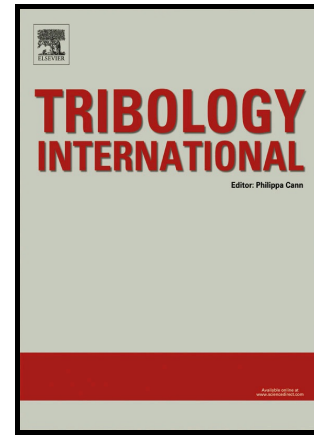


Author's Accepted Manuscript

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www.elsevier.com/locate/jtri

PII: S0301-679X(16)00027-X
DOI: <http://dx.doi.org/10.1016/j.triboint.2016.01.015>
Reference: JTRI4026

To appear in: *Tribology International*

Received date: 1 September 2015
Revised date: 24 December 2015
Accepted date: 7 January 2016

Cite this article as: Fuzhi Song, Qihua Wang and Tingmei Wang, Effects of glass fiber and molybdenum disulfide on tribological behaviors and PV limit of chopped carbon fiber reinforced Polytetrafluoroethylene composites, *Tribology International*, <http://dx.doi.org/10.1016/j.triboint.2016.01.015>

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Effects of glass fiber and molybdenum disulfide on tribological behaviors and PV limit of chopped carbon fiber reinforced Polytetrafluoroethylene composites

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Abstract

In this work, tribological behaviors and PV limit of chopped carbon fiber, glass fibers and MoS₂ reinforced PTFE composites were investigated. The experiment results revealed that single incorporation of MoS₂ could improve anti-wear property significantly under low velocity but shown a failure at 3 m/s. However, glass fibers deteriorated the wear resistance of the PTFE composite drastically as single filler. A synergistic effect was found for the combination of MoS₂ and glass fibers, which lead to the best tribological properties with the highest PV limits of 9.5 MPa·m/s at 1 m/s and 15 MPa·m/s at 2 m/s.

Keywords: MoS₂; glass fibers; synergistic effect; tribological behaviors.

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