**Morphological Studies of Crystallization in Thin Films o -----Orf PEO/PMMA Blends**

*Brian Okerberg and Hervé Marand*

Morphological development during crystallization of thin films of poly(ethylene oxide) (PEO) / poly(methyl methacrylaiginal Mte) (PMMA) blends has been reported. Studies focused on the effects of the bleessage--nd composition, PMMA molecular weight, film thickness, and crystalliza---From:tion temperature on the observed crystal morphology. As the blend composition was varied from 90 to 30 wt% PEO, the crystal morphology v Linda Maried from spherulites to needles and dendrites. Variation of the crystennitt [allization temperature and PMMA molecular weight resulted in similar changes in morphology. A morphological map demonstrating the roles of the experimental controls on the observed crystal morphology has been developedmailto:f. This map elix.comwas used as a tool for more detailed studies of the observed morphologies and morphological transitions. The dendritic region of the map (~ 30 – 40 wt% PEO) was studied in detail, focusing on sidebranch formation and coarsening. In-situ@verizon observations of morphological transitions, such as .net] Sedendrite/DBM and Dnt: MondBM/needle transitions, were also reported. The results of this work ay, Marchave helped to define new directions for the study of crystal morphologies, especially in the areas of spherulite formation and dendrh 14, 20itic growth.

Auth05 11:08or information:

Brian Okerberg

Mentor:  Christopher Soles

Polymers Division

Bldg 224, Room 23 PMTo: c0B, MS 8541

Phone: 5230

Fax: 30ommentsSubject: fa1-975-3928

Brian.okerberg@nist.gov

Not a member of Sigma Xi

Poster Category:  Materials