexposure: May cause irritation. Flush promptly with large amount of water for 15 minutes and get medical attention.
Inhalation, Effects of Overexposure: A very large amount of uncured material can cause dyspepsia, nausea and vertigo.
Ingestion, First Aid Procedures: Consult a physician promptly.

SECTION VII—SPILL OR LEAK PROCEDURES
Steps to be taken in case material is released or spilled: Absorb with inert materials such as dry sand and place in closed container as solid waste.
Waste Disposal Method: This disposal method is a recommendation only. Be sure to dispose of materials in full accordance with all local, state and federal regulations applicable.

SECTION VIII—SPECIAL PROTECTION
Respiratory Protection, Ventilation, Protective Gloves, Eye Protection, and other protective equipment: Not required under normal condition of use.

SECTION IX—SPECIAL PRECAUTIONS
Precaution to be taken in Handling and Storing: Keep materials capped at all times after use. Store at room temperature.
Other precautions: We recommend obtaining a copy of the “Director of Poison Control Centers.” To obtain a copy write to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.

The information contained herein is believed to be accurate and is offered in good faith for the user’s consideration and investigation. No warranty either expressed or implied is made for the completeness or accuracy of this information.