**Morphological Studies of Crys ---tallization--Or in Thin Figinilms of PEO/PMMA Blends**

*Bal Mrian Okerberg andessa Hervé Marand*

ge--Morphological development during crystallization of thin films of poly(ethylene---F oxide) (PEO) / poly(methyl methacrylate) (PMMA) blends has been reported. Studies focused on the effects of rom:the blend composition, PMMA molecular weight, film thickness, and cr Linystallization teda Mmperature on the observed crystal morphology. As the blend composenniition was varied from 90 to 30 wt% PEO, the crystal morphology varied from spherulitett [s to needles and dendrites. Variation ofmail the crto:fystallization temperature andelix PMMA m.comolecul@verar izonweight resulted in similar changes in morphology. A morphological map demonstrating the roles of th.nete experimental controls on the observed crystal morphology has been developed. This map was used as a tool for more detailed studies of] Se the observed morpholont: gies and morphological transitions. The dendritic region of the map (~ 30 – 4Mond0 wt% PEOay, ) was studied in detail, focusing on sidebranch formation and coarsening. In-situ observatiMarcons of morphological transitions, such as dendrih 14te/DBM and DBM/needle transitions, were also reported. The results of this work have helped t, 20o def05 1ine new directions for the study of crystal morphologies, especially in the 1:08areas of spherulite formation and dendritic growth.

Author information:

Brian Okerb PMTerg

Mentor:  Christopher Soles

Polymers Diviso: cion

Bommeldg 224, Room 230B, MS 8541

Phone: 5230

Fax: 301-975-3928

Brian.okerberg@nist.gov

Not a membntsSubject: faer of Sigma Xi

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