B A B IX

S U M M A R Y

This thesis describes a study about addition of silane solution (silane treatment) to methylmetacrylate monomer as an effort to increase the strength of acrylic resin.

The addition of silane solution has the purpose of being the crosslink material, so that during the polymerization a new polymer with crosslinked branches will be formed (3 dimensional polymer) This make a raise in the average molecule weight possible and reduce the residual monomer . The result of the study proves that the strength variability, in this case the transverse strength and the molecule weight increased ,while the residual monomer decreased .

On the carbon clearance test ,the silane treatment did not increase the number of phagocyte cells and also did not cause a proliferation of lymphocytes on the myxed lymphocytes culture of the laboratory animal.

Heat cured monomer liquid,as the main material for the denture base has a mitosis index of < 1 , which means that the material has a compatible character ,while the cold cured monomer on the myxed lymphocyted culture test showed a mitosis of > 1,which means a proliferation of lymphocytes. Therefore cold cured monomer has not a biocompatible character as it is with the heat cured monomer and silane liquid used as a crosslink agent .