Friction Measurements on Inclined Dry, Wet, and Glycerol-Contaminated Floors using Four Footwear Samples

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Abstract

Slips and falls are very common not only in industry but also in our daily activities. The coefficient of friction (COF) is coomonly adopted as a measure to quantify floor slipperiness and as an index to represent the risk of slipping and falling. A friction measurement study was conducted in the laboratory under four footwear, three surface, and three inclination conditions. The Brungraber Mark II slipmeter was used for the measurement. The results showed that all the main and interaction effects of the three factors were statistically significant. Dry floors had the highest COF, next with the wet floor, and finally the glycerol contaminated floors. The flat floor had the highest COF, next with the 5° floors, and finally the 10° ones. Treaded Neolite had better slip-resistance than flat Neolite. Treaded rubber, however, did not provided batter slip-resistance than that of the flat rubber sample.

Keyword：slips & falls, friction measurement, footwear,inclination, Brungraber Mark II.