

ACCURACY AND REPRODUCIBILITY OF REVERSIBLE HYDROCOLLOIDS VERSUS ELASTOMERS DUPLICATING MATERIALS

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The dimensional accuracy of four duplicating materials, including one brand of agar reversible hydrocolloid, one brand of polyether rubber, and two brands of polyvinyl siloxane addition silicone rubber was studied. A standard stainless steel specimen of 76 x 76 x 9.5 mm was made. Vertical and horizontal grooves were made on the specimen as reference marks. The horizontal grooves were in different depths and widths. The duplicating materials were prepared and poured over the standard die to make a negative likeness. These negatives were poured with the same investment material. Twelve investment specimens were measured for accuracy and detail reproduction with a Talysurf finish analyzer. Results of this study indicated that polyvinyl siloxane and polyether rubbers are superior in accuracy compared to the agar reversible hydrocolloid. No significant differences in detail reproduction were noted in any of the duplicating materials tested.

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