



#### APPLICATION

## Cold Weather Liming

### FIELD-PROVEN SOLUTIONS TO KEEP PROJECTS ON TRACK

No matter the weather, contractors and project owners are tasked to stay on schedule and on budget with their projects. Hitting deadlines can prove especially difficult during the cold and wet fall, winter, and spring months. Mintek Resources offers solutions that will keep your project on schedule, under budget and allow you to extend your construction season.

### OUR SOLUTIONS

Mintek Resources offers a full array of solutions capable of drying, modifying, and stabilizing your wet, unworkable soils even during the coldest of months. This is possible due to an exothermic (heat generating) chemical reaction that occurs when our lime-based products, like Calciment® and quicklime, are exposed to moisture. Drying agents that are not capable of this degree of heat generation are simply not as effective due to lower temperatures inhibiting their ability to react. The substantial heat generated by our solutions drives the reaction of our products even in cold soils, drying it to your desired moisture and keeping your job on schedule. In extreme cases, this reaction has even been used to thaw frozen soils.

In addition to heating and drying, the unique chemistry of our lime-based products will dramatically improve the properties of troublesome clay soils. Improvements include reduced plasticity, increased short and long term strength, enhanced workability, decreased swell potential and added protection against loss of compaction from future wet-dry and freeze-thaw cycles.



FROZEN, UNWORKABLE SOIL



QUICKLIME BEING LAID ON FROZEN SOIL

#### SUMMARY

### → DON'T LET WEATHER SLOW YOUR PROJECTS DOWN

- Hitting project deadlines proves even more difficult in the cold and wet months
- Mintek Resources offers a full array of solutions that are capable of drying, modifying, and stabilizing soils even in the coldest of months
- When our products are applied, an exothermic reaction takes place when moisture is added - quickly drying up the project site
- Our lime-based products will also dramatically improve soil properties
- Some improvements you will see are increased strength and decreased swell potential
- Our tech experts are here to help you with your cold weather liming application and questions
- Adding water and horsepower are just a few of the tips we offer to help you save time and money when working in cold, wet conditions!

## 5 HELPFUL TIPS FOR COLD WEATHER LIME APPLICATION



### 1. ADD WATER

Although this sounds counterproductive, both Calciment® and quicklime need water to start the chemical reaction. This step is particularly important if the groundwater is at or near freezing.



### 2. UP THE DOSE

The more product you add the more heat that will be generated. If your job calls for a low percentage of product, you may need to add a bit more as the temperature drops to generate the heat needed to adequately warm the soil.



### 3. SEAL IN THE HEAT

Immediately following mixing, seal the surface with a smooth drum roller compactor. This will allow for better heat retention in the soil and accelerate the mellowing process. In ideal weather conditions, hydration for quicklime and Calciment® typically occurs within minutes to several hours. However, in cold temperatures of less than 40°F, a longer mellowing period may be needed to ensure a complete hydration of our product and reaction with the soil. If the soil is in jeopardy of freezing prior to final compaction, we recommend that you speak with someone on our technical staff to help you achieve your desired benefits.



### 4. DO NOT SKIMP ON THE HORSEPOWER

Use a soil reclaimer to mix in the product. The speed and power of a soil reclaimer will provide sufficient mixing of our product and the friction from the powerful mixing will provide some additional warmth to the soil.



### 5. GRANULAR SOILS

When cement stabilizing soils that are less conducive to lime, cold temperatures can significantly reduce Portland cements effectiveness. Adding just 1%-2% quicklime with the cement can provide the heat needed for it to react and harden as it would under warmer temperatures.



Spreading Quicklime  
& Mixing With Reclaimer



Moving Treated Soil  
to Fill Location



Workable, Treated Soil