

عنوان مقاله:

Effect of aramid pulp fibers and irradiated Polytetrafluoroethylene (PTFE) on mechanical properties of Polyamide 6

محل انتشار:

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خلاصه مقاله:

Today, polyamide 6 (PA6)-reinforced polymeric materials are widely used as structural materials, and there is a growing interest in both commercial and scientific matters because of their advantages in engineering composites such as tribological applications [1]. To improve the stiffness and strength of the polymeric materials, fillers in the form of particulates and fibers are often added to them. Aramid pulp is a short, tough, highly fibrillated aramid fiber with suitable properties such as high wear resistance and high fatigue life, and good compatibility to be used in PA6 matrices [2-3]. A short-fiber reinforced system has higher degree of low-strain reinforcement compared to particulate-filler composites even at relatively low-fiber content [3]. On the other hand, extraordinary characteristics of Polytetrafluoroethylene (PTFE) such as very low friction coefficient, good high temperature stability and chemical stability are very appealing in tribological applications. PTFE is innately a low friction and inert material with low adhesion to polymeric matrices. Therefore, it is electron-beam irradiated to improve compatibility and dispersion in polymeric matrixes such as PA6 [4]. In this work, mechanical properties of polyamid 6/ aramid pulp fiber with Nano-size branches and polyamid 6/ Irradiated Polytetrafluoroethylene (PTFE) composites were investigated in order to produce a suitable composite for engineering composites for tribological applications.

کلمات کلیدی:

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