





Ceramics in Fixed Prosthodontics: Capabilities and Limitations

Ceramics are brittle materials and susceptible to fracture. Microscopic imperfections within the material, which grow into cracks, and if unimpeded, lead to catastrophic fracture of the ceramic. The cracks are propagated by the hostile oral environment: dynamic (occlusal forces) and humid (stress corrosion). Furthermore, static fatigue is time-dependent, which eventually results in breakage. Many strengthening mechanisms are used for halting Preventing fractures depends on the clinical scenario, method of fabrication of the restoration, the manufacturing technique and strengthening process of a specific ceramic. For ceramics to survive in the oral cavity, they must be supported, either by the natural tooth substrate or an artificial substructure.

-  ***Types of ceramics.***
-  ***Clinical indications and uses.***
-  ***Case considerations (preparation designs, fitting and adjustment, cementation).***
-  ***Longevity and causes of failure.***