

Impression Materials

A dental impression is a negative imprint of hard and soft tissues in the mouth from which a positive reproduction, a case or model can be formed. We have learned the four main types of impression materials in class which can be categorized into either rigid impression materials (zinc oxide eugenol and impression compound) or elastic impression materials (alginate and silicone). Each material is used for a different purpose, and the material I will be discussing is Vinyl Polysiloxane (VPS), an elastic addition silicone impression materials made from DenMat Precision, Kerr Take 1 Hydro, and 3M Imprint 4.

DenMat Precision introduces their revolutionary formula which displaces moisture better than other VPS materials. It is advertised as creating detailed margins in even the most challenging situations by removing moisture away from the prep area, utilizing hydrokinetic action to seek out and repel moisture. Whereas, Kerr Take 1 Hydro delivers one of the industry's lowest contact angles ($\leq 10^\circ$) available on uncured material. Take 1 Hydro pushes impression material deep into the sulcus to easily displace blood, saliva, and other fluids. This allows the dental professional to capture impressions in greater details and accuracy on their first attempt. While DenMat Precision and Kerr Take 1 Hydro emphasis on their fine detail and accuracy of the reproduction, 3M Imprint 4 offers the shortest intra-oral setting time. It allows setting times of 1 minute 15 seconds to 2 minutes with their innovative active self-warming technology, which enables Imprint 4 impression material to rapidly heat up to body temperature, and this accelerates the setting reaction.

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In conclusion, the three companies all use VPS impression material which is the most dimensionally stable of all the impression materials and will keep their shape even after long periods of time. DenMat Precision and Kerr Take 1 Hydro are known to be more detailed and accurate when it comes to reproduction, with DenMat Precision has the technology to better repel moisture and Kerr Take 1 Hydro being able to reproduce impressions at a lower contact angle. 3M Imprint 4 is known to be more efficient and time-saving when taking impressions. The three companies have different advantages and disadvantages, and should be selected depending on the consumers needs.