

The Liquid Advantage

A Commercial Snow Contractor's Perspective

Intro

- Own a commercial snow and ice management company in Southern Minnesota. Service 130 acres of parking lots, many “zero tolerance”.
- Have not spread any significant granular product for 10 years
- Well managed pre-treatment and post treatment practices replaces 100% of conventional salting methods
- The right blends and application rates make all the difference!
- Have worked with more than 70 other companies to achieve similar success throughout the US and Canada

Contractor Talking Points

Contractors are not the largest chloride users, but opportunity for improvement is vast!

1. Educating customers on why they DON'T want to see mass amounts of salt on their lot.
2. Changes in slip/fall legislation need to continue to advance as not to encourage abuse and over application.
3. Stop billing by the ton or by the pound, it encourages abuse.

The reality is that some abuse is not intentional, but poorly calibrated salt spreaders and inexperienced operators, or operators who are used to overapplication have a hard time adjusting.

Parking lots are much more difficult to “dial in” salt spreader calibration as speed varies so much.

Liquid systems can have automatic speed rate control, (“set it and forget it”) with very high accuracy for a very reasonable price

Technological Advancement

Cloud Based Tracking

Geo-Fences- per site, intra-site, etc..

Friction Sensor data to deve

If you aren't measuring, you aren't managing

All of the advances equate to more consistent results



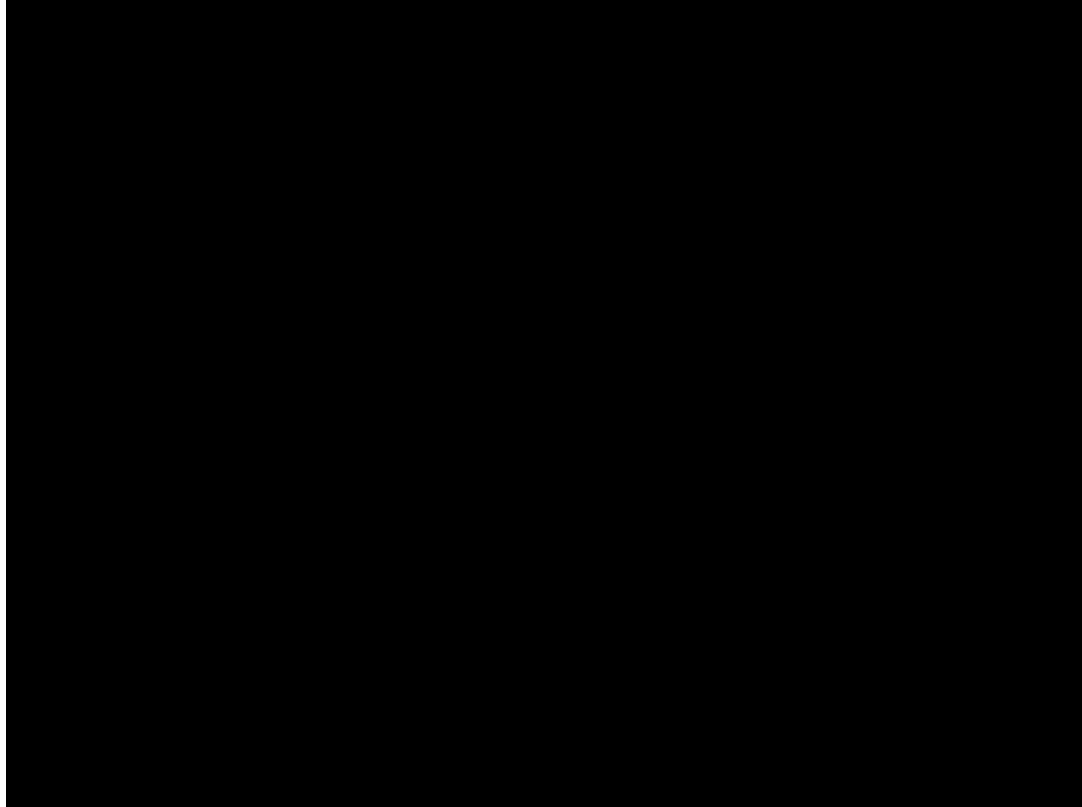
Efficient Sprayer Operation

You can apply liquids just as fast as you can apply salt with the right system!

