

리파아제를 적용한 신문지 탈묵의 수율 변화 및 영향인자

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Although cleaner and cheaper deinking of ONP could be performed at the neutral or low alkaline condition, excessive loss from flotation is unavoidable and so reduction of alkali or caustic soda dosage sacrifices recycling yield. Now the new trade-off regarding alkali dosage versus flotation yield and ink removal is urgently required in order to set the optimized neutral or near neutral deinking process.

Lipase from *Thermomyces Lanuginosus* showed desizing and deacetylation efficiency and it could be applied to pre flotation secondary stage in order to reduce the reject without sacrifice of optical properties of final products. Instead of inorganic base, biochemical catalyst, lipase could be applied as a special additive for the selective modification of valuable hydrophobic particles, for example cellulose fines and inorganic fillers coated by hydrophobic contaminants. As the enzymatic hydrolysis of ester bond could be made on the surface of hydrophobic particulates, unwanted float of fine particles would be prevented. Now we can control the flotation selectivity by modifying the hydrophobicity of fine materials in deinking stock by enzymatic pre treatment and so the reduction of production cost and the saves of recovered paper could be made with the preservation of environment. This study was concentrated on the evaluation of varied influencing factors of lipase applied flotation including flotation cell design, pH of stock, air mixing ratio and stage.