

Preeyanuch Anukul 2014: Development of Laboratory Creping on Tissue Paper for Evaluating the Quality of Industrial Pulp Raw Materials. Master of Science (Wood and Paper Industrial Technology), Major Field: Wood and Paper Industrial Technology, Department of Forest Products. Thesis Advisor: Assistant Professor Phichit Somboon, D.Sc. (Tech) 94 pages.

The required properties of tissue paper including softness and liquid absorption are predominantly manipulated by the creping process, which cannot be simply produced in the laboratory. This causes problems in controlling the stock quality prepared using the various types of industrial pulps, and consequently affects the creping operation and tissue quality. Therefore, this research work had the objectives to develop a laboratory creping method and to apply it for the evaluation and control of the quality of the pulp raw materials used in industrial tissue production. The experiment consisted of the development of a laboratory wet creping method where the creping devices and the creping conditions including the basis weight of the base paper, the sheet dryness and the degrees of pulp refining were studied. The results showed that the developed wet creping method could produce crepes on laboratory sheets. The structures of the creped sheets were engineered to improve their softness and liquid absorption while typical laboratory sheets were not able to be so engineered. The tested pulps were found to produce significantly different responses to the laboratory wet creping depended on their morphology and the mechanical treatments. The examination of industrial pulps found that eucalypt, acacia, bagasse, bamboo, OCC and deinking pulps needed to be manipulated using different refining levels, and required optimization degree of their softness, liquid absorption and strength properties.

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Thesis Advisor's signature

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