

Anti-Icing



Many people have heard the term deicing, which is the melting of ice and snow. But anti-icing is less understood, even though it has become increasingly important in recent years, as evidenced by the sight, reassuring to motorists, of trucks spraying salt brine *before* a snowstorm. Anti-icing prevents frozen precipitation from bonding to a road's surface.

In some circumstances, anti-icing can significantly cut the cost of maintaining a safe road surface when compared to conventional deicing. The main anti-icing material used is a saturated solution of road salt in water, called brine.

Anti-icing has several advantages.

- The roadway surface never becomes impassable.
- Anti-icing returns road surfaces to normal faster, resulting in fewer accidents and delays.
- Crews can cover more territory by beginning treatment in advance of a storm.
- Salt is used more efficiently because carefully controlled brine spray doesn't bounce or blow off the road surface. This saves money and minimizes potential losses to the environment.
- If a storm is delayed, salt residue remains on the road, ready to begin work as soon as precipitation starts.
- Anti-icing chemicals include sodium chloride, calcium chloride, magnesium chloride, potassium acetate, and calcium magnesium acetate. Each has its advantages and disadvantages but sodium chloride (salt) brine remains the best choice for anti-icing

above 15° F (-9.4° C).

Salt continues to work in temperatures as low as -6° F but may not be as effective as calcium or magnesium chloride at extremely low temperatures.

Those chemicals, however, can be significantly more expensive than salt, and are more difficult to handle. Also, they can leave a residue on pavement that attracts moisture, resulting in more slippery conditions.