



Manufactured in U.S.A. by:

SCI-PHARM



Flowable (Paint-On)
Restorative/Cement,
Light-Cured

TECHNICAL BULLETIN Instructions



A Flowable (Paint-On) Visible Light-Cure Resin-Based Dental Restorative and Veneer Cement

Recommended for restoring eroded, damaged, discolored, and structurally deficient tooth enamel, acrylic veneers and minor defects in porcelain veneers and for cementing fabricated laminate veneers.

Kit Contains:

- 15g of Restorative/Cement (five 3g syringes in four shades and one opaquer)
- Enamel Conditioner, 13cc
- Porcelain Conditioner, 6cc
- Accessories & Instructions

CuRAY-Match® is also available in 1.2g applicator syringes, allowing for convenient placement of the material directly on the tooth through a 20 gauge disposable tip. Five disposable tips are included with each syringe.



OUTSTANDING FEATURES OF THE MATERIAL

- Equally efficient as a multi-purpose restorative and veneer cement.
- High adhesive strength to etched enamel without the use of bonding agents.
- Superior esthetics due to well balanced opacity and light reflectance.
- Excellent color stability.
- Reduced oxygen inhibited layer contributes to the ease of finishing.
- Fast application - one component restorative system.
- Excellent flow characteristics.
- May be cured with any dental curing instrument operating in the visible wavelength range.

CuRAY-MATCH®: A CONTRIBUTION TO CONSERVATIVE ESTHETICS-ORIENTED DENTISTRY

Flowable dental restoratives represent a relatively new kind of dental material that is rapidly gaining acceptance among dental clinicians and patients. Flowable restoratives have, unquestionably, expanded the scope of techniques available to dental practitioners. They frequently offer a conservative alternative to more costly prosthodontic solutions which are often objectionable to the patient.

Sci-Pharm's *CuRAY-Match*® represents important and decisive progress in the methods and techniques of correcting superficial enamel defects. Its well-balanced optical properties, shade selection and availability of opaquer (for covering heavy discoloration) permit achievement of esthetically pleasing results. As a one-component system, *CuRAY-Match*® offers chair time savings and perfect reproducibility of shades and consistencies, which is virtually impossible to achieve with self-cured systems. Because mixing of two components is eliminated, the material is virtually free of air bubbles and, therefore, is easier to polish, has improved wear resistance and is less susceptible to staining. Also, the soft oxygen-inhibited surface layer, so characteristic of semi-fluid restoratives and sealants, is almost non-existent in cured *CuRAY-Match*® coatings. This facilitates the clinician's work, permitting better control of the thickness

Continued on page 2

CAUTION

Federal law restricts this device to sale
by or on the order of a dentist.

of the coating and significantly reducing the time needed for finishing. When used in conjunction with Sci-Pharm's *CuRAY® Dentin/Enamel Bonding Agent* (Cat. No. 50-120), *CuRAY-Match®* offers a more conservative, fast, durable and esthetically pleasing solution to restoring shallow Class V cavities with minimum or no cavity preparation.

CuRAY-Match® also offers an excellent solution for cementing prefabricated laminate veneers made of acrylic resins (filled or unfilled) or porcelain. When bonding porcelain veneers, the porcelain primer (included in the kit) contributes to improving bonding strength. The one component light-cured system of *CuRAY-Match®*, with its unlimited working time and semi-fluid consistency, makes the cementing procedure fast, convenient and reliable.

INSTRUCTIONS FOR USE

RESTORATION OF DEFICIENT ENAMEL

1. Prepare the surfaces of the teeth by prophylaxis, using a non-fluoride prophylaxis paste. Wash and dry. Apply enamel conditioner with a cotton pledget, mini sponge, brush, or other kind of applicator to the enamel area to be restored.

CAUTION: Avoid contact with soft tissue or exposed dentin. If accidental spill occurs, wash immediately.

