

عنوان مقاله:

Effect of Functionalized Single-Walled Carbon Nanotubes on Mechanical and Physical Properties of Polyethylene Terephthalate

محل انتشار:

دهمین سمینار بین المللی علوم و تکنولوژی پلیمر (سال: 1391)

تعداد صفحات اصل مقاله: 1

نویسندگان:

A Keshavarzinezhad - Amir Kabir University of Technology, Tehran, Iran

A Arefazar - Amir Kabir University of Technology, Tehran, Iran

خلاصه مقاله:

Thermoplastic nanocomposite master batch (MB) of PET containing 1%wt SWNT-COOH were prepared through solution mixing method in laboratory and nano-composites with different amount of single-walled carbon nanotube (0- 0.05wt %) were prepared using MB dilution method with virgin PET via melt mixing. Effect of SWNT-COOH on crystallization, thermal and mechanical properties of PET and its nanocomposites were studied. RMS test were performed on neat and nanocomposite samples in order to determine the quality of dispersion in polymer matrix. SEM was performed to control the quality of as received SWNTCOOH. TEM was conducted to demonstrate the state of dispersion. AFM test were carried out to evaluate the state of dispersion in samples after different time and temperature of annealing. TGA was conducted to be ensured of the percentage of SWNT-COOH in prepared master batch. Direct mixing of SWNT-COOH in the range 0-0.05%wt was also performed and the change in properties of PET and nanocomposites made by master batch dilution method and direct mixing was also compared.

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/579902>

