



OP-3-1030

Wednesday, May 11, 2011, 05:40-06:00 pm
Room: Ambassadeurs

HIGH GRAPHITIC CONTENT CARBON NANOCOMPOSITES

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The electromagnetic interference shielding effectiveness (EMI SE) of LLDPE composites reinforced by mesophase pitch-based carbon fibers and carbon nanofibers is reported. Thermal treatment of nanofibers showed that the intrinsic properties of the fillers affected the SE of the composites as well as the processing conditions. Thus, 20 wt% PR-19 HT composites (~106 μm), 100 mils thick showed SE values as high as 15 dB for most of the VHF-UHF frequency range of 30 MHz - 1.5 GHz. The composites also retained, relative to the pure LLDPE, half of its flexibility and strength as well as one fourth of the ductility.