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**DENTSPLY**  
TRUBYTE

# Biolon<sup>®</sup>

## Crown & Bridge Resin

### Directions For Use

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## DIRECTIONS FOR USE

### Indications for Use:

BIOLON Crown and Bridge Resin is indicated for veneering metal castings in final crown or bridge restorations and for fabrication of provisional crowns and bridges.

### Contraindications:

1. BIOLON Crown and Bridge Resin is contraindicated for patients and users with a history of allergic reaction to methyl methacrylate monomer.

### Warnings:

1. BIOLON Crown and Bridge Resin contains polymerizable monomers which may cause skin sensitization (allergic contact dermatitis) or other allergic reactions in susceptible persons. Wash thoroughly with soap and water after contact. If skin sensitization occurs, discontinue use. If dermatitis or other symptoms persist, seek medical advice.
2. Avoid inhalation or ingestion. High-vapor concentration can induce headache, nausea, and irritation of eyes and respiratory system. Liquid contact with eyes may cause possible corneal damage. Excessive long-term exposure may be associated with other more serious health effects. Monitor air quality per OSHA standards.

**Inhalation:** Move subject to fresh air. Give oxygen or artificial respiration as required.

**Ingestion:** Contact your regional Poison Control Center immediately.

**Eye Contact:** Flush eyes promptly with copious amounts of water for 15 minutes, and consult a physician. Wash skin with soap and water.

3. DENTSPLY® Gold Plating Solution contains potassium cyanide which inhibits cellular respiration and if ingested, may ultimately cause convulsions and death.
4. Inhalation and ingestion of DENTSPLY Gold Plating Solution may cause irritation of eyes, skin, and respiratory tract.

**Inhalation:** Move subject to fresh air. Inhale amyl nitrite. Administer artificial respiration as necessary.

**Ingestion:** Rinse mouth, drink plenty of water, inhale amyl nitrite, and get medical attention immediately.

**Eye Contact:** Flush eyes promptly with copious amounts of water for 15 minutes, and consult a physician.

**Skin Contact:** Remove clothing, rinse skin with plenty of water and contact a physician.

5. Biolon Liquid Opaquer and Opaquer Solvent contain a flammable liquid.

Harmful by inhalation, in contact with the skin and if swallowed.

Keep container in a well ventilated place.

Avoid contact with eyes.

In case of fire and/or explosion do not breath fumes.

### Precautions:

1. Users with special skin problems, cuts, or abrasions should wear protective gloves.
2. When grinding prosthodontic resins, proper ventilation, masks, and vacuum systems should be used.
3. Store at 60°-80°F, away from moisture and direct sunlight. The liquid contains unsaturated monomers which may polymerize prematurely if stored at excessively high temperature and/or in sunlight. The powder contains an organic polymerization initiator which may degrade if stored at excessively high temperature.
4. BIOLON Liquid and BIOLON Crown and Bridge Resin (uncured) are hazardous materials. Dispose of in accordance with Federal, State, and local regulations.
5. BIOLON Liquid contains methyl methacrylate monomer, a flammable liquid with a flash point of 50°F (10°C). Keep away from heat, sparks, and open flame.
6. Use in well-ventilated area. Replace cap when not in use.
7. Gold-plated alloy must be used to provide uniform color to the casting and to prevent oxidation of the metal under the veneer.

### Adverse Reactions:

1. Ingestion of DENTSPLY Gold Plating Solution may cause convulsions and death. (See Warnings statement.)
2. Corneal damage, headache, nausea, and vomiting may occur with exposure to methyl methacrylate monomer. (See Warnings and Precautions statements.)
3. Allergic contact dermatitis and other allergic reactions may occur in susceptible individuals. Residual monomer in fully-cured materials can be minimized by soaking the cured prosthesis in warm water for several days.
4. Particulates will be generated when grinding acrylic resins. Eye, skin and respiratory irritation may occur if appropriated engineering controls are not used.

In past years there have been significant improvements in crown and bridge resins. Through modern chemical technology, manufacturers have improved cross-linking, internal pigmentation, fluorescence and physical properties, with emphasis on wear resistance. BIOLON Crown and Bridge Resin is a product of that technology.

BIOLON Crown and Bridge Resin is a composite of a chemically treated alumino-silicate glass, combined with several copolymers and tripolymers of methyl methacrylate.

BIOLON Crown and Bridge Resin has been improved above and beyond basic requirements. Excellence has been stressed in the logical areas of abrasion resistance, high-impact strength, opalescence, pigmentation, and in developing a non-porous, non-brittle resin.