Independant 3 Lane Boom System

Open flow system allows for high flow rates, which means the system is capable of operating at higher speeds

Working around objects, into corners, along buildings- Accurately without pelting them with salt



As much as

80%

Reduction in overall chloride applications by use of liquids for pre and post treatment!

Chloride Savings, By The Numbers

Average Application Rates with Salt:

450 lbs per acre on Pre-Applications

900 lbs per acre on Post-Applications

Average Application Rates with Liquid:

45 gallons per acre for pre-application

80 gallons per acre for post-application

This equates to our *45 gallon pre-treatment* containing 42.75 gallons of salt brine and 2.25 gallons of calcium chloride brine, for a total of 103 lbs of total chloride applied compared to 450 lbs on a granular app, **over 75% reduction.**

This equates to our *80 gallon post-treatment* containing 72 gallons of salt brine and 8 gallons of calcium chloride brine, for a total of 185 lbs of total chloride applied compared to 900 lbs on a granular app, **over an 80% reduction.**

The Outliers

Lowest Reported Application Rates with Salt:

150 lbs per acre on Pre-Applications

400 lbs per acre on Post-Applications

Average Application Rates with Liquid:

45 gallons per acre for pre-application

80 gallons per acre for post-application

Even compared to these low salt per acre rates compared to our AVERAGE liquid rates and we still **save over 30% on pre-apps** and **over 50% on post apps.**

The Brine Blend

23.3% Salt Brine (sodium chloride), contains 2.28 lbs of salt/gallon

Brine Additive, 32% calcium chloride w/ inhibitor, contains 2.65 lbs of cal/gallon

Pre-Treat Blend- 95% Salt Brine, 5% Additive

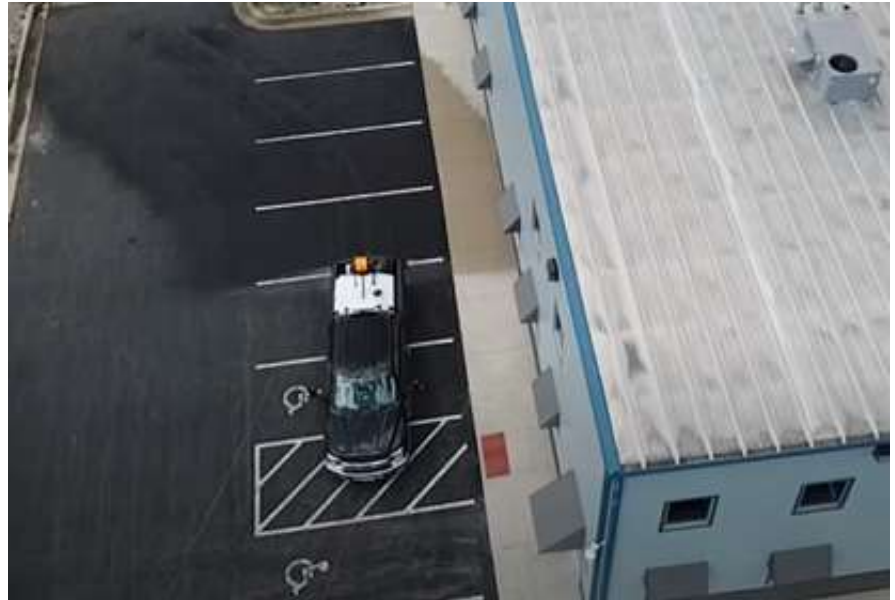
Post Treat Blend- 90% Salt brine, 10% Additive

Sidewalk/Sensitive Structures Blend, or for very cold temperatures below -5°F - 80% Salt Brine, 20% Additive give the additional corrosion and re-freeze protection.



