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PREPARATION OF PHASE CHANGE MATERIAL ON POLYESTER/COTTON BLEND

Fundamental principles of science are now increasingly employed for the manufacturing of innovative textile products which protect the consumer from dangers and risks; protection from extreme environment is one of the properties of textile products. This research is based on study of concentrations of phase change material (PCM) in textiles which can produce thermo-regulating characteristics to control body temperature useful for various daily wear and technical textiles. The latent heat which is absorbed during the process of phase change is studied and discussed in this research.
Polyester cotton bland fabrics were treated with phase change material (microencapsulated paraffin wax) by a pad dry cure. These microcapsules are bounded onto the fabric surface by using a binder. The microcapsules and their effectiveness are tested by using DSC(Differential Scanning Coloring Meter). The testing is further extended to the physical property in term of air permeability, stiffness and tensile strength to ensure the performance properties of the textile fabric. All the properties of treated fabric were evaluated with respect to the add-on of binder.

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