

Abstract Submitted  
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**Spectroscopic Investigations on PVDF-MWCNTs Nanocomposites.** OSCAR GUERRERO, SAMANTHA RAMIREZ, ROBERT JONES, BRIAN YUST, JAMES HINTHORNE, MIRCEA CHIPARA, Univ of Texas Rio Grande Valley — Nanocomposites have been obtained by dispersing Multi Walled Carbon Nanotubes (MWCNTs) within polyvinylidene fluoride. Various samples loaded by 0 to 20 % wt. MWCNTs have been obtained by melt mixing using a Haake RheoMixer, with two counter rotating screws. The effect of the nanofiller concentration on the glass, melting, and crystallization temperatures, as determined from Differential Scanning Calorimetry measurements, is reported. Small shifts towards higher temperatures as the loading with MWCNTs was increased have been noticed. A detailed analysis on the effect of MWCNTs on the degree of crystallinity of PVDF is reported. Raman data obtained by using a Renishaw InVia spectrometer have been used to estimate the stress transfer. Additional information was obtained by FTIR and Wide Angle X-Ray Scattering. The nature of the crystalline phases was determined for each sample. Thermogravimetric data showed a small increase of the thermal stability of the polymeric matrix upon the loading with MWCNTs.

Oscar Guerrero  
Univ of Texas, Pan American

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