

WET STRENGTH IN PAPER MAKING FROM OIL PALM FRONDS

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ABSTRACT

WET STRENGTH IN PAPER MAKING FROM OIL PALM FRONDS

The study reviews the physical and chemical characteristics of paper from oil palm fronds (OPF) with addition of wet strength resin. OPF show highest potential as it has similarity with other basic material usually used in production of paper which in scope of composition, physical and chemical properties. OPF have the content of hemicellulose, lignin and α -Cellulose in OPF tally percent with other raw material of paper Oil Palm Frond from a group of hardwood fibre which provide 1.5 cm – 2.0 cm of fibre length. Formation of good strength of paper depends on fibre length and the way treated it. Addition of Melamine Urea Formaldehyde (MUF) into Oil Palm Fronds (OPF) pulp fibre allows the paper to retain significant amount of tensile strength when wet. Ratio 5% of MUF is selected as the optimum one as it shows the highest of wet tensile strength. Melamine Urea Formaldehyde (MUF) gives higher degree of interatomic attraction which is hydrogen bonding than normally occurs in paper but usually in paper for filtration. The wet tensile strength is essential one to focus on this study between OPF paper and filter paper. The values were compared which are 17.23 g/nm^2 for Oil Palm Fronds (OPF) Paper with Melamine Urea Formaldehyde (MUF) and 26.44 g/nm^2 for commercial filter paper. Oil Palm Fronds (OPF) as raw material with addition of glue showed tremendous potential can be like commercial filter paper as the result between both showed almost alike in mechanical and chemical testing.