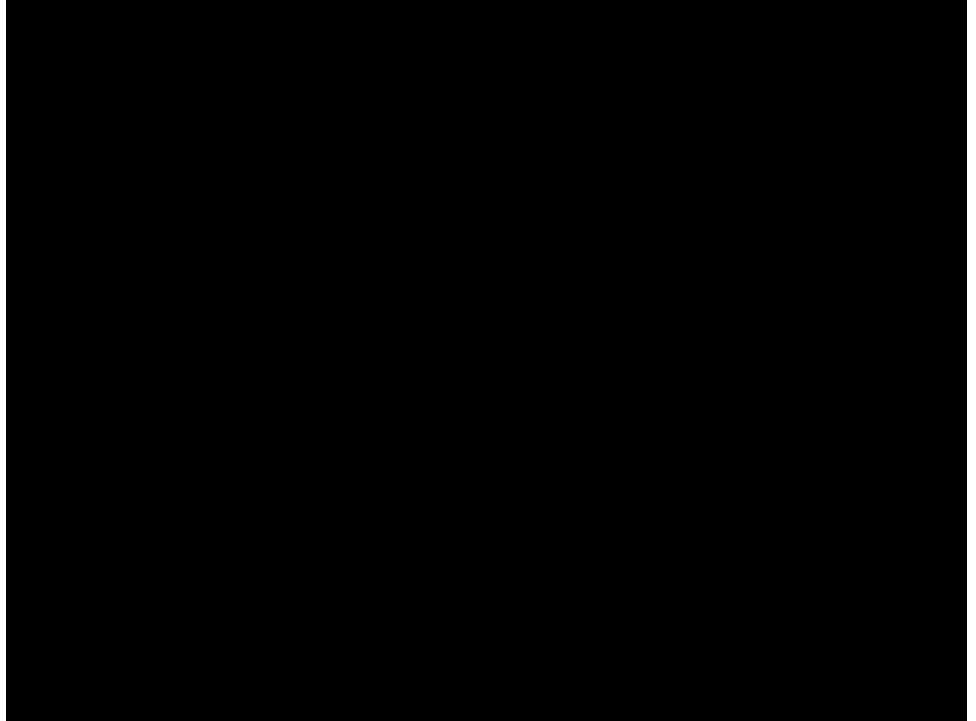
Advantages of Liquid Pre-Apps vs Granular

- Can apply liquid further ahead of snow without loss of effectiveness
- More effective at holding the surface even after running a plow over it
- Doesn't kill grass and shrubbery
- Doesn't blow away in the wind or get scattered off the surface by traffic
- Reduced chloride runoff into storm sewers



