



Multi-Colored Mouthguard Technique

Safety glasses should be worn for all lab procedures as well as gloves when handling acrylics. Items featured in this technique are found on the last page.



- 1 The custom multi-colored mouthguard method allows selection of certain color combinations within the mouthguard design. Often, 2mm thick colored mouthguard material is used in combination with 2mm clear material. If a slightly thinner mouthguard design is preferred using this method, then a clear 1mm thick piece of mouthguard material is used in place of the 2mm material.



- 2 Based on the number of colors or stripes, the mouthguard material is cut into certain widths. 2-4 color strips are most often used to make the mouthguard. A metal millimeter ruler, lab knife, and torch are used to cut the color strips. Identify the extrusion grain of the mouthguard material. This can be found by reflecting light off the material surface to show these uniform lines. Across the material's extrusion grain, measure the color strips. For this application, four color strips will be made. The two outer strips are 50mm and the inner strips are 13mm each. Align the metal ruler parallel to the extrusion grain at the measured mark. Using the torch, heat the lab knife to cut the material along the ruler edge.



- 3 Separate the strip along the cut line. The cut surface must be straight. The cut strips are systematically aligned over the clear mouthguard material. Strip edges must fit flush against each other creating a circular disc shape that is equal to the uncut clear disc.



- 4 The uncut clear mouthguard material is placed on the pressure chamber. Then the colored strips are aligned on the clear material. Clamp the two layers of the mouthguard material to the chamber. To prevent the strips from turning when the clamp is secured, lightly hold them in place with fingertips.



- 5 Check the alignment of the colored strips as they will be formed over the model on the platform. Adjust the material on the chamber or rotate the model on the platform as needed. The model should be prepared and separator applied following the same procedure outlined in the single and two-step mouthguard fabrication technique.



6 For this application, the pressure should be reduced to 2 or 2 ½ bar or 30 psi. Adjust pressure below desired level, then increase. Higher pressure could cause strips to separate as they are formed. Heating time will be increased to compensate for the use of lower pressure. The heating cycle will be accomplished in two stages. First, enter 90 seconds of heating time for the initial stage. Later, a 15 second stage will be entered. Swing the lamp over the chamber to initiate the heating cycle.



7 At the end of the first heating cycle, remove the lamp and seal the strips together with a wax spatula.



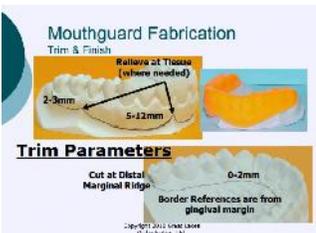
8 Enter 15 seconds into the machine and swing the lamp over the material to initiate the second heating stage.



9 Once the second heating cycle is complete, remove the lamp and swing the chamber over the model on the platform and lock in place to initiate forming phase. Allow the material to cool under pressure for 2-3 minutes.



10 After forming and cooling cycle are complete, evacuate pressure and open chamber. Remove the formed material and model from machine.



11 Trim and finish the mouthguard according to the parameters outlined in the Mouthguard Trimming and Finishing procedure.

Items featured in technique:

235-010 Astro Spec Safety Glasses (reg./blue)
235-062 N-Dex Non-latex Gloves (Med)
021-030 Clear 1mm Round Mouthguard Material
021-031 Clear 2mm Round Mouthguard Material
021-032 Clear 3mm Round Mouthguard Material
021-045 Assorted 2mm Round Colored Mouthguard Material
021-046 Assorted 3mm Round Colored Mouthguard Material
030-009 1.5mm Bioplast Material
030-025 Assorted 3mm Multi-Colored Bioplast
175-034 Separator
075-007 Separator Brushes
080-006 Micro Torch
080-009 Gas Refill
165-004 Spatula (or 165-005)
170-005 Lab Knife
Metal Ruler or ruler with metal edge



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