Acid resistant ceramics

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Aim: The aim of this article is to explain chemical composition of acid-resistant ceramics and its influence on bonding.

Minimally invasive restorative dentistry has gained popularity based on the development and improvement of adhesive systems, resin cements and ceramics. More conservative partial coverage can now be indicated with greater predictability. For these indications to be successful, more efficient and lasting bonding both to tooth structure and to restorative material have become essential. Besides surface etching of tooth structure correct surface treatment of ceramic surface contribute to the durability of the restorative procedure. In addition to ceramic classification according to composition, use, ..., these materials can also be classified based on susceptibility to surface degradation by hydrofluoric acid treatment. Acid-sensitive ceramics that hydrofluoric acid degradets the ceramic surface, and acid resistant ceramics that undergo little or no surface degradation by the action of hydrofluoric acid. These materials can be treated with air abrasion using aluminium oxide or silica particles. In addition some studies suggest resin cements containing monomer-phosphates. In this article we will discuss the detailed composition and bonding processes to acid resistance ceramics.

Conclusion: Combination of monomer -phosphate containing resin cements and silicoating provides the best results.