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<th><strong>Title</strong></th>
<th>The rheological characterization of dental waxes</th>
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<td><strong>Author(s)</strong></td>
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The rheology of waxes is fundamental to the majority of their applications in dentistry, but it has never been scientifically investigated. The state of the art of this topic is that the complex rheological properties of dental waxes (Gore-Tex, Astra, Teflon, Wax-Pak, etc.) represent a challenge for materials scientists and engineers. The viscosity of waxes is not constant but varies with temperature, composition, and other factors. The intrinsic complexity of waxes makes it difficult to establish accurate models that can predict their behavior under various conditions. The aim of this study was to investigate the rheological properties of waxes to better understand their behavior and improve their application in dental technology.

**Materials and Methods**

Waxes were purchased from various manufacturers and tested in a controlled environment. The rheological properties were measured using a rotational rheometer. The tests included steady shear, dynamic shear, and creep tests. The data obtained were analyzed using mathematical models to determine the rheological properties of the waxes.

**Results**

The results showed that the rheological properties of waxes are highly dependent on the composition and manufacturing process. The viscosity of waxes varied significantly with temperature, with some waxes showing a significant decrease in viscosity with increasing temperature, while others showed a more pronounced increase. The results also indicated that the rheological properties of waxes are a key factor in their application in dental technology, as they affect the ability of the waxes to flow and set accurately during the fabrication process.

**Conclusion**

This study provides valuable insights into the rheological properties of waxes and highlights the need for further research to develop more accurate models that can predict their behavior under various conditions. The results also suggest that the rheological properties of waxes can be optimized to improve their application in dental technology.

**References**


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