

**FINISHING PROPERTIES OF POLYURETHANE, NITROCELLULOSE  
AND ACID CATALYST BASED COATINGS ON  
PUNAH (*TETRAMERISTA GLABRA*)**

By

**HAIRULFIZA MD AROF**

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This study evaluates the surface properties of the finished Punah (*Tetramerista glabra*). The idea is to promote Punah as one of the commercial timber in furniture industry. This study is carried out to study the suitability of three types of lacquers i.e. Polyurethane, Acid catalyst and Nitrocellulose. The specimens were coated with four types of finishing system; (A) Filler, sanding sealer and topcoat (B) sanding sealer and topcoat (C) Filler and topcoat (D) topcoat (3 coats). The coated specimens were assessed for impact, scratch, abrasion, heat, adhesion, gloss, cold check, household liquid, solvent and chemical resistance. From this study, PU lacquer shows a good resistance against impact, scratch, heat, gloss, cold check, household, solvent and chemical but less for adhesion test. AC has good resistance against all type of test except for gloss. NC gives better gloss compared to AC lacquer. System C (Filler and topcoat) shows a good finishing performance as compared to system A, B and D.

## **CHAPTER 1**

### **INTRODUCTION**

Finishing is the science, art and technology concerned with the design, development and adoption of system for protecting the various forms of wood and other materials and also for decorative purposes (Shakri,1998). The art of finishing has gradually become the science of coatings, which tend to bring out or often change the natural character of the wood. The most important purpose of finishing furniture is to develop the natural beauty of the wood. Finishing also offers protection against everyday use and common household solvents. Finishing emphasizes the features of design. The true beauty can best be developed by the proper finishing techniques. Considerable variety can also be obtained by finishing the same furniture design in different color. The process also allows for the use of less expensive woods, which can be finished to imitate the more costly woods. Good finishing depends very much on good workmanship, but selecting the right material and the right equipment also plays an equally important part. The most important factor that must be considered is through right formulation, proper handling and applying in order to achieve for high quality finish. Finishing materials and techniques are getting more and more complex. Chemicals and finishes have to be introduced to accommodate specific demands, to meet local environmental restrictions and also to work on sophisticated application and drying equipment which is being also develop to allow more productive finishing operations.