



The Flexural Strength and the Effect of the Autoclave Sterilization of Polypropylene/Natural Rubber Blended Materials

Rubber dam clamps are widely used in dentistry, particularly during root canal treatments; however, current clamps can cause discomfort or even damage to oral tissues. This study aimed to determine the optimal blend of polypropylene (PP) and natural rubber (NR) for producing enhanced rubber dam clamps.

The effects of different PP/NR ratios and autoclave sterilization cycles on the material properties were investigated. Results showed that blends with less NR had higher flexural strength. Interestingly, the flexural strength of the 90/10 and 80/20 blends increased after sterilization. The 90/10 blend was especially promising, exhibiting strength comparable to that of pure PP (100/0). This suggests that the PP/NR blend with a 90/10 ratio could be a good alternative material for making rubber dam clamps that are both strong and comfortable.

The associated SDG goals are: Good health and well-being (3) and Responsible consumption and production (12)

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Reference:

Rangsantham, P., Nonthiphalang, T., Wongwitthayakool, P., **Sirisinha, C.**, Krajangta, N., and Phumpatrakom, P., The Flexural Strength and the Effect of the Autoclave Sterilization of Polypropylene/Natural Rubber Blended Materials, Dent. J. 2024, 12, 361.

