

Structure-Property Relationship of PAN Fibers Containing Polyacrylamide and Acrylamide/Acrylonitrile Copolymer

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Two types of hydrophilic polymers, viz. polyacrylamide(PAAm) and copolymers of acrylamide(AAm)/acrylonitrile(AN), were solution blended with PAN in nitric acid, and fibers were prepared from the blend solution.

In the previous study, the moisture regain and the static electricity were improved by blending PAAm and AAm/AN copolymers. It was, also, apparent that the effects of AAm/AN copolymers on the properties were greater than those of PAAm.

We have carried out further investigations on blend fibers including the shrinkage, the dynamic mechanical behavior and the FTIR study.

From the results of the shrinkage, the dynamic mechanical behavior and the FTIR study, the structure and properties for PAN and blend fibers have been investigated.