

## **LYOCELL STABILIZED COTTON NONWOVEN COMPOSITES**

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### **Abstract**

Recycled cotton fibers have been carded together with coarser cellulosic fibers (kenaf or bagasse) and nonwoven webs have been manufactured by needle-punching. Cellulosic solutions of different concentrations (0.5% and 2.0%) have been separately prepared by dissolving the same type of cotton fibers in N-methylmorpholine N-oxide monohydrate. These solutions have been subsequently used to replace synthetic polymers (olefin, polyesters) in the process of obtaining composite nonwovens from cellulosic fibers. All-cellulosic lyocell composite nonwovens have been thus formed by gluing together the needle-punched webs, pressing the web/cellulose solution/web sandwiches, washing out the solvent and drying. Mechanical properties of the lyocell stabilized cotton/bagasse nonwoven composites obtained in this way have been determined.