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[\[PDF \(308K\)\]](#) [\[References\]](#)**Resin Infiltration of Artificial Enamel Caries Lesions with
Experimental Light Curing Resins**[Sebastian PARIS](#)¹⁾, [Hendrik MEYER-LUECKEL](#)¹⁾, [Helmut CÖLFEN](#)²⁾ and [Andrej M. KIELBASSA](#)¹⁾

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Abstract:

To prevent enamel lesions from further demineralization, a complete and homogeneous penetration of low-viscosity resins ('infiltrants') should be accomplished. With commercially available adhesives, this goal might not be achieved because of their penetration capabilities. On this note, the Penetration Coefficient (PC) describes the penetrativity of liquids and might be employed to develop optimal infiltrants. Thus, the aim of this study was to compare the penetration abilities of 12 experimental infiltrants (BisGMA/TEGDMA comonomers showing varying PCs) with a commercially available adhesive (Excite, Vivadent). In each of the 156 bovine enamel specimens, four subsurface lesions were created. Three of the four lesions were infiltrated with either the adhesive or one of 12 experimental resins for either 10, 22, or 40 seconds, and subsequently light-cured. Specimens were studied using confocal microscopy and penetration depths were determined. A good correlation between PC and penetration depth was thereby observed (Pearson's correlation coefficient, $r=0.820$).

Key words:[Caries](#), [Infiltration](#), [Infiltrant](#)



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