

INFLUENCE OF CHAIN RIGIDITY ON THE RHEOLOGICAL
PROPERTIES OF POLYAMIDES

Seung Sang Hwang, Byoung Chul Kim, Tae Won Son*,
Han Sik Yoon*, and Sung Ill Hong**

Polymer Processing Lab., KAIST

* Fibre and Polymer Synthesis Lab., KAIST

** Dep't of Textile Eng., Seoul National University

The rigidity of main chain segments may have a profound influence on the rheological properties of polyamides.

Three types of polyamides, wholly aromatic (poly(4,4'-phenyleneterephthalamide); PPD-T), ordered aromatic-aliphatic (poly(4,4'-terephthanilideadipamide); PTAd), and aliphatic (Nylon 66) were prepared. The rheological properties of the solutions of three polyamides in sulfuric acid were measured by means of Rheometrics Dynamic Spectrometer (RDS) equipped with modified plates. The morphology of liquid crystalline texture was observed with a polarizing microscope.

The influence of chain rigidity of polyamides will be discussed in terms of rheological properties and phase morphology.