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Manual for forming the BioMers *ASTICS*[™] Translucent Orthodontic Retainer



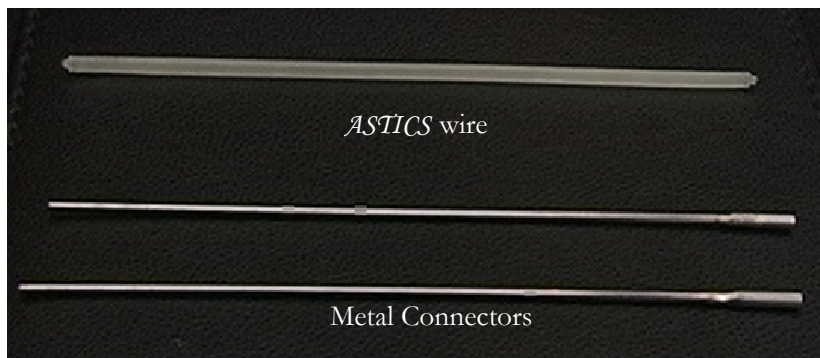
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THE *ASTICS* RETAINER WIRES



Components of the *ASTICS* retainer kit

The *ASTICS* retainer kit consists of:

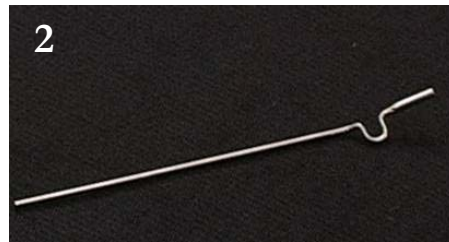


- 1 *ASTICS* wire in its uncured form, enclosed in a sheath
- 2 metal connectors

Recommended procedure for forming the *ASTICS* retainer

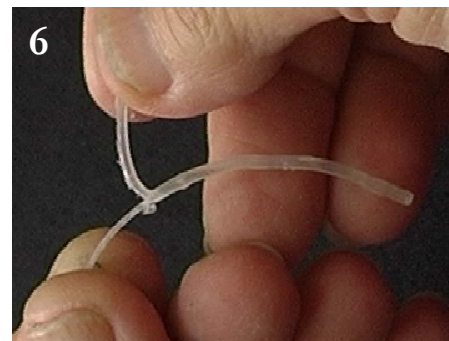
Formation of metal components

- Form the Adam's Clasps on the working model.
- Form a U-loop on the metal connectors after the soldered joints (Fig. 1 and 2).
- Place the metal connectors against the teeth and form it to fit the contour of the working model closely.
- Ensure metal connectors are in line with the arm of the Adam's Clasp.
- Mark the anterior ends of the metal connectors on the working model (Fig. 3).
- To maximize aesthetics, the hollow end should be placed closer to the first pre-molar.
- Place the formed metal connectors aside.



Formation of *ASTICS* Labial Bow

- Place the *ASTICS* uncured wire on the working model.
- Determine the length needed to extend between the marks made on the working model.
- Cut the uncured wire with an allowance of maximum 2 mm on both sides using a sharp edged cutter.
- Place the cut wire on the working model and secure it at its mid-length with a drop of sticky wax (Fig. 4).
- Form the wire along its length to obtain a close fit.
- Maintain the position with drops of sticky wax.
- Secure the ends of the wire with sticky wax. (Fig. 5).
- Place the working model together with the wire into a Light Cure Chamber.
- Allow it to cure for at least 1.5 minute.
- Remove the cured wire from the working model by means of steam (to melt the wax) or a spatula.
- Place the wire into the Light Cure Chamber for another minute.
- Remove the external sheath (Fig. 6).



Assembly of the *ASTICS* Retainer

- Form the acrylic baseplate on the working model.
- Reposition the metal connectors and cut the excess.
- Solder it to the Adams Clasp.
- Polish the baseplate and the solder (Fig. 7).
- Insert the cured wire ends into the metal connectors and check for close fit.
- If necessary, the wire ends can be gently grinded with a fine silicon carbide paper to achieve close fit.
- Fill the hollow end of the metal connector with a medical grade adhesive, using a fine tip instrument.
- Dip the wire ends into the adhesive.
- Insert into the metal connectors.
- Wipe away any excess adhesive.
- Secure the position of the wire with some plaster.
- Place the assembled model into a dry oven to cure the adhesive (Fig. 8).
- Follow the manufacturer's recommendation to cure the adhesive.
- Remove the completed *ASTICS* retainer and clean (Fig. 9 and 10).



Final quality check for the *ASTICS* retainer

After the *ASTICS* wire has been cured and the sheath removed, the wire should be inspected for the following:

- 1) Uniform translucency (hold the wire up against the light).
- 2) Inclusions (any visible specks within the wire).
- 3) Surface irregularities (scratches and bumps).
- 4) Whitening of the wire.

After the entire appliance has been completed, the following should be inspected:

- 1) The bond between *ASTICS* wire and metal wire is strong.
- 2) The U-loops are properly tilted to be parallel to the labial surface of the molars.
- 3) The *ASTICS* wire must sit steadily along the midline of the labial teeth.

Precautionary measures to be observed when making the *ASTICS* retainer

While handling *ASTICS* wire

- 1) Do not make sharp bends on the uncured wire. This will compromise the performance of the wire.
- 2) Avoid exposure of the uncured wire to heat and light during storage. Limit prolonged exposure.
- 3) Keep all uncured wires stored 4°C or below.
- 4) Cut the uncured wire only with sharp edged cutter to prevent shearing of the wire.
- 5) Do not use sharp tip/edges to conform the uncured wire to teeth surfaces.
- 6) Do not use force to chip away the hardened sticky wax after the first round of curing.
- 7) Do not cut the cured wire. Grind gently using a fine grade silicon carbide paper to make any minor adjustments.
- 8) Do not to scratch/damage the cured wire surface during sheath removal.

While assembling the *ASTICS* retainer

- 1) Do not apply any force on the hollow section of the metal connector.
- 2) All soldering and polishing must be completed before insertion of *ASTICS* wire.
- 3) Adhesive curing temperature should not exceed 100°C.
- 4) Always remove left over pumice (if any) from the hollow ends of the metal connectors after the polishing of the baseplate is done.
- 5) Do not immediately remove the finished appliance from the working model after curing. Let the appliance cool off for about 20 minutes before removing.