

Deicing Application Rate Guidelines for Parking Lots and Sidewalks

These rates are adopted from application guidelines (Mn Snow & Ice Control Field Handbook, Manual 2005-1). Develop your own application rates using the guidelines as a starting point and modify them incrementally over time to fit your needs. The area should first be cleared of snow prior to applying chemical.

Pavement Temp. (°F) and Trend (↑↓)	Weather Condition	Maintenance Actions	Application Rate in lbs. per 100 square foot area			
			Salt Pre-wetted/Pre-treated with Salt Brine	Salt Pre-wetted/Pre-treated with Other Blends	Dry Salt	Winter Sand (Abrasives)
>30° ↑	Snow	Plow, treat intersections only	0.75	0.5	0.75	not recommended
	Frz. Rain	Apply chemical	1.25	1	1.5	not recommended
30° ↓	Snow	Plow & apply chemical	1.25	1	1.5	not recommended
	Frz. Rain	Apply chemical	1.5	1.25	1.75	not recommended
25-30° ↑	Snow	Plow & apply chemical	1.25	1	1.5	not recommended
	Frz. Rain	Apply chemical	1.5	1.25	1.75	not recommended
25-30° ↓	Snow	Plow & apply chemical	1.25	1	1.5	not recommended
	Frz. Rain	Apply chemical	1.75	1.5	2.25	3.25
20-25° ↑	Snow or Frz. Rain	Plow & apply chemical	1.75	1.5	2.25	3.25 for frz. rain
20-25° ↓	Snow	Plow & apply chemical	2	2	2.75	not recommended
	Frz. Rain	Apply chemical	2.5	2	3	3.25
15-20° ↑	Snow	Plow & apply chemical	2	2	2.75	not recommended
	Frz. Rain	Apply chemical	2.5	2	3	3.2
15-20° ↓	Snow or Frz. Rain	Plow & apply chemical	2.5	2	3	3.25 for frz. rain
	Snow	Plow, treat with blends, sand hazardous areas	not recommended	3	not recommended	5.0 spot treat as needed
<0°	Snow	Plow, treat with blends, sand hazardous areas	not recommended	4.5	not recommended	5.0 spot treat as needed

To determine the amount of material needed, take the application rate x parking lot area/ 1000 ft². **Example:** Given a 300,000 sq. ft. parking lot and an application rate of 1.5 lbs/1000 ft²: 1.5 x 300,000 = 450,000 450,000/1000 = 450 lbs (nine 50 lb. bags).

Anti-Icing Guidelines			
These are a starting point only. Adjust bases on your experience			
Condition	Gallons/ 100 sq. ft.		Other Products
	MgCl ₂	Salt Brine	
1. Regularly scheduled applications	0.1 - 0.2	0.25 - 0.3	Follow Manufacturers' recommendations
2. Prior to frost or black ice event	0.1 - 0.2	0.25 - 0.3	
3. Prior to light or moderate snow	0.1 - 0.2	0.2 - 0.4	

CAUTION: Too high an application rate may result in slippery conditions or tracking.

Winter Parking Lots and Sidewalk Maintenance: Roads, Parking Lots, Sidewalks, and Driveways

<p>Key Information needed:</p> <p>Pavement temperature (it will different than air temperature)</p> <p>Parking lot area (or dive lane distance) = Length x Width</p> <p>Amount of material your truck or sander delivers at each setting and speed.</p>

<p>Tips:</p> <ul style="list-style-type: none"> *De-icers melt snow and ice. They provide no traction on top of snow and ice. *Anti-icing prevents the bond from forming between pavement and ice. *De-icing works best if you plow before applying material. *Pick the right material for the pavement temperatures. *Sand only works on top of snow as traction. It provides no melting. *NaCl (road salt) does not work on cold days, less than 15°F.

Melt Times for Salt (NaCl) at Different Pavement Temperatures		
Pavement Temp. °F	One Pound of Salt (NaCl) melts	Melt Times
30°	46.3 lbs of ice	5 min.
25°	14.4 lbs of ice	10 min.
20°	8.6 lbs of ice	20 min.
15°	6.3 lbs of ice	1 hour
10°	4.9 lbs of ice	Dry salt is ineffective and will blow away before it melts

Melting Characteristics		
Pick your material based on lowest practical melting temperature, not eutectic, temperature which is often listed on the bag.	Chemical	Lowest Practical Melting Temp.
	CaCl ₂ (Calcium Chloride)	-20°F
	Kac (Potassium Acetate)	-15°F
	MgCl ₂ (Magnesium Chloride)	-10°F
	NaCl (Sodium Chloride)	15°F
	CMA (Calcium Magnesium Acetate)	20°F
	Blends	Check with Manufacturer
	Winter Sand/ Abrasives	Never Melts - Provide traction only

Variables affecting application rate	
Increase Rate if:	Decrease Rate if:
*Compaction occurs & cannot be removed mechanically.	*Light snow or freezing rain.
*There is a lot of snow left behind.	*Pavement Temperature is rising.
	*Subsequent applications.