

## عنوان مقاله:

A novel approach for producing PP/EPDM/Clay nanocomposite via heat assisted friction stirrs processing

## محل انتشار:

دوازدهمین سمینار بین المللی علوم و تکنولوژی پلیمر (سال: 1395)

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## خلاصه مقاله:

In this paper, Polypropylene/ethylene - propylene - diene monomer (PP/EPDM) nanocomposite with 5 wt% nanoclay are fabricated by friction stir processing (FSP) to determine the effect of process parameters such as tool rotational speed, traverse speed, shoulder temperature and number of passes on tensile and impact strength of this nanocomposite. Results indicated that with increase in rotational speed, shoulder temperature and number of passes, tensile strength increased and impact strength decreased. The maximum tensile and impact strength is obtained at the traverse speed of 30 mm / min and 45 mm / min, respectively. Simultaneous optimization of the input parameters for maximization of the output responses led to a tensile strength of 17.36 MPa and impact strength of 51.42 j / m achieved at rotational speed of 800 rpm, traverse speed of 50 mm / min, shoulder temperature of 150 °C and number .of passes of 3

## کلمات کلیدی:

Two phase nanocomposite, Polypropylene/Elastomer, Response surface methodology, Tensile strength, Impact strength

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/578140>

