

## Universal Light and Chemically Curing Adhesive Cement

Designed for cementing inlays and onlays as well as for other clinical situations where bonding to the etched enamel and dentin is involved. Jen- Duacem is also recommended for fiber splints, screws, glass and carbon posts and veneers luting.

### ■ ■ OUTSTANDING FEATURES OF THE MATERIAL:

- Insoluble in oral fluids;
- Radiopaque and fluoride releasing;
- Thixotropic with high flowable possibility;
- Low film thickness (10 microns) and high filler content;
- Highest physical properties;
- Excellent adhesive properties to tooth tissue, metal and porcelain.

### ■ ■ INDICATIONS:

Jen-Duacem is the restorative material intended for wide range clinical luting procedures especially where light curing cannot adequately reach. It can be used as:

- Indirect and nonlight cure bonding agent
- The base for composite core fabrication
- Chemically cure luting composite for conventional cast restorations
- Luting material for bonded bridges (Maryland or Rochette type), screws, posts and splinting periodontically affected teeth.

### ■ ■ INSTRUCTIONS FOR USE:

Good moisture control is important throughout the cementation procedure to prevent contamination of both the prepared tooth surface and the setting cement. This can be achieved through the use of a rubber dam or tissue retraction cord and cotton rolls with evacuation.

1. Place approximately equal amount of Jen-Duacem Part A and Part B on a mixing pad.
2. Spatulate the two pastes together for approximately 20 seconds. Make certain that the blend is uniform.
3. If the material is allowed to harden with its self-cure mechanism only, the working time at 23 °C is approximately 120 seconds; it will fully cure in 6 to 8 minutes. When irradiated with dental curing light, the cement will achieve the initial hardness by irradiation for 20 - 30 seconds.
4. Apply a thin layer of ready-mixed material to the restoration and the cavity, and place the restoration in the cavity. Avoid excessive filling of the cavity or restoration.
5. Remove excess material with a suitable instrument. Avoid withdrawal the material from the gap. A small excess of material may be left in place, if required.
6. Cure the exposed areas of material with dental light. Working with all-porcelain or composite restorative materials, cure Jen-Duacem through the restoration for an adequate period of time.
7. To prevent the formation of an oxygen inhibition layer, the barrier gel (i.e. Jen-NoxyGel) may be applied to the cemented fissures once the excess material is removed, but before the material is polymerized.

### ■ ■ PREPARATION FOR BONDING:

#### A. Conventional Cast Restorations

8. Jen-Duacem works on well-fitting restorations, when its low film thickness represents a highly desirable feature. It is not recommended for cementing loose fitting restorations.
9. Microblasting of the internal surface of the casting with 25-micron aluminum oxide is recommended. This will help to create a clean surface with irregularities to provide additional retention. Residual aluminum oxide can be removed by using an ultrasonic cleaner or scrubbing with a clean toothbrush under running water. Disinfect casting and rinse thoroughly with water.
10. In order to assure best seal and retention, the preparation should be cleaned of all residues of temporary cement, especially in situations where zinc oxide/eugenol type cements have been used. The use of non-eugenol temporary cements ( i.e. Provi-Jen and Provi-Jen HD) is recommended.

#### a. Non-vital teeth:

Apply etching agent (i.e. Phospho-Jen AS) with a dabbing motion (CAUTION: contains o-phosphoric acid) to the prepared tooth surface for 20 seconds. Rinse and dry thoroughly with oil-free air. Apply one layer of dentin sealer or adhesive (i.e. Jen-Unibond or Jen-Desensial is recommended) over the enamel and exposed dentin in compliance with the manufacturer's guidance.

#### b. Vital teeth

Prepared tooth surface should be clean and dry. The «Total Etch» technique should be applied prior the sealing. Apply one layer of dentin sealer or adhesive over the enamel and exposed dentin (i.e. Jen-Unibond or Jen-Desensial is recommended) in compliance with the manufacturer's guidance. Apply a second layer in case of sensitive teeth or grossly reduced preparations in compliance with the manufacturer's guidance. Deep areas of the preparation may require application of calcium hydroxide liner. Remove excess of sealer or liner from the margins.