### Associated Products

- A. Gold Plating Solution
- B. Liquid Opaquer
- C. AL-COTE® Separating Agent

### Preblended Shades

BIOLON Crown and Bridge Resin is preshaded to harmonize with BIOFORM® shades.

### Liquid

BIOLON Liquid must be used to achieve optimum results.

### BIOLON Liquid Opaquers

O1 for shades B53, B54

O3 for shades B51, B52, B55, B59, B62, B66

O4 for shades B64, B65, B91

O5 for shades B56, B92 thru B96

O6 for shades B67, B69

O7 for shades B68, B70, B77, B81, B82

The O8 may be used to mask all incisal tips.

Two additional opaquer shades are available for special effects: ceramic pink for masking thin areas and blue-black for simulating depth in interproximals and translucent incisals.

Body shades may be modified by mixing ceramic pink, blue-black or incisals.

### Solvent

Solvent for liquid opaquer should be used to clean the brush and thin the opaquer when necessary.

## STEP-BY-STEP INSTRUCTIONS

### Preparation of Metal Framework

1. A wax pattern is carved with deliberate contouring to create mechanical retention.
2. Invest a cast-metal frame per alloy directions for use.
3. After cooling, air abrade casting to remove all investment.
4. Do all grinding with DENTSPLY FASKUT® Wheels, followed by a complete rinsing of the casting in full-force tap water. Brush vigorously to ensure removal of all debris.
5. It is necessary that the alloy be gold plated. The two primary reasons are:

- a) To provide a uniform color to the casting.
- b) To prevent subsequent oxidation of the metal under the veneer.

Pour a sufficient amount of DENTSPLY Gold Plating Solution in a porcelain casserole and heat over a Bunsen burner until steam begins to rise. Place the casting or castings in the casserole, and use the zinc rod supplied with the plating solution to complete the circuit. Hold the zinc strip in contact with the metal surface to be plated. Plating usually requires between 1 and 2 minutes.

### CAUTION

DENTSPLY Gold Plating Solution contains potassium cyanide; normal precautions should be observed. Use only in a well-ventilated area.

6. Rinse the plated metal framework thoroughly in tap water.
7. Following the gold plating procedure and rinsing in tap water, submerge the casting in a beaker containing 91% or 99% isopropyl alcohol. A 30 second immersion time is sufficient to act as a metal cleaner and degreaser. If 91% or 99% isopropyl alcohol is not available, acetone may be substituted.
8. Remove the casting from the isopropyl alcohol and place on a napkin to dry.
9. Select the desired shade system.

## Application of Liquid Opaquer

1. Apply proper liquid opaquer over surface from the gingival to the incisal 1/4.
2. Apply the liquid opaquer O8 to the incisal 1/4. Allow the opaque to air dry for 10 minutes. Do not place under heat lamp, in oven, or under heat blower to hasten drying.
3. Apply the ceramic pink to any extremely thin areas on the gingival.
4. To accentuate the appearance of depth in the interproximal spaces, paint the blue-black in those areas to give the illusion of tooth individuality.
5. To give the illusion of a translucent tip on veneers, use the blue-black on the incisal 1/4 rather than the regular incisal shade.
6. Position the crown on the die and begin labial wax-up. It is important that the anatomical contours are in harmony with the adjacent teeth.

## Build-Up Technique

- Place 1 scoop BIOLON Crown and Bridge Resin in well of mixing tray. In second well add 1/2 scoop of proper incisal. Have 2 wells with BIOLON Liquid available. Apply DENTSPLY AL-COTE® Separating Agent (tinfoil replacement) wherever BIOLON Crown and Bridge Resin will contact gypsum. Where pontics are involved, cover ridge area.
- Build-up the unit on or off the model. Should you prefer not to submerge master model in curing unit, duplicate entire model or only that portion involved.
  - Single unit** castings may be built-up while off the model, holding with tweezers or other suitable instrument (over-build contact area).
  - Bridges** with pontics should be built-up while on the model. When BIOLON Crown and Bridge Resin has melded sufficiently to resist distortion (approximately 5 minutes), the bridge should be carefully removed for curing.
  - Jacket crowns** entirely of BIOLON Crown and Bridge Resin. Apply AL-COTE Separating Agent to duplicate die and opaque if necessary. Blend and build crown to contour. Cure on duplicate model if necessary.
- Moisten a brush with the liquid. Pick up a bead of body shade powder and deposit it on the opaqued casting. Do not use excess liquid or wait between applications. Repeat this operation until the proper contour of the body portion has been obtained. (See Fig. 1)

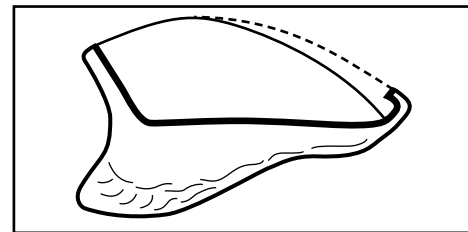


Figure 1

- Depress incisal and moisten a brush with liquid. Pick up a bead of incisal powder and add to body shade as shown (See Fig. 2). Blend incisal shade back over body shade, blending out to approximately the incisal third.

