World Academy of Science, Engineering and Technology
International Journal of Civil and Environmental Engineering
Vol:19, No:01, 2025

# Evaluation of the Impact of Scraping Operations During Winter Road Maintenance on Pavement Skid Resistance

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**Abstract :** A series of in-situ tests is set up to evaluate and quantify the long-term effects of scraping operations using steel plows on the skid resistance of pavements. Three pavements are tested, and a total number of 1.800 snowplow scrapings are applied. The skid resistance of the pavements is measured periodically using two indicators on two scales: an average profile depth (macrotexture) and a longitudinal friction coefficient (microtexture). The results of these tests show a reduction in the average profile depth between 4 % and 10 %, depending on the asphalt composition. This reduction of macrotexture is correlated with the reduction of high points on surfaces due to the removal of portions of the aggregate surfaces. The longitudinal friction coefficient of pavements decreases by 4 % to 10 %. This reduction in microtexture is related to the polishing of the surface of the aggregate used in the pavements. These variations of skid resistance are not linear. A phenomenon of regeneration of the friction coefficient is observed for pavements composed of sand-lime aggregates after several scraping operations.

**Keywords :** griptester, macrotexture, microtexture, pavement, skid resistance, snowplow, TM2, winter road maintenance
**Conference Title :** ICCEE 2025 : International Conference on Civil and Environmental Engineering
**Conference Location :** Vancouver, Canada
**Conference Dates :** January 09-10, 2025