

Maintenance Advisory

MA 2009-10

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Maintenance Advisory
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The Use of Abrasives in Winter Operations

The intent of this advisory is to provide guidance on the use of abrasives in winter operations. Abrasives should be sand, gravel or slag suitable for the purpose of enhancing friction on packed snow and ice. Abrasives should only be used during weather conditions that preclude the use of de-icing chemicals and should be limited to application on hills, curves, intersections and known trouble spots.

Usage: Abrasives should be used during heavy freezing rain events or when the pavement temperatures are low enough that sodium chloride and other de-icing chemicals are not effective. When abrasives are used, it is suggested that they be prewetted with a de-icing liquid and used on known trouble spots and hills, curves and intersections.

Gradation: Abrasives should be of a fairly uniform size. All particles should be less than 3/8 inch diameter. It is best to use abrasives with highly fractured particles. The following gradation is recommended for sand.

Ice Control Sand – Sieve Analysis (MTM) 109	
Sieve Size	Percent Passing
3/8"	100
#4	95 – 100
#8	65 – 90
#30	20 – 65
#200	0 - 5

Application: Typically 600 to 1000 pounds per lane mile when mixed with 5 percent salt. If more salt is used, the rate should be reduced appropriately.

Abrasives should be applied when temperature or weather conditions warrant and in quantities and at intervals necessary to provide traction. When applying abrasives they should be prewetted with a de-icing agent to assure better adherence to the roadway.

Storage: Sand/salt stockpiles that contain more than 1 percent salt must be stored in an enclosed building or covered with waterproof tarps in accordance with the Michigan DEQ Salt and Brine Storage Guide.