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BOOK OF ABSTRACTS

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The wear resistance of PETG polymers obtained by 3D printing

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Abstract

PETG polymers in comparison with others express many advantages, the shrinkage coefficient is minimal and adsorption of humidity almost non-existent. PETG polymers are also investigated on tribometer where coefficient of friction is recorded by software and width of the wear track is measured. The wear track of PETG polymers were the smallest in comparison with others investigated polymers, which led to the smallest volume of the worn part. The wear track was measured by using the universal microscope, and with the aim to prevent possible mistakes, one sample was measured five times.

PETG polymers have spread utilization in different areas. Until recently was unimaginable that elements made from polymers work on higher temperatures and in conditions where friction and wear are intense. The usage of PETG polymers overcome those problems, and the mentioned polymer was used even for bearing elements and operation at temperature up to 70 °C. Another advantage is good adhesive bonds during printing, which are directly connected with tribological and mechanical characteristics. Furthermore, exceptional accuracy when making elements is also an advantage. PETG polymers are used for conceptual methods, for making protypes, for making transmission elements, for production of auxiliary means and semi-transparent computer cases.

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