ABSTRACT

In recent times, the plastic waste has become one of the leading issues of environmental protection and waste management. Polymer is also one of the plastics have been found in many applications of daily life and industries. Along with their extended use, the problem of plastic wastes appeared because, after withdrawal from use, they became persistent and noxious wastes. The possibility of reusing polymeric materials gives a possibility of valorization-a second life- and enables effective waste utilization to obtain consumable products. The 3D printing market is a well-growing sector. Printable filaments can be made from a variety of thermoplastic materials, including those from recycling. This paper focuses on a review of the available literature on the production of filaments for 3D printers from recycled polymers as the alternative to present approach of central selective collection of plastics. The possibility of recycling of basic thermoplastic materials and the impact of processing on their physicochemical and mechanical properties were verified. In addition, commercially available filaments produced from recycled materials and devices which allow self-production of filaments to 3D printing from plastic waste were reviewed.

Keywords: *filament machine, recycle, waste plastic, 3D Printer*