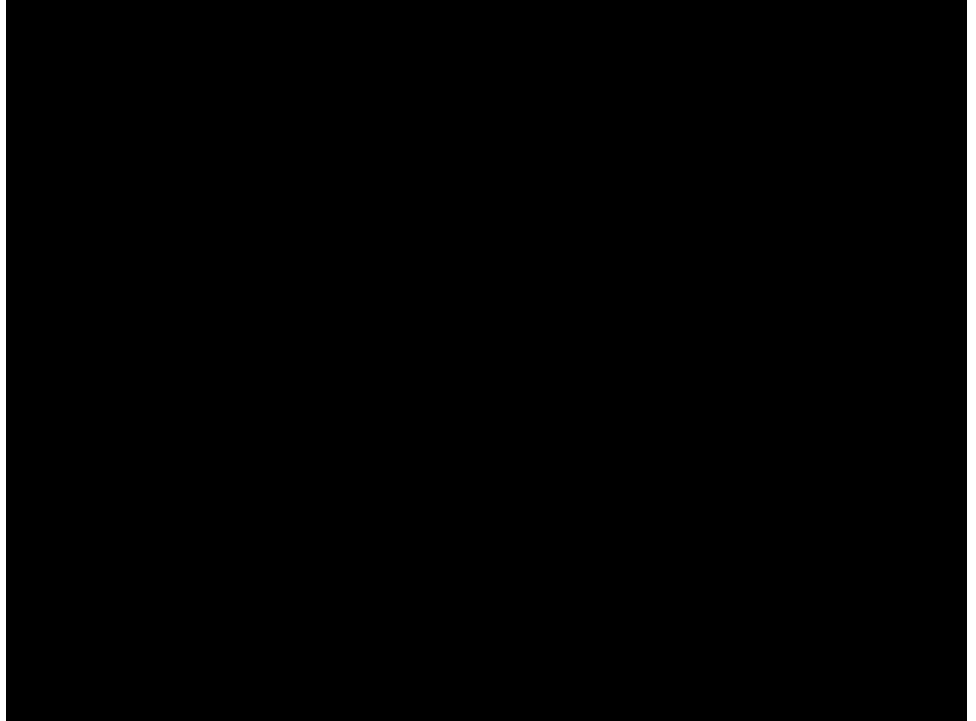
Mechanical snow and ice removal

- Quality mechanical removal of snow and ice is very important to success
- Proper pre-treatment is step 1, step 2 is to use the right equipment
- Floating edge sections plows make all of the difference!
- Rubber edge systems are not your friend when it comes to getting the best results, go with steel whenever possible



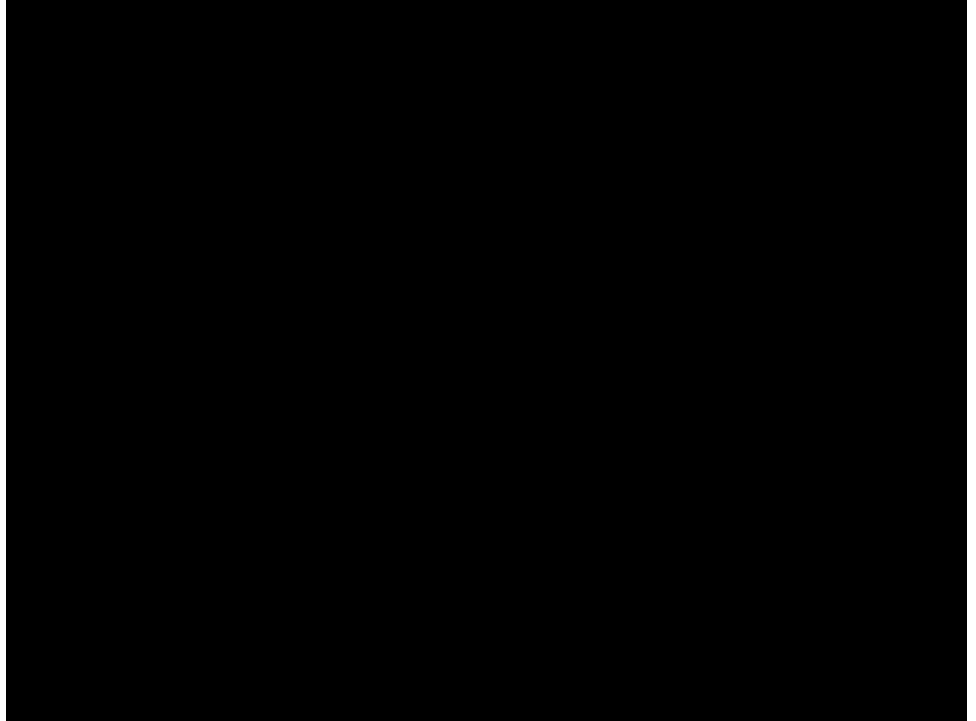
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Keys To Success

- Change our mindset- Better service with better practices and better products, not by putting down more salt
- Educate our customers that seeing salt on their lots is not a metric of success
- Properly calibrated and properly equipped spray systems makes success much more likely
- Proper equipment and best practices for mechanical snow removal is just as important as best practices with liquid or salt.

Thanks for Listening!

I am always happy to chat liquids or any snow related topics! Feel free to shoot me an email, text or give me a call anytime.

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