The relationship between mechanical properties and friction of drawing MoS_2-filled Nylon 6 sheet

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Polymer-based self-lubrication composites have been successfully used for various applications. The tribological properties of nylon can be further enhanced by the addition of inorganic fillers. For improve the friction and wear properties of nylon, solid lubricant such as MoS2 have been used as fillers because of its low coefficient of friction and high environmental stability. And the heat drawing method was applied to MoS2-filled Nylon 6 sheet to improve their mechanical properties. We investigated the tensile strength, elongation and young's modulus of drawn MoS2-Nylon sheet to search relation of mechanical properties and friction coefficient. The friction behavior was examined on a block-on-ring wear tester where sliding occurred under dry condition.