

Using *Perma Fiber* & *Perma Mesh* for Fiber Inforced Provisional or Temporary Bridges

Perma Fiber and Mesh are the ONLY reinforcement materials that acrylic resin will *fill thoroughly* and bond to. The initial mixture of acrylic resin will *surround completely* and bond to each individual fiber/mesh because of our **PMMA - preimpregnation** and SILANE coating of the fibers. The final acrylic resin mixture bonds to the initial acrylic resin already bonded to the glass/mesh fibers. This result is 1000% strength increase over non-reinforced materials. This is due to the elimination of the gap between reinforcement material and acrylic resin. Polyethylene fibers can not properly bond to acrylic resin.

Use **Perma Mesh** to reinforce crowns and **Perma Fiber** to reinforce the bridge and connectors. Fill the mold with resin and place the *Fiber*, which has been saturated with a mixture of powder and monomer liquid, on top. Use a second layer of reinforcement that fits between the abutment teeth if necessary. Position the sufficiently large pieces of saturated *Mesh* in the abutment spaces. Close the mold, press and cure in the pressure pot. At this point the *Mesh* pieces will surround the abutments and the *Fiber* will stay close to the occlusal surfaces. Refine the processed bridge and fit into place.

Note: When making temporary bridges directly in the mouth use dual curing and wet the fibers with light cure resin.

Process:

1. Wax a model of the temporary bridge or provisional bridge on the model (*figure 1*).
2. Make a silicon putty mold or impression from the wax model (*figure 2*). Remove the wax patterns and lubricate the model.
3. Cut the Fiber or Mesh into suitable pieces (*figure 3*). Single layers of Mesh and Fiber are enough. Add a second layer when the bridge contains more than one pontic.

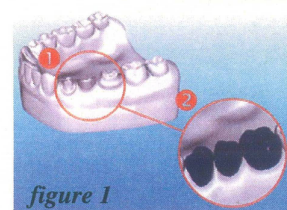


figure 1

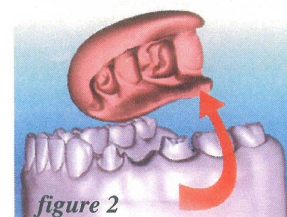


figure 2

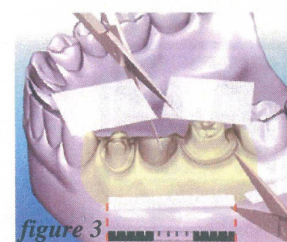


figure 3

4. Wet the *Fiber* and *Mesh* with a thin mixture of **monomer liquid and acrylic powder** for at least 30 seconds (*figure 4*). Wet immediately after mixing.

WETTING FIBERS: All solvent free resins and powder-liquid acrylics may be used to wet *Perma Fiber& Mesh*.

WARNING - Always use a powder-liquid mixture to wet the fibers. The powder-liquid mixture of cold curing acrylic should be thin to have sufficient time for wetting.



figure 4

5. Fill the mold or impression with the resin and position the *Fiber* over the abutments and across the pontic. Position the *Mesh* pieces in the mold or impression on top of the abutment spaces (*figure 5*).

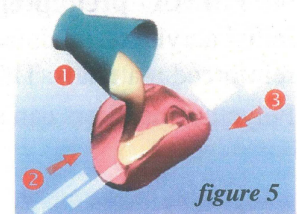


figure 5

6. Put extra self cure resin on the model in the pontic areas. Seat the impression/ mold on the model and hold in place with a rubber band. Cure in the pressure pot (*figure 6*).

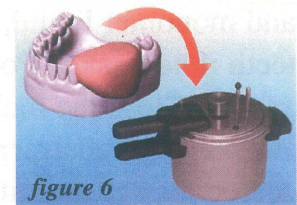


figure 6

7. Finish the bridge.

Perma Fiber & Mesh is a product of Stick Tech Ltd.





Perma Mesh

Directions for the Repair & Fabrication of New Removable Partial Dentures & Full Dentures

Perma Fiber and Mesh are the **ONLY** reinforcement materials that acrylic resin will **fill thoroughly** and bond to. The initial mixture of acrylic resin will **surround completely** and bond to each individual fiber/mesh because of our **PMMA - preimpregnation** and **SILANE** coating of the fibers. The final acrylic resin mixture bonds to the initial acrylic resin already bonded to the glass/mesh fibers. This result is 1000% strength increase over non-reinforced materials. This is due to the elimination of the gap between reinforcement material and acrylic resin. Polyethylene fibers can not properly bond to acrylic resin.

Preparation:

Determine the placement of the *Perma Fiber* or *Perma Mesh* material. The Perma Fiber provides strength and rigidity and the Perma Mesh provides toughness to the acrylic resin. When space is available, the use of Perma Fiber is recommended. Perma Mesh is recommended in very thin areas of acrylic resin, and when the direction of the forces are unknown (*figure 1*). Use a minimum of two layers of *Perma Mesh*.

Place the reinforcement as near to the fracture or the assumed weak point as possible and across the direction of the fracture line or possible fracture line.

