ACRYLONITRILE –VINYLACETATE COPOLYMER / ULTRAFINE VADAKSTE CLAY DISPERSED POLYMER SYSTEMS

AKRILNITRILA –VINILACETĀTA KOPOLIMĒRA / VADAKSTES MĀLU SĪKDISPERSO POLIMĒRU SISTĒMU IZPĒTE

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Processing of ultrafine clay –polymer dispersed systems is one of many ways how to utilize recycled polymers and recover them to consumer appliances. Such dispersed systems are extraordinary materials. They are principally different to other recycling plastics due to incorporation of ultrafine, even nanosized particles to polymer matrix. Firstly, its successful nanolevel dispersion in bulk material provides main engineering properties enhancements, for example, strength, stiffness, barrier and flammability properties. Secondly, comparing with conventional recycled plastics, main performance properties of dispersed systems maintain in relatively high level owing to conservation of nanostructure elements and their potentially high reinforcing possibilities. However, traditional recycled polymers mostly show evident drop in properties that significantly narrow their application possibilities.

Thus, processing and properties of novel dispersed polymer –clay system based on acrylonitrile –vinylacetate copolymer and vadakste clay are investigated. Obviously, that influence of polymer, dispersed phase concentration and processing on final material structure –property correlation are very important and need to be carefully investigated. Strength, deformational, thermal, barrier properties and also morphology of processed nanocomposites are explored.

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