

METHODS AND IMPORTANCE OF PROCESSING POLYMER COMPOSITE MATERIALS

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Abstract: This article analyzes the importance of polymer composite materials in industry and their recycling methods. Mechanical (non-destructive) and chemical-thermal (destructive) disposal methods are considered, as well as their environmental and economic efficiency. The prospects for biodegradation in polymer waste management are also discussed. Recycling is an important way to reduce the environmental impact of polymer waste.

Keywords: polymers, composite materials, recycling processing, utilization, ecology, biological decomposition, waste management.

Introduction: Polymers are in the composition different kind chemical to structures has there were, many in quantity components mutual chemical connection as a result harvest was heterogeneous natural or artificial are compounds. This materials modern industry almost all in areas including construction, mechanical engineering, aviation, marine in industry and medicine wide Polymer composite materials his/her own high mechanic durability, high level plasticity, as well as resistance to heat and corrosion relatively high endurance because of is an ideal material for innovative technologies. Thus together, polymer to their products demand and consumption sharp increase as a result their waste environment for serious ecological problems brought Therefore, the polymer composite materials effective again processing and disposal to do issues current on the day very urgent and priority from tasks to one has become [1].

Literature analysis: Polymer composite materials again of work importance.

Latest in years polymer composite of materials in industry wide application their waste amount to increase take came. This is environment pollution, natural of resources reduction and environmental problems to strengthen reason Therefore, the polymer waste again processing and disposal to do methods improvement today's scientific and practical importance has current to the point has become.

Paul C. Painter and M. M. Coleman in their in-research polymers mechanic again processing processes in detail analysis so, this of the method economic efficiency and environmental safety emphasized. Mechanic again processing – polymers chemical the composition without changing them granule in the form of again to work in mind it holds, this new in products wide application opportunity gives [2,3].

Chemical and heat with again work Richard F. Grossman polymer in the direction waste thermal utilization and there to energy convert processes learned. This method complicated polymer mixtures again work opportunity would give yes; ecological risks reduce for gases cleaning systems [4].

Polymer waste nature under the circumstances very slowly breaks down, this and far term during of the environment pollution reason This will be of materials high ecological harmful impact them efficient and innovative methods through again work and disposal to do necessity to the body Polymer composite materials again work not only the environment protection to do help gives, maybe economic efficiency in terms of increases. Repeat work in the process

waste new, high good quality to products is converted, that is with together natural from resources use decreases and energy saving stay opportunity is created.

Discussion: Polymer composite materials again work two main to the method divided into : nondestructive (mechanical) and destructive (chemical and thermal) with) disposal.

Nondestructive utilization is polymer materials chemical the composition noticeable without changing mechanic methods through again This is work. in a way waste before cleaned, then crushing, granulation and other mechanic from processes held, known in size granules harvest This is done. granules later new products working in the release raw material as This is used. of the method advantage is that the process is slow energy spends and the environment damage does not bring.

Destructive disposal polymers chemical and thermal methods using again to work own inside Chemical in disposal polymers to monomers or other chemical to compounds breaks down, this and new raw material as again used. Thermal in disposal and waste at a temperature of 130–190 °C melting or chemical decomposition through again work done This is method different polymer types again work opportunity gives, but energy expense high and to the environment damage to deliver danger available [1].

Again, from work except for polymer waste no to do for burn and biological decomposition methods available. Burn method easy and fast although ecological harmful is considered, because poisonous gases harvest does. That's why burn processes special in ovens and gas cleaning systems with equipment necessary. Biological decomposition and polymers natural in the environment microorganisms, ultraviolet light and water under the influence slowly Biodegradable to polymers polylactide example be takes.

Conclusion: Polymer composite of materials again processing modern industry and ecology for important importance has. Nondestructive disposal the most ecological safe and economical effective method is considered because it is the material chemical the composition saves, from waste high good quality new product to take opportunity gives. Destructive disposal and wide comprehensive is different kind of polymers again work opportunity gives, but energy costs and environmental There are risks. In the future biological decomposable polymers and their disposal technologies develop polymer waste in management important place holds.

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