Figure 1a Illustrates resin with reinforcement on the top portion of the resin. When loaded at the corners a small crack develops in the middle of the resin and stops when it encounters the reinforcement. This is the reason to place the reinforcement as close to the assumed crack as possible.

Figure 1b Illustrates the resin being turned upside down. Now the micro crack grows much larger and causes fatigue until it meets the reinforcement.

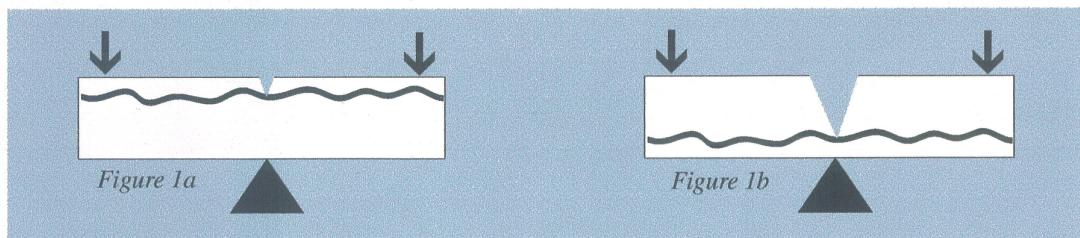


Figure 1

Repair:

Reduce the acrylic in the areas that will receive the *Perma Mesh*.

Process:

1. Cut the *Perma Mesh* to the correct size (*figure 1*). Use a minimum of 2 layers of *Perma Mesh* to create optimum resistance and plasticity in all directions. It is not necessary to accurately shape the *Perma Mesh* when cutting to size. Any excess may be reduced and polished in the finished prosthesis. Reinforce only the areas subject to fracture. Make a thin or low viscosity **mixture of monomer liquid and acrylic powder**. Place the *Perma Mesh* on a plastic sheet. Pour the thin mix of powder and monomer over the reinforcing mesh in the plastic bag. See *figure2*

2. Immediately after mixing, wet the mesh on the plastic. The mesh will become transparent when completely saturated.

WETTING FIBERS: All solvent free resins and powder-liquid acrylics may be used to wet *Perma Mesh*.

WARNING - Always use a powder-liquid mixture to wet the fibers. The powder-liquid mixture of cold curing acrylic should be flowing to have sufficient time for wetting.

3. Paint the area of the denture base to receive the *Perma Mesh* with monomer.

4. Position the removable partial denture or full denture in a matrix to maintain proper position.

5. Make a *normal* mix of acrylic resin. Place a small amount of the acrylic resin mix on the denture base. Remove the *Perma Mesh* from the plastic and place it on the acrylic resin mix. The *Perma Mesh* is easy to position and handle when wet.

6. Put a thin mix of acrylic resin over the mesh. Smooth the surface with monomer.

7. Process in a pressure pot.

Perma Fiber is a product of Stick Tech Ltd.

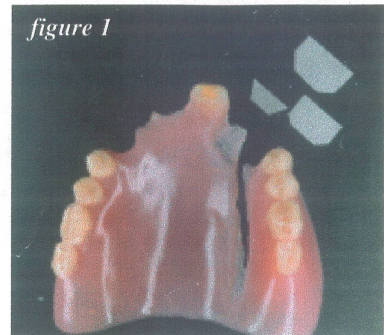


figure 1

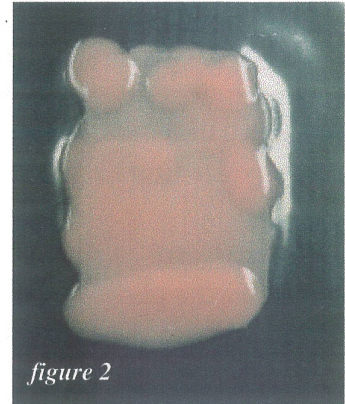
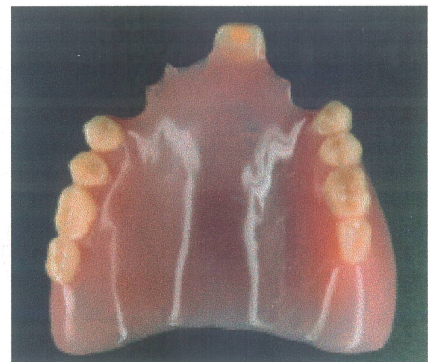


figure 2

Perma Mesh in thin mixture of acrylic resin on a plastic sheet

Repaired Prosthesis



P.O. Box 1030 Santa Ynez, CA 93460 • tel: 800-232-7732, 805-693-8666 • FAX 805-693-8106 • www.preat.com



Perma Fiber

Directions for the Repair & Fabrication of New Removable Partial Dentures & Full Dentures

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Place the reinforcement as near to the fracture or the assumed weak point as possible and across the direction of the fracture line or possible fracture line.

Figure 1a Illustrates resin with reinforcement on the top portion of the resin. When loaded at the corners a small crack develops in the middle of the resin and stops when it encounters the reinforcement. This is the reason to place the reinforcement as close to the assumed crack as possible.

Figure 1b Illustrates the resin being turned upside down. Now the micro crack grows much larger and causes fatigue until it meets the reinforcement.