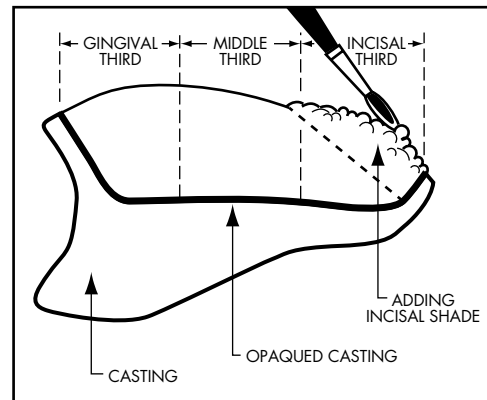


Figure 2

- Immediately place blended appliance on a sagger and submerge in room-temperature water (approximately 70°F/21°C) in Curing Cup. The resin should be entirely covered by water. To cure several at one time, restorations may remain submerged in the cup for 30 minutes before curing.
- Place Curing Cup containing submerged appliance in processing unit\* that has been filled with water to 1 1/2" above bottom or bottom rack and has reached 194°F (90°C). Lock lid in position, pressurize to 30 psi, and set a timer for 30 minutes.
- After curing, remove lid only after complete pressure release (pressure gauge at "O" and vent stops hissing).
- Use cup hook to remove Curing Cup from unit. Run tap water into cup until casting becomes sufficiently cool to handle. Appliance can then be removed.

\*Preferably a thermostatically controlled pressure pot rated for 30 psi.

## Compression Molding Technique A

- Apply AL-COTE Separating Agent to the surface of gypsum mold in lower half of flask (optional).
- For each unit, measure 1 scoop of BIOLON body powder and incisal powder into separate wells in a mixing tray. Using the BIOLON dropper, add 5 drops of liquid to the **body shade only** and stir briefly to wet all particles. Protect with glass cover. A soft packing consistency is reached in 4 to 7 minutes depending on temperature.
- Fill the mold with body dough. Replace top half of flask using moist cellophane and close slowly. **DO NOT USE POLYETHYLENE AS A SEPARATING FILM.**
- Allow material to toughen in flask enough to permit shaping without being rubbery; press back body at 45° angle beginning at the incisal edge utilizing a small spatula. Round mesial and distal corners. (See Fig. 3) **CAUTION:** Do not expose underlying opaquer.
- Moisten a #1 brush with liquid. Pick up a bead of incisal powder and add to the displaced portion of the body shade (See Fig. 5) or, if desired, make a mix of incisal and apply immediately over same area.
- Again cover with a sheet of moistened cellophane and slowly press to blend the incisal. Remove the top and check the blend. Blend may be modified if required, i.e., add more incisal, etc; then trial pack. Upper half of flask should be covered with AL-COTE Separating Agent again and allowed to dry. When AL-COTE Separating Agent is dry, remove cellophane.
- Place flask in clamp and submerge in water at 163°F (73°C) for 30 minutes. Transfer to boiling water for an additional 30 minutes.
- Cool, deflask, and finish.

