
Effective: October 1, 2002 (Issued 5/02)32.00 Winter Operations - Operations
32.35 Anti-icing Technique

Supersedes: Initial Issue

By: Director, Bureau of Highway OperationsPage 1 of 2

A. General

Anti-icing is a proactive snow and ice control strategy of attempting to prevent the formation or the development of bonded snow and ice by the timely application of a freezing point depressant. Anti-icing can be efficient and cost effective when correctly used and approached with realistic expectations. Anti-icing has the potential of providing the benefit of increasing traffic safety at the lowest cost.

B. When to Anti-ice

- Anti-icing should be the first in a series of strategies considered for each winter storm.
- Anti-icing **should** be conducted prior to forecasted frost, freezing fog, or black ice events on bridge decks and trouble spots as a minimum, assuming conditions in this guideline for anti-icing are met. Other areas may be treated as determined by the county, on an as-needed basis.
- Anti-icing may also be conducted prior to light sleet and light snow events. If precipitation persists, additional anti-icing applications may be necessary to prevent re-freeze due to dilution of the chemical or a switch to de-icing applications may be necessary.
- Anti-icing should be conducted when the pavement temperature is at or above 23°F or the pavement temperatures are forecast to rise or stay above 23°F.
- Anti-icing should be done during normal non-overtime work hours. In the case of a county with normal overnight working hours, anti-icing could be done at night or other off peak traffic times. In counties where split shifts are not feasible, anti-icing should be done so as to minimize disruption to the traveling public.
- When possible, liquid agents should be used for anti-icing. Although applying pre-wetted salt prior to an event can technically be considered anti-icing, liquid agents work more effectively than solids for anti-icing and there is also less waste with liquids applications.
- Illinois, Iowa, and Minnesota DOTs have successfully anti-iced on highways with high traffic volumes (>100,000 AADT).
- When traffic volumes are high, use of a following vehicle should be considered. Additional application may also be required.

C. When Not to Anti-ice

- **Liquid anti-icing should not be conducted prior to forecasted freezing rain events.**
- Anti-icing should not be conducted when the anti-icing agents have the potential of causing snow to stick to the roadway under drifting conditions.
- Anti-icing should not be conducted when the pavement temperature is below 20°F or forecast to fall below 20°F.
- Anti-icing should not be conducted when the relative humidity is less than 30%.
- At this time counties have limited experience with applying anti-icing agents prior to moderate or heavy snowfall events, thus discretion is advised. When more experience has been gained, anti-icing may become a more viable option prior to heavier snow events.
- Anti-icing should not be attempted after the bond between the snow and the pavement has already occurred. Liquid should never be applied onto an icy or snow-packed surface.

D. Application Rates

Refer to Section 35.25 for appropriate anti-icing application rates.