

# A CARGILL CASE HISTORY

Peters Township, PA

**ACCUBRINE**<sup>®</sup>  
AUTOMATED BRINE MAKER

## BRINE MAKER RESEARCH AND ANTI-ICING PREPARATION PAY OFF FOR PENNSYLVANIA TOWNSHIP

Saving costs, reducing labor and effectively anti-icing winter roadways were top concerns for Peters Township, Pa. when the municipality began considering investing in an in-house brine maker for pre-treating roads and pre-wetting salt.

"We read a lot about brine and have been watching the long-term, successful results in many Midwestern states like Iowa and Illinois for quite a while now," said Peter Overcashier, public works director for the Township.

After experimenting with agricultural products and other anti-icing and pre-wetting treatments the Township decided they needed a more cost-effective option that could handle their large-scale requirements. When the time came to make a purchase, the Township decided on an AccuBrine<sup>®</sup> automated brine maker from Cargill Deicing Technology.

The brine-making system allowed the Township to produce approximately 5,000 gallons of brine per hour right at their facility and then house it in nearby storage tanks. Using a fully automated process, the system produced brine with accurate salinity concentrations all at the touch of a button.

"It proved to be a user-friendly system," said Overcashier after testing the equipment.

Once they made the purchase, installation and training proved just as easy and the Township began preparing their fleet and crew for winter brine applications. Implementing a homemade tank for an application vehicle after his staff became accustomed to the system, Overcashier and his team were soon ready for winter.

### Freshman brine-making season a success.

It didn't take long for Peters Township to put their brine maker and application tank to the test. At the onset of winter a severe ice storm struck the region, glazing roadways with a perilously frozen coating. Fortunately, weather reports provided accurate predictions and the Township was able to successfully pre-treat major roads, streets and bridges approximately seven to eight hours in advance of the storm.

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Providing customers with deicing solutions that save lives, enhance commerce and reduce environmental impact.

**“I really didn’t think the brine would work so well in a freezing rain event,” Overcashier said. “I thought it would just wash off of the road, but it didn’t. We noticed a great difference between the streets that were treated with brine and the ones that were not treated. The untreated roads were like walking on glass.”**

– Peter Overcashier, Public Works  
Director, Peters Township, Pa



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ABCH-1103

The successful outcome from anti-icing on this particular storm and many others that followed throughout the winter allowed the Township to save on time and labor while maintaining safer driving conditions. To cover their 254 lane miles, the team used about 26,000 gallons of brine in one season for anti-icing and pre-wetting.

“The application crew really bought in to using the brine, and the system worked exactly like it was supposed to,” Overcashier said. “This first season was a learning curve since we had never used brine before, but most of the glitches came from us.”

One effort by the Township that went off without a hitch was the homemade brine tank, which operated at the correct proportion of 40 gallons per lane mile.

“It was by luck, but we fortunately managed to build the brine tank correctly,” Overcashier said, “We took a plastic, 400-gallon water tank, a sump pump and a generator, then basically hooked it up to a spray bar. After changing the spray nozzles one time, we hit the correct application rate of between 40 to 50 gallons per lane mile.”

#### **Brine becomes a central component of future winter maintenance.**

Following the successful inaugural season using the brine maker, the Township has plans to outfit additional trucks with pre-wetting equipment, increase the use of brine for pre-wetting and expand anti-icing treatments beyond their 50-mile priority routes.

“We’ve already upgraded to a 925-gallon brine tank that slides in and out of a dump truck body, which will replace our homemade tank,” said Overcashier.

Next season Peters Township also plans to track salt usage and determine just how much the municipality saves on total tonnage.

“The brine definitely helped salt applications run smoother and it seemed to help the salt work better in terms of melting ice and snow,” Overcashier said.

“Unfortunately, we didn’t have a chance to get a good evaluation of how much salt we saved from pre-wetting with brine.”

Revisiting their goals at the end of the season, the Township experienced cost savings, reduced labor needs and superior anti-icing results. The test for next season will be determining a reduction in salt tonnage.

“Making brine definitely met my expectations for simple use and effective anti-icing,” said Overcashier. “And once we start tracking the numbers for next season, I’m convinced we’ll reduce our salt usage. I have no doubts about that at all.”