

Wet Sliding Wear and Frictional Behavior of Commercially Available Perspex

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Abstract : The tribological behavior of commercially used Perspex was evaluated under dry and wet sliding condition using a pin-on-disc wear tester with different applied loads ranging from 2.5 to 20 N. Experiments were conducted with varying sliding distance from 0.2 km to 4.6 km, wherein the sliding velocity was kept constant, 0.64 ms⁻¹. The results reveal that the weight loss increases with applied load and the sliding distance. The nature of the wear rate was very similar in both the sliding environments in which initially the wear rate increased very rapidly with increasing sliding distance and then progressed to a slower rate. Moreover, the wear rate in wet sliding environment was significantly lower than that under dry sliding condition. The worn surfaces were characterized by optical microscope and SEM. It is found that surface modification has significant effect on sliding wear performance of Perspex.

Keywords : Perspex, wear, friction, SEM

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