Water absorption properties of four resin-modified glass ionomer base/liner materials

**Objective:** The purpose of this study was to evaluate the water absorption of the newly developed Activa Bioactive base/liner material compared to other commercially available base/liners.

**Materials and Methods**

Activa Bioactive-Base/Liner (Pulpdent), TheraCal (resin-modified calcium silicate, Bisco,), Fuji Lining LC (RMGI, GC) and Vitrebond Plus (RMGI, 3M) were tested. Cylindrical discs of approximately 15 mm diameter and 1m thickness were fabricated in a silicon mold and were light cured for 1 minute on both sides in a ProCure Dental Oven. The water absorption measurements were carried out according to ISO 4049. Initially the specimens were placed in a desiccator at 37°C for 22 h and then at ambient temperature overnight. The specimens were weighed and noted (M1) and the exact dimensions were measured using a digital caliper (Mitutoyo, Japan). The specimens were then placed in DI water for 7 days at 37°C. The specimens were removed from water, blotted dry with a tissue paper, and after waiting 1 minute, they were weighed. The weights were noted (M2). The dimensions of the specimens were also recorded. The water absorption and of the base/liner materials were then determined and were expressed as percentage and as μg/mm³.

![7 Day Water Absorption of Base Liner Materials](image)