

MORPHOLOGICAL AND ANALYTICAL STUDY OF THE CRYSTALLIZED PRODUCTS OF THE BIOGLASS-CERAMIC

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ABSTRACT

The characterization of materials is a vast field. Researchers are trying to improve the materials preparation techniques to optimize some of its desired properties.

In the system MgO - CaO - SiO₂ - P₂O₅ - CaF a glass ceramic was prepared the high purity (purity, 99%) powder by melting thoroughly mixed. The microstructure of the crystallized products of this glass ceramic was observed under a scanning electron microscope (SEM) and also analyzed these by X-ray Diffractometer (XRD). Some properties of this glass ceramic material were studied. This material is very useful because of its high strength and prosthetic properties and could be used to replace defective/ badly crushed animal living bone. This glass-ceramics is in fact a bioglass ceramics and could be used as a bio material.

In this paper a brief description of bioglass ceramic, its preparation and the implantation of this glass ceramic are given.