Section 2314. Surface Application of Calcium Chloride

2314.01 DESCRIPTION.

Furnish and apply calcium chloride, with or without water furnished by the Contractor, as provided in the contract documents and according to the following provisions.

2314.02 MATERIALS.

Meet the following requirements:

A. Water.
Use water clear and free of suspended matter.

B. Calcium Chloride.
Unless otherwise provided in the contract documents, the Contractor has the option of providing calcium chloride in any of the forms meeting the requirements of Article 4194.01.

2314.03 CONSTRUCTION.

A. Equipment.
Meet the requirements of Section 2001 and the following:

1. Equipment for Applying Water or Calcium Chloride Solution.
Apply Article 2001.09.

2. Equipment for Applying Calcium Chloride in Solid Form.
Use equipment capable of calibration and control such that the quantity of calcium chloride applied in any 25 foot (10 m) length of road does not vary more than 10% from the intended quantity of material in that unit of length.

3. Belt or Spiral Flight Conveyors.
So the rate of delivery may be accurately calibrated, provide a conveniently located revolution counter for belt or spiral flight conveyors used to handle bulk shipments of solid form calcium chloride to be applied in solution.

4. Weighing Equipment.
Apply Article 2001.07.

B. Application.

1. Calcium chloride may be applied to the road surface:
- As a liquid,
- In a solid form with the water applied separately, or
- In a solid form made into a solution and applied to the road surface.

2. Do not apply calcium chloride during rain or when, in the opinion of the Engineer, the weather is unsuitable for the application.

3. Unless otherwise provided in the contract documents, when calcium chloride is to be applied to the road in the solid form, first uniformly apply water to the center portion of the roadbed at a rate sufficient to

produce the desired condition of moisture on the road surface to be treated. This will require an anticipated 10,000 gallons of water per mile (23.5 kL/km) of road. This rate may be increased or decreased in increments of 1000 gallons per mile (1 kL/km) at the Engineer's direction.

4. Unless otherwise provided in the contract documents, spread the solid form at a rate which will deliver to the road surface 1 pound (0.5 kg) of calcium chloride per square yard (square meter), computed on the anhydrous basis. When calcium chloride is applied in solid form, spread it uniformly over the road within 1 hour after application of water to that section. Ensure the total quantity of calcium chloride applied on each mile (kilometer) of road is within 5% of the specified quantity.

5. When calcium chloride is applied in solution, thoroughly mix water and calcium chloride into a uniform solution completely dissolving any solid material before the solution is spread on the road. Control the concentration of the solution and the rate of distribution of the solution on the road surface to deliver to the road surface the quantity of calcium chloride specified above.

6. Unless results of laboratory analysis of samples of material actually used are available, the rate of distribution may be computed on the percentages in Table 2314.03-1 for the respective material:

Table 2314.03-1: Assumed % Calcium Chloride

Material	Assumed % Calcium Chloride by Weight (Mass) (Anhydrous Basis)
Regular Flakes	77.0%
Conc. Flakes, Pellets, or other gran. form	94.0%
Calcium Chloride Liquor	32.0 %[(a)]
(a) Total Calcium Chloride. The percentage may be modified with the Engineer's approval.	

2314.04 METHOD OF MEASUREMENT.

Measurement for the work involved in surface application of calcium chloride will be as follows:

A. Calcium Chloride Applied.

1. Without water: tons (megagrams) applied computed on the anhydrous basis from the percentage of calcium chloride contained in the material.

2. With water: tons (megagrams) applied, to the nearest 0.1 ton (0.1 Mg), computed on the anhydrous basis from the percentage by weight (mass) of calcium chloride contained in the liquid.

B. Water for Surface Application of Calcium Chloride.

Thousands of gallons (kiloliters) in the transporting vehicle or by metering the supply.

2314.05 BASIS OF PAYMENT.

Payment for the work of surface application of calcium chloride will be the contract unit price as described below. Payment is full compensation for furnishing water and calcium chloride in a solid or liquid form and for handling, mixing, transporting, and application of materials to the road surface.

A. Calcium Chloride Applied.
Tons (megagrams) of calcium chloride in solid or liquid form applied to the road surface.

B. Water for Surface Application of Calcium Chloride.
Per 1000 gallons (kiloliters) of water applied to the road with surface application of calcium chloride.