

Fiber dental materials are specially glass ceramic fibers formed in ropes and tapes that can be attached to tooth tissues with the help of bonding systems used in your daily dental practice.

### THE MAIN ADVANTAGES:

- The fibers are reinforced with special glass ceramic
- They are silanized, contain unfilled adhesive resins that increase adhesion with bonding systems and flowable composite cements
- Provide high aesthetics
- They are flexible, durable, strong and wear-resistant
- They are easy to manipulate in mouth and in process of fixing prostheses in laboratory
- They do not require special scissors and do not need a use of special gloves for manipulations.
- The Young's modulus of the J-Fiber splinting system is comparable to that of most composite restorative materials. This factor contributes to a dramatic reinforcement of composite fiber structures, as opposed to systems with strongly Young's moduli that is crucial in cases of large chewing loads. In this regard, the J-Fiber glass ceramic fibers largely excel the existing plastic and glass fibers in strength and durability.
- The ceramic material absorbs very little water and prevents penetration of moisture into dental structure. When impregnated with adhesive it becomes colorless and can be easily masked by composite materials.

### FUNCTION:

Flexible enough to bend and almost invisible after coating with resin the ropes and tapes combine an ability to fine chemical bonding with ease of use and provide superior aesthetics and durability at implementation of the following clinical procedures:

- Periodontal splinting of anterior and lateral teeth
- Immediate replacement of lost or missing teeth
- Stabilization of reimplanted or damaged teeth
- Temporary reinforcement of bridges based on implants
- Postorthodontic retention
- Fabrication of temporary and long-term adhesion bridges

### APPLICATION:

To preserve the weaving integrity the ends of the fiberglass material are impregnated with a resin and polymerized by manufacturer.

To properly cut the material prior to use, follow these tips:

1. Place a small amount of adhesive (area with length of 3-4 mm) directly after a portion polymerized at the end.
2. Make light cure.
3. Cut the material by any sharp scissors straight on the hardened area. Now the end of the material will not rumple.
4. Measure the length of material required for this clinical procedure.
5. Place a small amount of adhesive (3-4 mm) onto the material in the place specified during the measuring.
6. Make light cure.

7. Cut the material by any sharp scissors straight on the hardened area.

8. Now you have a piece of the desired length with ends that will not rumple!

### The basic concepts that are common to all clinical applications of the Jen-Fiber materials:

They use flexible ropes and tapes that are easily bonded to virtually all dental composite resins. The surface of a tooth enamel or dentin is treated with a bonding system that is commonly used in your clinic. No need to change an adhesive system used by you.

The Jen-Fiber material should be carefully removed from the packaging. Quickly close the cover and avoid contamination of the remaining ropes or tapes. Note that the ends of Jen-Fiber materials are protected. This prevents fraying of the special weave before intraoral use. **To prevent fraying does not cut the Jen-Fiber material, as long as it is not coated with polymerized resin!**

After the material is coated by resin, cut off and discard approximately 3 mm from the tip end to prevent penetration of the material portion polymerized by manufacturer to the final structure.

To enhance the adhesion the surfaces of the Jen-Fiber materials are initially etched with hydrofluoric acid and coated with a film of silane.

The structure of Jen-Fiber materials is shown in Fig. 1



Fig.1 Jen-Fiber materials  
Interwoven fiber coated with silane film

### Do not cure before coating these materials with a layer of flowable composite or adhesive composite or compomer cement!

At this stage the Jen-Fiber material is measured and cut. Cut off and discard the first 3 mm from the material working end to remove the protective binder. Durable flexible element can now be installed in any desired configuration and stowed in a groove etched in a tooth treated with an adhesive composition. Then, to complete the coating of the Jen-Fiber material use flowable composite resin that may be used by you at your clinic to work on anterior and posterior teeth. We recommend using a flowable composite materials, for example, Jen-LC Flow. When you need to replace a tooth, you can construct a bridge body using the fiber-filled reinforced composite Jen-Radiance LS, which is to be coated with a layer of microhybrid or nanocomposite for improved aesthetics. For the final lining of the body of the bridge, we recommend a use of composite materials such as Jen-Radiance.

The sequence of applying the layers is shown in Fig. 2.

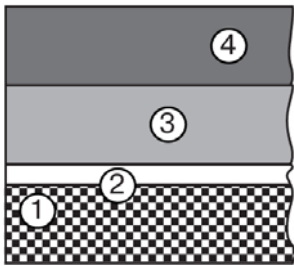


Fig. 2.

1. Interwoven fiber coated with a film of silane
2. Adhesive light-curing resin
3. Fiber-filled, reinforced composite material
4. Micro-hybrid composite or nanocomposite

**Step by step description of the technique:**

1. Clean the teeth, where the Jen-Fiber material will be applied, with pumice.
2. Make interproximal treatment with medium grit abrasive tape.
3. Place interproximally wedges to prevent excessive resin flowing into the interdental spaces.
4. Etch lingual and interproximal surfaces subject to fixation with phosphoric acid for 15-20 seconds, then rinse with water, and dry if it is necessary according to manufacturer's instructions of adhesive.
5. Apply adhesive (without filler) to the etched surface and make a cure.
6. Carefully extract (with tweezers) the Jen-Fiber material from the packaging container. Immediately close the cover to protect the remaining material.
7. Treat the Jen-Fiber tape or rope with adhesive, then coat (saturate, but without excess) with a layer of flowable composite.
8. Measure the required length of the Jen-Fiber material and cut. Make sure that approximately 3 mm from the end of the Jan-Fiber material are removed. These ends are coated with reinforcing resin to protect against fraying during storage and transportation.
9. Attach the Jen-Fiber material by light curing to the surface of the teeth "tooth-by-tooth", until they are included in the structure designed by you. We recommend to use a plastic tool to fit the Jen-Fiber material to each tooth. The Jen-Fiber material is flexible: it can be easily fit by a plastic tool to a surface of each tooth, and interproximally.
10. You can then apply the subsequent composite structure to completely coat the Jen-Fiber material. Make a cure.

**Note:** It is possible to use other fixing materials, as described above.

11. To open the interdental space, to apply contour and to provide the treated surface with required appearance, use carbide and diamond rotary instruments, to make hollows use interproximal engravers and to provide completeness and shine to the restoration use polishing pastes and tools.

**CONTRAINDICATIONS:**

In case, the medical history of the patient indicates allergic reactions, particularly to methacrylate resins or any other component of dental materials.

**CAUTIONS:**

The Jen-Fiber materials contain acrylic and methacrylic resins. Avoid prolonged or repeated contact of unpolymerized material with a skin (it may cause allergic contact dermatitis), with oral soft tissues, and eyes. In case of the contact immediately rinse well the contact area with soap and water. If skin has a rash or other signs of allergic reaction, discontinue use and seek medical attention.

**PRECAUTIONS:**

When working with the material, use appropriate protective eyewear, clothing, mask and gloves. Safety glasses are recommended for patients.

**STORAGE AND SHELF LIFE:**

Inadequate storage conditions will reduce terms of use and may lead to a deterioration of the material properties. Do not expose the product to direct sunlight. Store in a dry place. Store in a refrigerator at a temperature 8°C - 12°C. Do not freeze! The material may be used within 3 years from the manufacturing date. The expiration date is indicated on the package. Do not use after expiration date.

**PACKAGING:**

1. Tapes 90 mm long
2. Ropes 90 mm long

**FOR PROFESSIONAL USE IN DENTISTRY ONLY**

