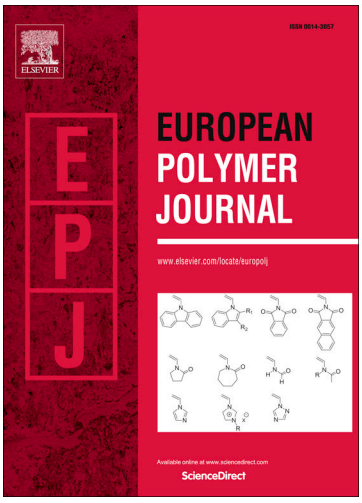

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Friction heating and effect on tribological properties of soft polyvinyl chloride sliding against steel

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Abstract: Polyvinyl chloride (PVC) has been widely used in our daily life and industry because of its low cost, lightweight, chemical resistance and corrosion resistance. Tribological properties of soft PVC were studied in regard to sliding conditions of rotation speed and normal load. And the friction heating was observed with an infrared camera. The results indicated that the anti-wear performance of PVC specimens are improved under higher speed and normal load due to the increase of friction heating during sliding. It is attributed to the softening and mobility of the PVC polymer chains caused by the heating generated from the friction at the contact interfaces.

Keywords: Tribology; Polyvinyl chloride; Friction heating; Wear

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