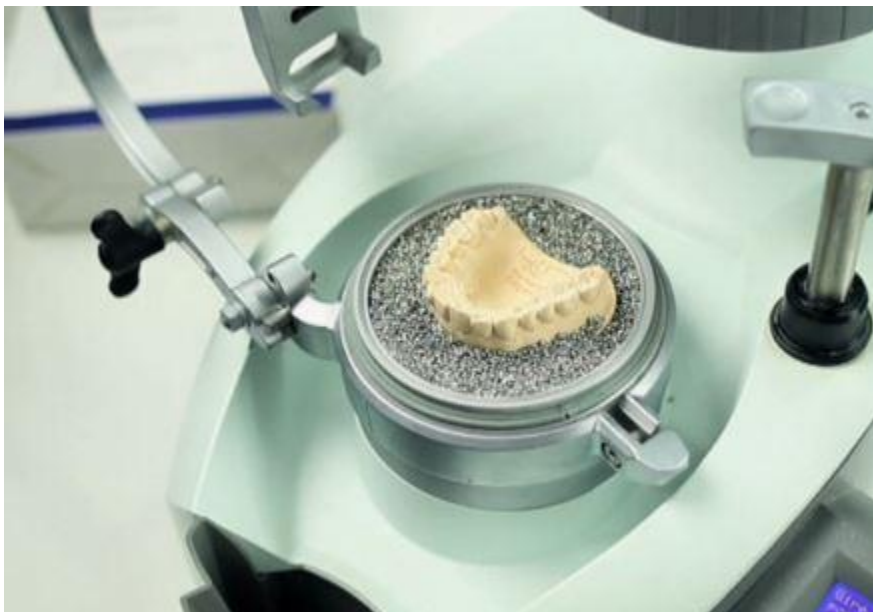


VACUUM THERMOFORMER FABRICATION INSTRUCTIONS

MODEL PREPARATION

1. The model should be well cured and dry.
2. The model should be trimmed to be around 20-25mm (3/4"—1") high. Try to reduce the height from the gingiva to the model's base as much as possible so you are thermoforming over the smallest area possible, helping to ensure that the material's thickness is as uniform as possible throughout the appliance.



3. Assemble any specialized attachment geometry to the model.
4. Fill in any holes or undercuts with blockout material and let dry.



5. **Suggested:** Coat the model with model release agent to prevent the appliance from sticking to the model and let dry.

Note: Some excellent spray-on model release agents are available from orthodontic product suppliers like Great Lakes Orthodontics. For an inexpensive model release agent, we recommend using a simple 50/50 mixture of water and liquid Ivory soap as a release agent (the same liquid Ivory soap available at many grocery stores). Use a small plastic spray bottle to spray a light coat of the mixture on the model, then use a heat gun or small fan to dry the mixture on the model so it is dry to the touch. It doesn't need to be bone dry. This solution should make it much easier to remove the model from the formed sheet.

PAM spray-on cooking oil also works well as a release agent, but because it is a mineral oil it can be difficult to clean it off the finished appliance.

THERMOFORMING PROCESS

1. Turn on the thermoformer and enter correct configuration code or heating time for Zendura sheet (see IFU for Zendura material you are thermoforming for recommend configuration code or heating time).
2. For most conventional vacuum thermoformers, the maximum forming pressure is about 12-16 psi. Use the maximum forming pressure available. If a higher forming pressure is available, we recommend using that, but do not exceed the maximum forming pressure recommended by the thermoformer's manufacturer.
3. Preheat the thermoformer before placing the model on the platform.

4. Open foil pouch. Place the Zendura sheet on the thermoformer's sheet holder.
5. Swing the heating element over the Zendura sheet to begin heating it until the sheet is ready to be formed. The sheet is ready to be formed when it sags 12mm to 20mm ($\frac{1}{2}$ " to $\frac{3}{4}$ ").
6. Move the heating element away from the sheet.
7. Form Zendura sheet over the model with vacuum air so it adapts thoroughly to the model, then allow the part to cool before handling.
8. Trim and finish the appliance (see next section).
9. Wash Zendura appliance with mild soap (such as 2% Liquinox) and rinse well with water before delivering to the patient.

Note: If the plastic doesn't adapt (form) well to the model, add 5 seconds to heating time until conformation is acceptable.

If thermoformed plastic forms webs or folds, reduce heating time until webbing does not occur.

CUTTING, TRIMMING & POLISHING INSTRUCTIONS

1. Cut excess material from the formed sheet by first making an "initial" cutline using a pair of scissors or a rotary cutting wheel (1mm cut). Cut as close to the model's base as possible.



2. Remove model from formed sheet by carefully prying it loose from behind the last molar. If you have trouble removing the model, cut a small 2-4mm V behind the last molar.
3. Trim the remaining excess material by making a "final" cutline with a pair of high quality curved crown and bridge scissors.

Note: To ensure you do not compromise the teeth movement or teeth retention properties of the material, we strongly recommend making a fairly straight cutline, leaving at least 3-4 mm of the gingiva. If you intend to make a scalloped cutline, make only a mildly scalloped cutline.



4. Polish cutline's edge using a rotary polishing wheel at a speed of around 3,000 rpm..
5. Rinse Zendura appliance with cool water and mild soap before delivering.

Note: Since Zendura is engineered to have exceptionally high strength and durability, learning to fabricate appliances with this material may require some experimentation.

For more detailed instruction on how to cut, trim and polish Zendura appliances, [click here](#).

See below for a link for downloading an IFU with the recommend thermoformer configuration codes and heating times for the most commonly used brands of vacuum thermoformers.

[Click here](#) to download print-ready PDF of IFU covering Zendura A for vacuum thermoformers: SKU 9164.

[Contact us](#) for additional support.