SNOW AND ICE CONTROL MATERIALS

Each Subdistrict, in conjunction with the District, will determine the materials available for use. The materials used in snow and ice control may vary depending on the availability of the materials and “how” they are to be used. Whether the material is used before, during or after the storm can also determine which materials are selected.

Abrasives are used primarily during snow and ice control operations to improve traction. Such improvements may be short lived and their duration depends on many factors such as storm type, pavement type, and traffic conditions. Abrasives are used, mainly, on the backsides of hills that freeze over easily, on sharp curves and on rural intersections, especially with temperatures at 0 degrees Fahrenheit and lower. While abrasives are not snow and ice control chemicals and will neither prevent nor destroy the bond between the pavement and ice, they are sometimes used in combination with salt, during a salt shortage, as a measure of material conservation.

Anti-icing and deicing are two distinct snow and ice control strategies, which make use of chemical freezing-point depressants. The objective of anti-icing is to prevent the bonding of snow and ice with the pavement surface through timely application of chemicals. In contrast, the

objective of deicing is to destroy the bond between snow and/or ice with the pavement surface by chemical or physical means, or more likely, a combination of the two. Salt is widely used

because of its effectiveness at moderate subfreezing temperatures, relatively low-cost, availability and ease of application in the solid form with current spreader equipment. The chemicals available for roadway anti-icing and deicing treatments are sodium chloride (Salt), calcium chloride liquid and calcium chloride solid forms (pellet and flake), magnesium chloride (Mag- Chloride), agriculturally based products combined with magnesium chloride (Ice Beater, Ice Ban and Caliber) and a sodium chloride / water solution (Brine).

Pre-wetting can be accomplished by one of three methods. First, a pre-wetting chemical can be mixed into a material stockpile at a specified dosage. Second, a liquid chemical can be sprayed onto a loaded spreader-box or on the material in the loader bucket as it is being loaded into the spreader. Third, an on-board spray system mounted on the spreader and/or dump body can add a liquid chemical to the dry material at the time of spreading.

Any of the liquid chemicals can be used as anti-icing agents. Weather forecast information is the critical key for implementing anti-icing measures. Tanks are filled with the applicable chemical, the spray pattern is selected (12' - 36' coverage) and the temperature is right for application.

Handling abrasives, salt and other chemicals can be hazardous. Therefore it is important to follow all safety requirements for handling these materials. Federal and state law requires all chemical manufacturers to have a Materials Safety Data Sheet (MSDS) for each of their products. These sheets will be available at each unit.

There are several important factors involved with salt cleanup. Due to potential leeching, the chemical should be returned to the building's pad as soon as possible. When under cover again the loss of viable chemicals due to dissolving is reduced. The loader sheet (material record

sheet) can then be adjusted, so that the loader bucket run off will be accounted for, not lost to the elements.

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