

## Skid Resistance – Important for Cycling Safety

A.Niska<sup>1</sup>

<sup>1</sup> Swedish National Road and Transport Research Institute  
VTI, SE-581 95 Linköping, Sweden  
e-mail: anna.niska@vti.se

### ABSTRACT

In Sweden approximately 8,000 cyclists are seeking medical care at emergency hospitals every year. Eight out of ten have been injured in a single bicycle accident. The loss of skid resistance has been the main contributing factor in 11 per cent of these accidents leading to a severely injured cyclist (ISS9+) [1]. In the wintertime skid resistance is reduced due to snow and ice and in the summer due to grit or leaves and debris on wet surfaces.

In this paper several studies conducted at VTI regarding skid resistance and cyclists will be summarised. Measurements of friction on cycleways have been done during several years to evaluate different winter maintenance methods and strategies [2, 3, 4]. The measuring equipment used was a Portable Friction Tester (PFT), originally designed to measure friction on road markings [5]. The measurements show a great variation in skid resistance due to the winter road condition but also due to the pavement material. This means that winter maintenance methods and strategies play an important role in reducing the number of single bicycle accidents related to the loss of skid resistance. However, the pavement material is also important, so is the bicycle tyres. In one study, we have compared the skid resistance on ice with different types of studded bicycle tires in a specially designed test track. The test included measurements of friction for both steering and braking.

**Keywords:** skid resistance, cyclists, friction measurements, safety, bicycle tires.

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