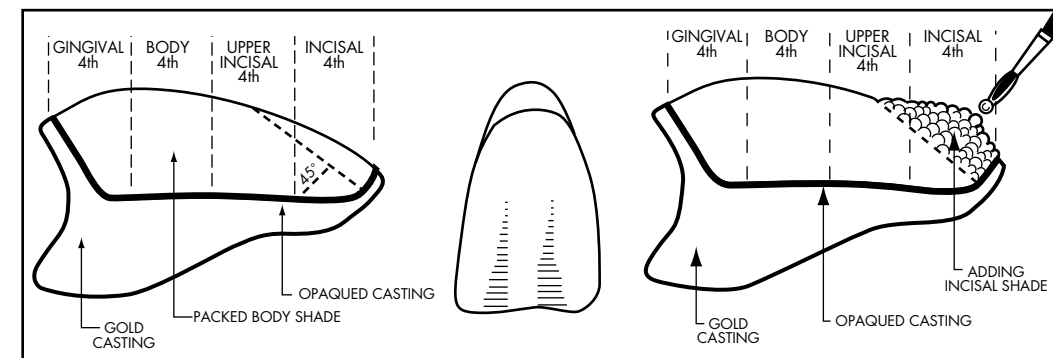


Figure 3

Figure 4

Figure 5

## Compression Molding Technique B

- Apply AL-COTE Separating Agent to the surface of gypsum mold in lower half of flask (optional).
- For each unit, measure 1 scoop of BIOLON body powder and incisal powder into separate wells in a mixing tray. Using the BIOLON dropper, add 5 drops of liquid to the body shade only and stir briefly to wet all particles. Protect with glass cover. A soft packing consistency is reached in 4 to 7 minutes depending on temperature.
- Fill the mold with body dough. Replace top half of flask using moist cellophane and close slowly. **DO NOT USE POLYETHYLENE AS A SEPARATING FILM.** Place closed flask in clamp and submerge in boiling water for 15 minutes. Remove flask and cool under tap water.
- When at comfortable temperature, grind incisal area at 45° angle (#703 fissure bur), rounding mesial and distal corners. (See Fig. 3) **CAUTION:** Do not expose underlying opaquer.
- Moisten a #1 brush with liquid. Pick up a bead of incisal powder and add to the pre-cured body shade (See Fig. 5) or, if desired, make a mix of incisal and apply immediately over same area. Cover with moist cellophane and trial pack several times. **It is important to remove excess incisal from body portion.**
- Coat upper half of flask with AL-COTE Separating Agent and allow to dry. When AL-COTE Separating Agent is dry, remove cellophane.
- Place flask in clamp and submerge in water at 163°F (73°C) for 30 minutes. Transfer to boiling water for an additional 30 minutes.
- Cool, deflask, and finish.

**Shade Recommendations For**

# **Biolon<sup>®</sup>** Crown & Bridge Resin

**BIOFORM<sup>®</sup>**  
Shade Recommendations For  
Biolon Crown & Bridge Resin

Biolon		Biolon Liquid Opaquer	Biolon		Biolon Liquid Opaquer
Body	Incisal		Body	Incisal	
<b>B-59</b>	<b>I-1</b>	<b>0-3</b>	<b>B-51</b>	<b>I-3</b>	<b>0-3</b>
<b>B-62</b>	<b>I-1</b>	<b>0-3</b>	<b>B-52</b>	<b>I-3</b>	<b>0-3</b>
<b>B-64</b>	<b>I-1</b>	<b>0-4</b>	<b>B-53</b>	<b>I-3</b>	<b>0-1</b>
<b>B-65</b>	<b>I-1</b>	<b>0-4</b>	<b>B-54</b>	<b>I-3</b>	<b>0-1</b>
<b>B-66</b>	<b>I-1</b>	<b>0-3</b>	<b>B-55</b>	<b>I-3</b>	<b>0-3</b>
<b>B-67</b>	<b>I-2</b>	<b>0-6</b>	<b>B-56</b>	<b>I-3</b>	<b>0-5</b>
<b>B-68</b>	<b>I-2</b>	<b>0-7</b>	<b>B-91</b>	<b>I-3</b>	<b>0-4</b>
<b>B-69</b>	<b>I-2</b>	<b>0-6</b>	<b>B-92</b>	<b>I-3</b>	<b>0-5</b>
<b>B-70</b>	<b>I-2</b>	<b>0-7</b>	<b>B-93</b>	<b>I-3</b>	<b>0-5</b>
<b>B-77</b>	<b>I-2</b>	<b>0-7</b>	<b>B-94</b>	<b>I-3</b>	<b>0-5</b>
<b>B-81</b>	<b>I-2</b>	<b>0-7</b>	<b>B-95</b>	<b>I-3</b>	<b>0-5</b>
<b>B-82</b>	<b>I-2</b>	<b>0-7</b>	<b>B-96</b>	<b>I-3</b>	<b>0-5</b>
			<b>For Special Effects</b>		<b>Ceramic Pink Blue - Black</b>

OPAQUER - Biolon Liquid Opaquer should be used to mask C/B metals. Both gold and C/B white metal should be flash plated with DENTSPLY<sup>®</sup> Gold Plating Solution prior to opaquing. The incisal shade (0-8) can be used to mask all incisal tips. However, incisal opaquer is usually not required for Biolon Shade series B-51 and B-91.