

The measurements of friction coefficient on ramps among different floor materials

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### Abstract

This study investigates the influences of slopes on objective friction measurements of different floor materials. It is known that a person is more likely to slip when walking on a slope than when walking on a level surface. In term of the prevention of falls for elders and MMH (manual material handling) workers, slope is more commonly in the design of barrier-free environments. However, it could be a potential environmental risk of slip accidents. The environmental problems were generally caused by poor floor slipperiness. The coefficient of friction (COF) is one of important objective indexes to assess floor slipperiness. It is worthy to investigate that the influences of slope on COF. Thus, COF measurements under different slopes, floor materials and surface conditions were conducted in this study. The data were analyzed to investigate the influence of slope on objective friction measurements of floors. The results showed that the rougher surface and dry conditions had the higher COF values. The different slopes result in significant COF values; however, there is no significant trend. Therefore, there should be more warning signs and slip resistance facilities or accessories to reduce the chance to slip and fall on the slopes.

Keyword : slope, floor material, slipperiness, COF measurement