

Instructions for use of Thermal Plastic for Fitting of the NTI

Microwave instructions:

1. Place approximately ½ cup of thermal plastic beads into a Pyrex bowl (microwave safe bowl).
2. Heat thermal plastic in the microwave on high for 1 ½ to 2 minutes. The white beads will coalesce and turn clear as the material heats. When the material is all clear and relatively homogeneous, this is hot enough.
3. ALLOW SEVERAL MINUTES FOR THE MATERIAL TO COOL BEFORE ATTEMPTING TO HANDLE.
4. It is recommended that gloves be worn to handle the material. Get the fingers of the gloves wet. This will help avoid the material sticking to the gloves excessively. If the material is too hot to handle, and it begins to burn your fingers, simply pull off the gloves, and allow the material more time to cool.
5. Once the material can be handled safely, pinch up a portion large enough to fill the matrix of the NTI. At this point the material is also cool enough to begin fitting the NTI.
6. With the thermal plastic seated in the matrix, fit the NTI over the central incisors and leave in place for about 30 seconds.
7. Remove the NTI and trim the excess material off with scissors.
8. Place the NTI in the hot water bath for a few seconds, and smooth the edges with your finger.
9. Replace the NTI over the central incisors, and leave in place for about 1 minute.
10. Remove the NTI and chill in cold water (running cold tap water over the appliance works well). This will allow a small shrinkage of the thermal plastic material, which will allow for the proper “snap fit.”
11. Replace the NTI over the central incisors, and check for appropriate tightness of the fit.
12. If the appliance is too tight, place in the hot water bath for a few seconds, replace over the central incisors and remove and replace the appliance several times. This will “burnish” the material in the undercut areas and allow it to become looser. You may need to repeat this procedure several times. If there is a large diastema, trimming the material between the teeth with scissors may also be necessary.
13. If the appliance is too loose, place it back in the hot water bath until the material is soft again. Remold the material with your fingers, and replace it over the incisors. Leave the NTI in place for about 10 to 15 seconds, remove and immediately hold under cold water. If this still does not allow the appliance to fit securely, you may need to add more thermal plastic material to allow coverage of more teeth.
14. Normally, the best way to smooth the appliance is to very briefly hold any rough area in the hot water bath, and smooth with your finger. After smoothing the appliance, be certain to place it back on the teeth to ensure the fit is not altered. It is not recommended that the thermal plastic be adjusted with rotary instruments—as the material will melt and “gum up” the bur very quickly.

15. Finish fitting the appliance by checking the appliance in excursive motions, checking vertical dimension, and other normal NTI fitting procedures.
16. The thermal plastic material is best cleaned with white toothpaste, or soap and water. The material will discolor over time. When this happens, the hard material may be separated from the lexan matrix and new thermal plastic can be used to reline the matrix.

Non-Microwave Instructions:

1. Fill a 15 cc Monoject syringe with thermal plastic pellets.
2. Place the filled Monoject syringe into a bath of boiling water.
3. Allow the material to turn clear and coalesce into a homogeneous mass within the syringe.
4. Once the material is clear, remove the syringe from the hot water bath, and allow the material to cool for 1 to 2 minutes.
5. Using the syringe, squeeze enough material into the NTI matrix to fill the matrix.
6. Smooth the material into the matrix using a gloved, wet, finger.
7. The excess material in the syringe will eventually harden, and will be ready for use the next time the thermal plastic is needed.
8. Follow steps 6 through 16 above.

An alternative to the above would be preparing several NTI's in advance, filling the matrixes with thermal plastic. If this is done, you will simply place the pre-filled NTI matrix in the hot water bath, allow the material to reach the appropriate state, and fit the appliance as described.