

Study Casts: Making an Alginate Impression

Materials- 2 packets of alginate, 2 trays (estimated size), plastic medicine cup with alginate adhesive and plastic paintbrush, mixing bowl and spatula

Procedure

1. **Mixing the alginate.** Put alginate powder into the mixing bowl then add all the measured water at once and stir quickly to wet powder. Once incorporated, mix vigorously for the time stated on the package to achieve a creamy consistency, which helps the chemical reaction occur uniformly.
To slightly adjust mixing time, the water temperature can be adjusted within limited parameters. Usual times are set at approx. 20 – 22 C (70 -73 F). Colder water retards setting, while warmer water hastens setting. Use cold water if you need to increase working and setting time. As a rule of thumb, 1-min reduction in setting time occurs for each 10C of temperature increase. However, it is more reliable to simply pick a material with the setting time you need.
2. **Fill the tray.** Immediately, using large increments of material. Smooth the surface with a wet finger. Pick up a fingerful of alginate and rapidly coat the occlusal surfaces of the teeth and depressed areas of the maxilla with the alginate to avoid trapping air on the impression surface.
3. **Insert the tray.** Immediately, and press it gently into position. When the tray is in place, quickly check that the tray fits between the cheeks, lip and the teeth correctly, and check the handle orientation. On the lower arch, make sure that the border of the tongue is not trapped by the impression tray by having the patient to pull the tip outside the mouth.
4. Once the tray is in position, **muscle trim** and hold it in place with occlusal support (no pressure or movement) to avoid distortion.
5. **Wait the correct setting time.** The "*initial* setting time" is at least 15 sec longer than the working time, and basically when the material is no longer sticky. However, the stated setting time is the time it takes for the material to recover from deformation when removed from the mouth. **Working time** is the period of time between the start of mixing and the commencement of gelation (setting). Each manufacturer is allowed to state their own working time, so look on the package. Since water temperature can vary, it is a good rule of thumb to wait at least 60 seconds past the time the initial stickiness is gone.
6. **Break the seal** by inserting a finger along an edge or blowing a puff of air between the tissue and the alginate. Alginates are less likely to tear when you remove the impression quickly. Avoid rocking or twisting when removing the impression. Instead, **remove with a rapid movement.**
7. **Inspect the impression** for border extent and integrity, voids, and key landmarks. Quickly rinse thoroughly under running water to eliminate saliva or particles of alginate that could have been torn, particularly in interdental spaces. Shake excess water and examine again under bright light.
8. **Disinfect the impression** with a spray of sodium hypochlorite or potentiated glutaraldehyde solutions. Wrap in a damp paper towel for 2 minutes. Cut away unsupported alginate regions.
9. **If you're not certain of your impression,** take another while the patient is in the chair. It is much less embarrassing than having to bring them back again.