

Environmental impacts

Abrasives have a negative environmental impact. They can clog storm water inlets and sewers. Abrasives may wash downstream, ending up in streams and lakes. Cleanup may be necessary in urban areas, on bridge decks, and in ditches.

Air pollution from particles less than 10 microns in size (pm 10) has been documented from winter abrasive use. Therefore, cleaner abrasives and quicker cleanup after the storm are required in areas with air pollution issues.

Abrasive Quality

Some sand and abrasives are more effective than others. To increase traction, use materials with crushed or angular particles. Very small particles and dirt actually reduce traction. Materials larger than the #50 sieve are most effective. To minimize windshield damage, use materials with particles size smaller than 3/8 inch.

Combining with Chemicals

Treat sand with 50-100 pounds of salt per cubic yard to keep it from becoming frozen and unworkable. It helps to anchor the sand into the ice surface, makes the sand easier to load from the stockpile, and makes it spread more evenly from mechanical spreaders.

Pre-wet sand with a liquid de-icing chemical just before spreading has proven effective to embed the abrasive on icy pavements.

Sources:

<http://www.usroads.com/journals/p/rmj/9712/rm971202.htm> November 16, 2006

<http://epdweb.engr.wisc.edu/pd/walker/22REV.pdf> November 17, 2006

<http://www.shabbir.com/pictures/mbpictures/plmb45snowplow.jpg> December 8, 2006



Ten Commandments for Snow Fighters

1. Thou shalt present thyself to thy job physically and mentally fit and properly clothed in order to withstand the rigors of thy task.
2. Thou shalt always inspect thy lights, windshield wipers, defrosters, flares, and other safety equipment before entering thy cab.
3. Thou shalt know thy spreading and plowing routes, as well as the performance of thy spinner and the life of thy plow blade.
4. Thou shalt faithfully remain alert in order to avoid guardrails, headers, stalled cars, man-hole covers, railroad tracks, and mailboxes. Otherwise thee may smite thy windshield with thy head.
5. Thou shalt contain thy temper, even though cars and trucks pass thee on both sides and tailgate thee too close for comfort. Anger only multiplies thy prospects of coming to grief by accident.
6. Thou shalt use thy radio as briefly as possible—assuming thee is fortunate enough to have one. Remember thy fellow workers may need to communicate in an emergency.
7. Thou shalt interrupt the flow of power to thy spreader before attempting to free any foreign objects or blockage if thee treasures thy fingers.
8. Thou shalt render thy truck and spreader out of gear and stoutly set thy brakes before dismounting from thy cab.
9. Thou shalt govern thy speed according to conditions; else thee may wind up with thy truck upside down.
10. Thou shalt mind thy manners on the roadway, clearly signal thy intentions, and remember that it is more blessed to give than to receive.

Sources:

Adapted from the National Local Technical Assistance Program/Salt Institute. Rural & Urban Roads, 1980

http://www.t2.unh.edu/pubs/maint_work_manual.pdf