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Dental obturation materials ELIZABETH STOCKTON, LAUREN CHUDEJ, Texas Women's University, BRIAN BILYEU, WITOLD BROSTOW, University of North Texas, UNT-TWU TEAM — During the last decades, people have tried to develop a better material for use in dental obturation materials. This new material should meet the following requirements: durability, wear resistance, biocompatibility and chemical adhesion to dentin enamel. Wear resistance is very important and it is related with the service life of dental replacements. We have obtained aesthetically promising novel nano composites that can be used as dental replacements. The main objective of this work is to study the scratch and wear resistance of these nano composites. To meet this goal, scratch tests are performed using a micro scratch tester machine (CSEM), where a diamond indenter is used to make the scratch and the penetration of this indenter is measured with high resolution (7nm). We will be looking at the penetration depth (R_p) and the residual (or healing) depth (R_h) to calculate the percent recovery. These measurements represent the scratch resistance of the material.

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