EVALUATION OF INTERNAL PROPERTIES OF BAMBOO PARTICLEBOARD USING COMPUTERIZED RADIOGRAPHY TESTING

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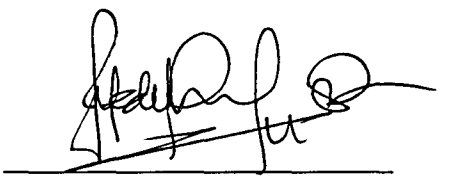

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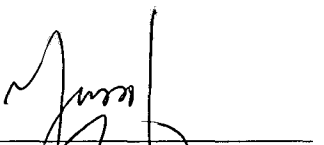

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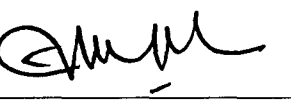

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ABSTRACT

EVALUATION OF INTERNAL PROPERTIES OF BAMBOO PARTICLE BOARD BY USING CRT

The aim of this research is to evaluate internal properties of bamboo particle board such as density and thickness weather it is effect or not the exposure time of x-ray to penetrate the samples by constructing exposure chart. The particle board was made based on the three density level which is 700kg/m^3, 800kg/m^3 and 900kg/m^3. Each density consist of six different thickness which is 10, 20, 30, 40, 50, 60 mm. Then the sample was exposed to the x-ray source using both conventional radiography as a test shoot and CRT for construct the exposure chart by setting the source-to-film (SFD) and current(mA) to be constant. Then, by varied the penetration power of x-ray tube and thickness of the samples, the radiographic images produced was then evaluated using densitometer for conventional and D-Tech Software for CRT in order to determine the film density. When the film density is in the range of 1.9 to 2.0, then exposure chart of each density was constructed. This exposure chart show the exposure time is directly proportional to the thickness of the sample and inversely proportional to the penetration power. From the exposure chart the best penetration power in this study was found to be 80 kV.

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