Dian Bagus Aryfandi, 2010."THE EFFECT OF ADDITION *FLUORIDE* TO CHARACTERISTICS OF AMALGAM *HIGH COOPER* TYPE *BLENDED ALLOY*". This thesis under the guidance of Ir. Aminatun, M.Si. dan Drs. Siswanto, M.Si. Course of Physics, Faculty of Science and Technology, University of Airlangga.

ABSTRACT

This research was conducted to determine the effect of addition *fluoride* to the characteristics of amalgam *high cooper* type *blended alloy*. The characteristics consist of mechanic propertis (hardness and compressive strength) and physic properties (density) include by the microscopic conditions and chemistry properties (corrosion rate). This research also to determine the precent of *fluoride* that applied as suitable for material dental restoration. The alloy was made by mixing the amalgam powder and mercury with ratio 1:1 and addition by *fluoride* with variation of 0%, 1%, 1,5%, 2%, 2.5% dan 3%. This powder is mixed with an amalgamator and then pressed and colded with temperature 27°C for 24 hours. Based on results, XRD obtained from the authors obtained a compound consisting of the amalgam are Ag, Sn, Cu, Zn and *fluoride* with homogeneous distributions, hardness and density of amalgam increased with the addition of *fluoride* and compressive strength was declines. From 6 samples of amalgam has obtained that is characterized by variations *fluoride* at 2% have more suitable properties to be applied as a material dental restoration.

Keywords: amalgam, fluoride,density, high cooper blended alloy, corrosion rate