#### B. Maryland and Rochette Bridges

The abutment teeth must be cleaned with a pumice slurry that does not include oils or fluoride. The enamel and dentin surfaces to be bonded should be etched with the etching gel (i.e. Phospho-Jen AS) using a dabbing motion for 40 seconds. Rinse the teeth with copious amounts of water for a minimum of 60 seconds and then dry with clean, warm air.

CAUTION: It is important not to touch the etched surface of the Maryland Bridge restoration. The contaminated etched surface can be cleaned with chloroform or acetone.

### C. Clinical Procedure for Inlays and Onlays Preparation.

The «standard» inlay preparation should be rounded slightly and have butt margins. Feather edges or undercuts should be avoided. In onlays, 1,5-2mm occlusal reduction is required. The buccal and lingual sides should be made in a way to allow the porcelain to overlap a 2-3 mm rim of enamel, and finished in a chamfer margin. The gingivae walls should be kept away from the gingivae so that enamel is available at the gin- gival margins for etching and bonding. The pulp should be protected with a calcium hydroxide base prior to making the impression. Do not use the temporary cements containing eugenol.

### D. Prior to Cementing

The «Total Etch» technique should be applied to prepared surfaces prior the sealing. All exposed dentin and enamel areas should be sealed with appropriate dentin sealer or adhesive (i.e. Jen-Unibond or Jen-Desensial is recommended). If the ceramic restoration has not been silane- treated at the lab, apply a Silane followed by Hydrofluoric Acid gel (i.e. Jen-HDFA and Jen-Silane are recommended) according to appropriate silanization technique. This will enhance the bond between the restoration and the cement.

Verify the fit and anatomy of the model first, then check in the mouth. If proximal contacts are tight, do not force seating of the restoration. Adjust contact first using polishing discs. Minor occlusal adjustments should be corrected in the mouth after bonding. Because of low layer thickness, the selected shade of the cement will be virtually no influence on the shade of the restoration. If the tooth to be restored is heavily discolored, the lab should be instructed to apply an opaque coating. Minor discoloration may be masked by using UO (Universal Opaque) shade instead of Chameleon or regular shades.

### ■ ■ CEMENTING:

Apply a uniform layer of mixed cement to all surfaces to be bonded. Seat the restoration with a gentle pressure. Using a dental curing light irradiate the bonding area for 5 – 15 seconds while maintaining the pressure. The soft-cured material should facilitate to maintain the restoration in place, while allowing for easy removal of the excess. Hold restoration in place while trimming excess of cement. Use light unit or wait for 6 – 8 minutes to achieve the cement fully cured.

### ■ ■ FINISHING:

After the cement is cured, trim around the margin, check occlusion, and adjust with a fine grit diamond. The bonded restoration should be polished at spots where adjustments have been made. Use rubber points followed by Diamond Polishing Paste.

### ■ ■ WARRANTY

The manufacturer warrants the quality of manufactured products. The adverse events inflicted by violation of user manual, storage conditions and other events inflicted by non-stipulated usage of the material are not the subjects of warranty. The customer is responsible for determination of suitability of this product for user's application. Warranty conditions: the product does not comply with requirements declared by manufacturer. In this case the manufacturer replaces the defective material within warranty period.

### ■ ■ LIMITATION OF LIABILITY

The manufacturer's liability is limited by only cases stipulated by direct legislation of the country.

### ■ ■ RECYCLING

Dispose of the medical device in accordance with local / regional / national / international legal requirements.

### ■ ■ STORAGE:

Store at the temperature not exceeding +8°C. Protect from direct light. Shelf life is 2 years. DO NOT FREEZE.

### ■ ■ PRESENTATION:

Jen-DuaCem - 2 x 2 g (Part A and Part B). / Jen-DuaCem - 4 x 2 g (2 x Part A; 2 x Part B).

Shades: CHM (Chameleon).