

## Evaluation of PTFE Composites with Mineral Tailing Considering Friction, Wear and Cost

**Authors :** Antônio P. de Araújo Neto, Ruy D. A. da Silva Neto, Juliana R. de Souza, Salete K. P. de Medeiros, João T. N. de Medeiros

**Abstract :** The tribological test with Pin-On-Disc configuration measures friction and wear properties in dry or lubricated sliding surfaces of a variety of materials and coatings. Polymeric matrix composites loaded with mineral filler were used, 1%, 3%, 10%, 30%, and 50% mass percentage of filler, to reduce the material cost by using mineral tailings. Using a pin-on-disc tribometer to quantify coefficient of friction and wear resistance of the specimens. The parameters known to performing the test were 300 rpm rotation, normal load of 16N and duration of 33.5 minutes. The composite with 10% mineral filler performed better, considering that the wear resistance was good when compared to the other compositions and an average low coefficient of friction, in the order of  $\mu \leq 0.15$ .

**Keywords :** microcomposites, microparticles tailings of scheelite, PTFE, tribology

**Conference Title :** ICNNNT 2016 : International Conference on Nanomaterials, Nanotechnology and Nanomechanical Testing

**Conference Location :** London, United Kingdom

**Conference Dates :** January 18-19, 2016