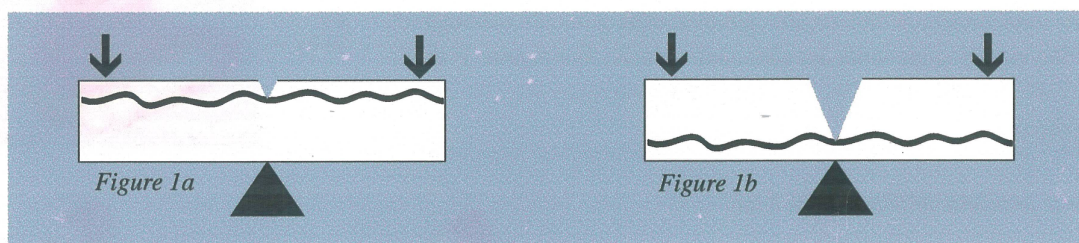


Figure 1

Repair:

Bevel the surfaces of the fracture. Cut a groove for the fiber reinforcement as close as possible to the teeth or outer surface (the weak point).

Process:

1. Cut the appropriate length of *Perma Fiber* (figure 2). Reinforce only the area subject to fracture. Make a thin or low viscosity **mixture of monomer liquid and acrylic powder**. Cut a piece of tin foil to receive the reinforcing fibers and place the fiber on the tin foil. Pour the thin mix of powder and monomer over the reinforcing fiber on the tin foil. See figure 3

2. Immediately after mixing wet the fibers on the tin foil.

WETTING FIBERS: All solvent free resins and powder-liquid acrylics may be used to wet *Perma Fiber* and *Perma Mesh*.

WARNING - Always use a powder-liquid mixture to wet the fibers. The powder-liquid mixture of cold curing acrylic should be flowing to have sufficient time for wetting. Spread out the fibers for easier wetting.

3. Fold the fibers and acrylic inside the tin foil (*Fibers* will turn almost transparent when properly wetted). See figure 4 A special plasticized tin foil is available from PREAT.

4. Press the tin foil into the bottom of the groove cut in the prosthesis and form into the required shape. Cure in a pressure pot. See figure 5. For a **new denture**, make a putty matrix of the size and shape for the fibers. Put the fibers in a thin mix of resin in the putty matrix and let set.

5. Remove the cured fiber frame from the tin foil or putty matrix. Remove excess material. Grind or sandblast to roughen the surface of the resin.

6. Place the fiber into the repair area within the acrylic. See figure 6 When processing a **new denture**, tack the fiber to the teeth with self cure resin.

7. Wet the *Fiber* and inside of the repair groove with a small amount of monomer. Fill the repair area with acrylic and cure it. See figure 7 & 8

8. Finish and polish.

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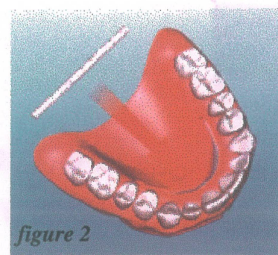


figure 2

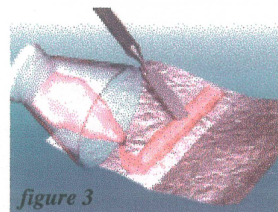


figure 3

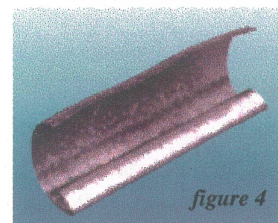


figure 4

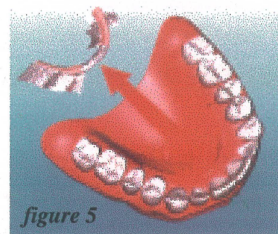


figure 5

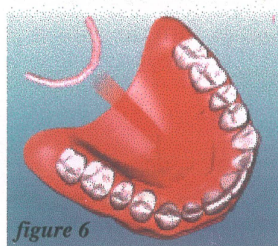


figure 6

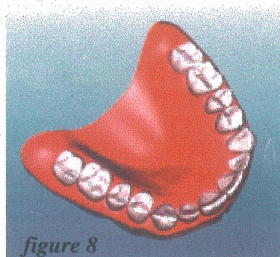


figure 8

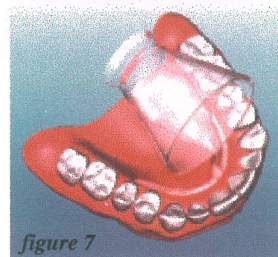


figure 7



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Perma Fiber & Perma Mesh Price List

Perma Fiber and Mesh Starter Kit

1—150 mm Stick Fiber

\$155.00

1—45 cm² Mesh

Includes foil

Perma Fiber Only

Each Stick is 150 mm long

1 Stick

\$60.00 each

3 Sticks

\$52.00 each

6 Sticks

\$46.00 each

12 Sticks

\$38.00 each

Perma Mesh Only

Each Mesh is 45 cm²

1 45 cm²

\$100.00 each

2 90 cm²

\$90.00 each

6 270 cm²

\$80.00 each

12 540 cm²

\$65.00 each



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