



**DYNAMICALLY VULCANIZED PP/EPDM/ORGANOCLAY NANOCOMPOSITES: EFFECT OF PROCESSING CONDITIONS**

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Dynamically vulcanized thermoplastic elastomer nanocomposite samples based on Poly-Propylene (PP), Ethylene-Propylene Diene Monomer (EPDM) and Cloisite 15A WERE prepared via direct melt intercalation in a co-rotating twin screw extruder. The formulation used to prepare the nanocomposites is fixed and is equal to 75/20/5 (PP/PP-g-MA/Cloisite@15A), expressed in mass fractions. The objective of the present study is to investigate the effects of mixing sequence on the formation of mentioned nanocomposites. Samples are prepared with three different mixing sequences as: (A) PP+Cloisite 15A masterbatch preparation before compounding it with EPDM, (B) Preparation of EPDM+Cloisite 15A masterbatch before compounding these components with PP and (C) simultaneous mixing of PP, EPDM and Cloisite 15A. The state of dispersion is quantified by X-ray diffraction, transmission electron microscopy, and rheological measurements. results show that sequence of mixing do affect the properties of final nanocomposite.