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[\[Image PDF \(893K\)\]](#) [\[References\]](#)**Silorane-based Dental Composite: Behavior and Abilities**[Nicoleta ILIE](#)¹⁾ and [Reinhard HICKEL](#)¹⁾

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Abstract:

The purpose of this study was to examine the characteristics of an innovative composite material for dental restorations based on silorane — a monomer with a new chemical composition, and thereby compare the examined characteristics against those of well-known methacrylate-based composites.

Degree of conversion at 2-mm and 6-mm depths as well as hardness, modulus of elasticity, and creep resistance through the middle of 6-mm high samples were measured. It was observed that up to 20 minutes after curing, curing time — and not irradiance — played the determinant role for a high degree of cure. No differences were registered between the two categories of material in terms of hardness. However, modulus of elasticity of the silorane-based material was slightly lower and the creep resistance higher than a methacrylate composite (Tetric EvoCeram). In conclusion, siloranes exhibited good mechanical properties comparable to those of clinically successful methacrylate-based composite materials.

Key words:[Silorane](#), [Degree of cure](#), [Hardness](#)

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