2. Wait 60 seconds. Wash the tooth (teeth) and evacuate. Dry with oil-free air or with any commercial dental drying agent. Properly conditioned (etched) teeth should have a dull, chalky-white appearance. Highly mineralized teeth may require an additional one to two-minute etching to achieve this effect.
3. Isolate the tooth (teeth) to be restored. Select the desired shade of the restorative and dispense onto a mixing pad.
4. Using a disposable brush or a disposable tip, apply a thin, smooth layer over the etched, dry enamel and cure for a minimum of 20 seconds*, holding the tip of the light no farther than 2mm from the tooth surface.
5. Wait two minutes before finishing. Use finishing tools as for composite materials, preferably Shofu Brand abrasives for composites. For achieving the best final polish, use Sci-Pharm *Luster®* (Cat. No. 50-05) polishing paste.

APPLICATIONS INVOLVING HEAVILY DISCOLORED TEETH

On heavily discolored teeth (for example, in cases involving discoloration caused by radiological treatment, tetracycline stains, fluorosis, etc.), the application of an opaque, masking layer is recommended. A universal shade opaquer is enclosed in the *CuRAY-Match®* kit. If very precise shade matching is desired, other opaque shades are available (see page 4) or *CuRAY-Mask®* (Cat. No. 50-40), a kit containing five opaques, is available from Scientific Pharmaceuticals. In such cases, the restorative procedure is modified as follows:

After cleaning and etching as described in points 1 and 2 above, a thin layer of the opaquer is painted on as an underlayer and cured for 20 seconds, followed by the application of the final coating. The final coating should be applied over the opaquing layer immediately after the cure of the latter. For best adhesion, the opaquing layer should be left unfinished or its surface should be roughened.

RESTORATION OF SHALLOW CLASS V CAVITIES

1. Prepare the cavity in a conservative manner removing minimum tooth structure. Bevel the enamel adjacent to the exposed dentin.
2. Condition the dentin and adjacent enamel following the instructions included with *CuRAY® Dentin/Enamel Bonding System kit* (Cat. No. 50-120).
3. Fill the cavity and finish the restoration as described in points 3-5 of the instructions for restoration of deficient enamel (above).

*actual depth of cure depends on curing time, intensity output of the instrument and the shade of the restorative (darker shades cure to lesser depths).

RESTORATION OF ACRYLIC VENEERS

1. Roughen the surface to be restored. Wash away the debris and dry with oil-free air.
2. If a relatively large area of metal base of the cast restoration is exposed, cover it with a thin layer of *CuRAY-PriMet®* (a metal primer, Cat. No. 70-10, available from Scientific Pharmaceuticals). Wait 45 seconds and cure with curing light for 10 seconds.
3. Proceed as outlined in points 3-5 of the instructions for restoration of deficient enamel (previous page).

RESTORATION OF PORCELAIN VENEERS

1. Roughen the porcelain to be restored with a diamond bur. If gold or non-precious alloy is exposed, extend the restoration over a relatively large area of porcelain, ground down to a feather edge around the chipped area. Wash away the debris and dry with oil-free air or a dental drying agent.
2. Using a disposable brush, apply a thin layer of Porcelain Conditioner to the prepared porcelain and wait two minutes. Dry with a gentle stream of oil-free air. In cases where a relatively large area of the metal base of the cast restoration is exposed, the use of *CuRAY-PriMet®* instead of Porcelain Conditioner is recommended. A thin layer of *CuRAY-PriMet®* should be applied over the roughened metal and margins as described above for the Restoration of Acrylic Veneers.
3. Proceed as outlined in points 3-5 of the instructions for restoration of deficient enamel (see above).

CEMENTING OF FABRICATED LAMINATE VENEERS**Appointment 1**

1. Select the shade for the veneer.
2. Place gingival deflection cord on facial areas of teeth.
3. Decide on amount of enamel to be removed.
4. Make an impression using any elastomer-type impression material or reversible hydrocolloid. Polyvinylsiloxane impressions are preferred because the refractory material may be cast directly into them. **Comment:** Temporary coverage of teeth is usually not needed. However, when used, do not use cements containing eugenol.

