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CHARACTERIZATION OF STRUCTURAL CHANGES IN NONWOVEN FABRICS DURING LOAD-DEFORMATION EXPERIMENTS

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ABSTRACT

Current efforts to establish links between processing conditions and the structure and properties of nonwoven fabrics in general, and for point-bonded (spot-bonded) nonwovens in particular, would be served significantly by an *in situ* experimental visualization and measurement of the structural changes which occur during controlled-deformation experiments. In this study, structural parameters such as fiber orientation distribution function, bond-region strain, unit cell strain, and shear deformation of the unit cell during controlled-deformation experiments are explored to provide quantitative measures and so determine the role of bonding temperature on deformation behavior.