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[\[PDF \(296K\)\]](#) [\[References\]](#)**Effect of Thermal Cycling on Microleakage of a Fissure Sealant
Polymerized with Different Light Sources**[Alp Erdin KOYUTURK](#)¹⁾, [Taner AKCA](#)¹⁾, [Ali Cagin YUCEL](#)²⁾ and [Cemal YESILYURT](#)³⁾

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Abstract:

The purpose of this study was to examine the effect of thermal cycling on microleakage of a fissure sealant after it was bonded with different bonding agents and polymerized with different light curing units. To this end, two bonding agents (Xeno III, iBond), three light curing units (Astralis 3, Elipar free-light, Elipar free-light 2), and a fissure sealant (Fissurit FX) were used. Microleakage was then evaluated using a dye penetration method after thermal cycling. When the fissure sealant was polymerized with Elipar free-light and Elipar free-light 2, microleakage at 10,000 cycles was significantly increased compared with that at 5,000 cycles. In terms of comparison among the curing units, the best microleakage score was observed with Astralis 3 ($p < 0.05$). In terms of comparison between the two bonding agents, no significant differences in microleakage score were observed ($p > 0.05$). Further, it was concluded that in order to evaluate microleakage scores appropriately, it was necessary for specimens to be subjected to thermocycling of 10,000 times or more.

Key words:[Fissure sealant](#), [Thermal cycling](#), [Microleakage](#)

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