

CHAPTER V

CONCLUSSIONS AND SUGGESTIONS

5.1 Conclusions

Based on the results of the research that has been done, several conclusions are obtained including:

1. Differences in sintering temperature produce different adhesion strengths. The sintering temperature affects the surface morphology of the hydroxyapatite layer. When the samples are sintered at 700 °C, cracks are seen that are not as large and numerous as in the samples sintered at 800 °C and 900 °C. So that when testing the adhesion strength of the sample sintered at 700 °C has the highest adhesion strength.
2. The sintering temperature also affects the covered surface. When the sample is sintered at 700 °C, a high covered surface value is obtained, namely 91.6 %. The covered surface value is the highest because very few layers detach because the cracks that appeared are not too large so the layers that detach from the titanium TNTZ are not as many as the samples sintered at 800 °C and 900 °C. This shows that the sample sintered at 700 °C has the highest adhesion strength.
3. The sintering temperature also affects the thickness of the coating. The hydroxyapatite layer having a tendency to agglomerate when sintered at high temperatures This is because the higher the layer thickness, the lower the adhesion strength.
4. The highest adhesion strength value is obtained when the sample is sintered at 700 °C, because the surface morphology is not cracked, the covered surface value is high, that is 91.6 %, the thickness value is the lowest compared to other samples, that is 198 μm .

5.2 Suggestions

1. It is Suggested that further studies find the right chemical composition to produce a hydroxyapatite solution that that when sintered has a thickness according to biomedical standards
2. Do a test on the simulation body fluid to see the adhesion strength of the coating when applied to the human body.