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[\[PDF \(209K\)\]](#) [\[References\]](#)**An investigation of thermal changes of various permanent dental cements**[Zeynep Yesil DUYMUS^{1\)}](#), [Baykal YILMAZ^{1\)}](#) and [F. Osman KARAALIOGLU^{1\)}](#)

1) Department of Prosthodontics, Faculty of Dentistry, Atatürk University

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Abstract:

The aim of this study was to investigate and compare the temperature rises which occurred during the setting reactions of different permanent cements used to lute fixed partial prosthodontics.

In this study, four cements were used. They were mixed in three different proportions: according to manufacturers' recommendations, at doubled powder ratio, and at doubled liquid ratio. With a thermocouple, the temperature rises which occurred during the setting reactions were measured. For each proportion, the measurement was repeated five times such that a total of 60 measurements were done for the four different cements. Data were analyzed using analysis of variance (ANOVA).

ANOVA results showed that cement type and the interaction between cement type and the powder-liquid ratio were statistically significant factors ($p < 0.001$). Similarly, the powder-liquid ratio was a statistically significant ($p < 0.01$) factor.

Among the dental cements tested, zinc phosphate cement showed the highest temperature rise during setting reaction, whereas glass ionomer cement showed the lowest.

Key words:[Permanent cements](#), [Temperature change](#), [Time](#)[\[PDF \(209K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)

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