

## **SNOW PROPERTIES AND WINTER TIRE PERFORMANCE EVALUATION**

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Performance analysis of winter tires on snow are conducted on a regular basis seasonally. Committees have been formed to propose methods (standard practices) of defining the snow properties and/or preparation of snow test courses for purposes of tire performance evaluations. The current practice is to process a snow course by some means of compaction to achieve certain predetermined compaction states. The state of snow compaction is determined by a "drop cone" test.

The author proposes the use of instrumented vehicles to measure the snow strength properties of adhesion and the angle of interface shearing resistance. These properties are related to cohesion and the angle of internal friction in a granular medium, and will be supported by measurements of density, temperature, depth, and other documentary data.

The proposed tire performance rating parameters are developed from measurements of compaction energy dissipation and slip-shear energy dissipation, which are measured with an instrumented vehicle.