Anti-icing Winter Maintenance Strategies

General Tips

Anti-icing is the proactive practice of applying a liquid deicer to dry pavement before the storm.

- It is intended to weaken the bond between the pavement and the snow to make physical removal of the snow easier.
- Anti-icing often allows for less material to be applied during or after the storm.
- Anti-icing is not intended to melt all of the snow that falls on it.
- Anti-icing will provide a small zone of melting under the snow.
- Anti-icing makes snow removal easier and leads to overall salt reduction.
- Calibrate equipment to ensure accurate application rates.

How to Use the Chart

- Recommended rates for salt brine are listed by each predicted type of event.
- Consider increasing your rates to the maximum rates:
    - When recommended rates for similar events in the past have not proven successful.
    - When the temperature is forecasted to go down.
    - If you are applying several days before the predicted storm.
    - If the forecasted precipitation is expected to be heavy.
- For products not listed in the chart, seek application rate advice from your vendor.

Product Tips

- Liquid products, not granular products, are recommended for anti-icing.
- Sodium Chloride (NaCl) brine is the most commonly used anti-icing product.
- Brine concentration can be easily tested with a hydrometer.
- Brine should be at a 23.3% (about 2.3 lbs of salt to 1 gal of water). This is its lowest freeze point concentration.
- When it is colder than 20 or 15 degrees F, there are other chemicals that can be used alone or added to brine to improve performance.
- Other liquid products can be used for anti-icing. Ask your vendor for application instructions.

When to use Anti-icing Strategies

✓ Do Anti-ice

- In advance of the storm. Twenty-four hours or less is ideal.
    - Anti-icing more than 24 hours before the storm may still work but it will depend on how much material is still on your pavements just before the storm. You may have to reapply.
- In a wet/dry pattern (e.g. streamer nozzles, not fan nozzles) *(see example below)*
- With pavement temperatures above 20˚ F. This is when brine anti-icing is most effective
- To prevent frost.

✗ Do Not Anti-ice

- On pavements with snow or ice.
- In drifting or blowing areas.
- With salt brine if pavement temperatures are below 15˚ F.
- Before a rain storm.
- On a poor quality broken-up parking lots or gravel.

Did it work?

- You should see snow melting on top of anti-icing as the first snow flakes fall, but the snow will soon accumulate on top of anti-icing.
- When removing the snow there is likely a thin slushy interface between the snow and pavement.
- You may see wet or partially wet tracks as the snow is pushed into the anti-icing chemical by vehicles or foot traffic.
- You may notice better traction (higher friction) on snowy surfaces that have been anti-iced.

Example of wet/dry anti-icing spread pattern

This is an incomplete list of strategies. For more information visit: www.wisaltwise.com

WI Salt Wise Partnership

Dane County Department of Land and Water Resources (LWRD) has determined that these guidelines establish a best maintenance practice for those fighting winter storms so they can provide high quality service and a lower impact on our environment. By issuing these guidelines, LWRD does not intend to extend its liability beyond that imposed by state statutes.

DANE COUNTY LAND&WATER RESOURCES DEPARTMENT