Appointment 2

1. Make any necessary correction in the veneer to assure good fit. Carefully wipe the surface of the veneer to be bonded with acetone, in order to remove oily impurities which can interfere with bonding.
2. Place deflection cords to block tissue fluids from oozing into gingival margins.
3. Prepare tooth surface by following steps 1 and 2 for restoration of deficient enamel.
4. In case of the use of a ceramic veneer, apply a thin layer of activated Porcelain Conditioner (see instructions for activation above) to the clean surface of the veneer and wait one minute. Blow dry.
5. Place mylar strips on both sides of the tooth. If the tooth is heavily discolored, mask the discoloration with a selected shade of opaquer. Follow instructions for placing and curing the opaquer. Apply a thin layer of the selected shade of *CuRAY-Match*® over the internal surface of the veneer.
6. Place the veneer on the tooth, adjust the position of the veneer and carefully remove the excess.
7. Cure for 30 seconds, placing the tip of the light directly over the veneer. Make sure the entire area of the veneer has been directly irradiated, as described in the instructions for restoration of deficient enamel (previous page).
8. Perform final trimming, cleaning and polishing, as necessary.

DISPENSING INSTRUCTIONS

The material in the *CuRAY-Match*® kit is packaged in syringes (3g) with snap off caps. Dispense the material by turning the screw clockwise. Slow turning is recommended in order to avoid waste. Remove the material at the tip of the syringe and turn back the screw (counterclockwise) in order to suck back the excess. Replace the cap.

STORAGE AND SHELF-LIFE

Store at temperatures not exceeding 75°F (24°C). When stored under such conditions, the material has a shelf-life of 2 years.

PROPERTIES OF CURED RESTORATIVE
Requirements of American Dental Association Revised Specification No. 27

PROPERTIES OF CURED RESTORATIVE Requirements of American Dental Association Revised Specification No. 27		
Test	ADA/ISO Requirement	<i>CuRAY-Match</i>® Test Results
Ambient Light Sensitivity	Material will show no signs of polymerization after exposure to 10000 lux light for 60 sec	Pass
Depth of Cure *	Not less than 1mm & no more than .5mm below the value stated by the manufacturer	above 2mm
Flexural Strength	S>N	S=59.6 MPa (8,640 PSI) N=47.5 MPa (6,900 PSI)
Water Sorption	Less than 50 micrograms/mm ³	29.0 micrograms/mm ³
Water Solubility	Less than 5 micrograms/mm ³	3.2 micrograms/mm ³
Shade	Match color standard	Not Applicable
Color Stability	1mm sample disk will show no more than slight discoloration after exposure to 5000 K color, 10000 lux light source	Virtually no discoloration
Compressive Strength	Not specified	267 MPa (38,700 PSI)
Tensile Strength	Not Specified	36.6 MPa (5,300 PSI)
* With Optilux 500 curing light (by Demetron) or equivalent, curing time 45 seconds		

Additional Technical Information Required by the ADA Revised Specification No. 27

1. Principal organic component of the resin base: Aromatic and aliphatic dimethacrylate resin blend
2. Particle Sizes of Inorganic Filler:
 - 100% below 10 microns
 - 50% below 2 microns
 - 25% below 1 micron
3. Volume % of Filler in the Restorative Material: 46%

CuRAY-MATCH® KIT COMPONENTS, AUXILIARIES AND ACCESSORIES

When reordering, refer to the following catalog numbers:

<u>CuRay-Match® Restorative Paste</u>	<u>Lumin Shade</u>	<u>Catalog No.</u>	
		<u>3g syringe</u>	<u>1.2 g syringe</u>
Universal	A2	50-201	50-211
Light	A1/B1	50-203	50-213
Light Brown	A3		50-210
Medium Brown	A3.5		50-212
Dark Brown	A4	50-209	50-219
Light Yellow	B2		50-217
Yellow	B3	50-204	50-214
Light Gray	C1		50-220
Medium Gray	C2		50-216
Gray/Brown	C3/D3	50-205	50-215
Dark Gray	C4	50-208	50-218
Gingival (Gum)			50-221
Incisal Edge			50-222
Yellow Opaquer			50-223
Universal Opaquer		50-202	50-224
Light Opaquer			50-225
<u>Auxiliaries and Accessories</u>			
Enamel Conditioner - Etching Agent		50-065	
Porcelain Conditioner		50-064	
Disposable Spatulas		30-10	
Disposable Brushes and Handle		30-30	

Quality Management System Certified to
ISO 9001 and ISO 13485

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