

Flame Retardant Study of Methylol Melamine Phosphate-Treated Cotton Fibre

Authors : Nurudeen Afolami Ayeni, Kasali Bello

Abstract : Methylolmelamine with increasing degree of methylol substitution and the phosphates derivatives were used to resinate cotton fabric (CF). The resination was carried out at different curing time and curing temperature. Generally, the results show a reduction in the flame propagation rate of the treated fabrics compared to the untreated cotton fabric (CF). While the flame retardancy of methylolmelamine-treated fibre could be attributed to the degree of crosslinking of fibre-resin network which promotes stability, the methylolmelamine phosphate-treated fabrics show better retardancy due to the intumescences action of the phosphate resin upon decomposition in the resin - fabric network.

Keywords : cotton fabric, flame retardant, methylolmelamine, crosslinking, resination

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