

골판지 고지의 물리화학적 처리에 의한 강도향상 (제2보)

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Strength property improvement of OCC-based paper by chemical and mechanical treatments (2)

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ABSTRACT

In the previous experiment¹⁾, it was found that OCC pre-treatment with Hobat mixer at 20-25% consistency for 3 hrs or more followed by the application of the equal refining time, caused the increase of tensile strength, burst strength, compressive strength and tear resistance, compared to the no pre-treated. Four completely different fibers, which were Hw-BKP, Sw-BKP, White ledger, and OCC were selected for this experiment to investigate the effect of mechanical pre-treatment process on different fibers. From the experiment, it was found that the mechanical pre-treatment did not decrease fiber length at all, but decreased freeness, compared to the no pre-treated, when the same refining time was applied. WRVs of the pre-treated fibers were higher than the no pre-treated at the same freeness level. It was speculated that the mechanical pre-treatment induced only hydrophilic nature of fibers without damaging fiber length by delaminating fiber walls. The fiber surface area and the physical strength differences of handsheets will be discussed in the next publication.

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