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PS-024. Polimeric Nanocomposites

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In two or more of the same or different groups of materials, In order to combine the best features or constitute a new feature,the material made by combining with these materials is called "Composite Materials". In the production of composite materials, polymer, metal, ceramic and their derivatives are used as matrix. Thermoplastic polymer structure is one of the most commonly used matrix materials. The main reasons are the eases of processing, mechanical properties, flexible structures and low density of polymers. It is determined that polymer nanocomposites varies according to properties depending on chemical nature of the polymer and filler, the ratio of crystalline of the polymers used and the order of the polymer chains. Today,polymers become an alternative to the natural materials and have a wide range of application. Polymeric nanocomposites are produced for up to several areas like the automotive and aerospace industry, the construction industry, sports equipment, household items. Today it is widely used in the field of aircraft, rockets, missiles, and high-quality sports equipments and also is used in automotive industry, tires, the construction and pressure-resistant pipes. The use of composite materials in aerospace, aviation, robotics and the other developing technologies are expected to be concentrated on in the next years. In recent years, there is increasing demand for the materials that are used in the polymer technology especially for adapting to the environment and being ecological day after day. The composite material developed with the addition of natural fiber becomes biocompatibilite and has durability. These composite materials are used in many different areas as alternative products with superior properties. Also, different surface modification processes, that are applied for improving the compatibility between the hydrophilic natural fibers and hydrophobic synthetic polymers, diversifies the application areas by improving the physical and performance properties of composite material.

Keywords: polymer, nanocomposites, natural fibers