

Study on Effect of Hyperbranched Polymers on Sanitary Properties of Synthetic Leather

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Abstract: The synthetic leather was treated by hyperbranched polymer with terminal hydroxyl, and then the gas permeability, water vapor permeability and moisture absorption of the treated synthetic leather were studied. The preparation conditions were optimized. When the dosage of dye was 5%, the dosage of hyperbranched polymer with terminal hydroxyl was 10%. Under this condition, the synthetic leather's water vapor permeability and moisture absorption were found to be increased by 15% and 35%, and their values were 0.5254 mg/10cm²·24h and 0.0467 mg/10cm²·24h, respectively. However, the dosage of hyperbranched polymer with terminal hydroxyl had little influence on the gas permeability of the synthetic leather. Scanning Electronic Microscope (SEM) results showed that the synthetic fiber treated by hyperbranched polymer with terminal hydroxyl was incompact. The analysis result was in accordance with the true handle.

Key words: hyperbranched polymer; synthetic leather; water vapor permeability; moisture absorption