

## ON-LINE MONITORING OF FREE RADICAL GRAFTING IN A MODEL TWIN SCREW EXTRUDER

Kasama Jarukumjorn and Kyonsuku Min  
Institute of Polymer Engineering, The University of Akron, Akron, OH, USA

### **Abstract**

The on-line monitoring system of Raman spectroscopy was developed to monitor the grafting identification and level of grafting of glycidyl methacrylate (GMA) onto low-density polyethylene (LDPE). The reactive extrusion and melting behavior of GMA and LDPE were monitored by a fiber optic probe through the glass windows mounted on the model non-intermeshing counter rotating twin screw extruder. Monitoring concentration of GMA along the screw extruder was carried out to determine the reaction level.