
**FINISHING PROPERTIES OF POLYURETHANE, NITROCELLULOSE AND
ACID-CATALYSED BASED COATINGS ON RENGAS (*Gluta sp.*)**



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By

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In this study, the coatings properties and performance were determined by conducting 9 types of tests, which reveal the resistance of the coatings towards mechanical property, abrasion, chemical, heat, adhesion and also the property of gloss. Types of coating studied include Polyurethane, Nitrocellulose, and Acid-Catalysed where they were applied using four different types of finishing system i.e.: A: Wood Filler + Sealer + Top coat, B: Sealer + Top coat, C: Wood Filler + Top coat, and D: Three layers of top coat. PU and AC perform well in all tests. Meanwhile, system D is suitable to be applied when concerning with properties such as abrasion, hardness, scratch and gloss. System C is the best system to resist heat and system B is the best system for adhesion. The combination of PU with system D is best for gloss and hardness properties. When applied with system C, PU provides good abrasion resistance. AC is best applied with system C to resist heat and scratch whereas when combined with system B and D, it is good towards adhesion.

CHAPTER 1

INTRODUCTION

1.1 General Problems in Finishing

“To protect and to decorate” are the two main reasons to apply finishing. In particular, it is intended to obscure, to colour, to give particular luster, to fill holes and defects, to adhere to almost any surface with as little cleaning as possible and to dry out in a convenient time (Alner, 1968). Various problems arise whether before, during or after the application of finishing. These problems may occur due to the composition of the finishing materials, the preparation of substrate surface or simply caused by applying the wrong technique of finishing application.

Unsatisfactory finishing might resulted from using lacquers or finishing materials, which have exceed its shelf life, applying wrong mixing ratios and viscosity, does not accustom with various finishing techniques and also the occurrence of unfavourable condition during the finishing application. There are many other factors that have to be considered in order to produce the best finishing. Some of the most common problems in finishing are bubbles, orange peel, sagging, cracking and many more. Solutions were created in order to reduce and to avoid these problems and most of them can be overcome. However, the most crucial and important part is after the application when it