Chapter 5

Conclusion

In the study on the strengthening of MP and TP materials, it was concluded as follows:

1. The maximum compressive strength of the MP and TP specimens sintered at 1200°C were shown to be 203±28 MPa and 291±29 MPa respectively. These results were higher than the values from Kochawattana's work(1993) which obtained the compressive strength of 118±32 MPa and 139±27 MPa for MP and TP because material contains smaller grain size that can achieved by attrition milling.

2. The properties of the sintered specimens obtained from a combination of MP and TP powders were found inferior to the original MP and TP material due to the formation of loosely uniform microstructure in a mixture.

3. The strengthening TP body by coating was unsatisfactory because the compressive surface stresses was not induced on the surface between the body and the coating owing to many factors including:

- the difference in thermal expansion coefficient was too small.
- the difference linear shrinkage was considerably great.
- the properties of the coated TP were poorer than that of the uncoated one.
- The occurrence of the second phase in the coated TP was very small.