

52.6 CALCIUM CHLORIDE TREATED SAND

52.6.1 GENERAL

The Work consists of mixing a liquid calcium chloride solution with sand to produce a homogeneous mixture of treated material. The treated material shall be stockpiled at the Contractor's storage sites for use in winter maintenance activities.

52.6.2 MATERIALS

The Contractor shall supply a liquid calcium chloride solution containing 25%-35% by weight of calcium and magnesium chloride. The Contractor shall provide the Engineer with a certificate of analysis for each source used and each time the material characteristics change. The Contractor shall ensure that the certificate of analysis represents the material incorporated into the Work and that a copy of the applicable certificate accompanies each load arriving on site.

The Contractor shall supply the sand in accordance with Specification 52.7, Supply and Stockpile Sand.

The Contractor shall be considered the owner of the treated material until such time as the material is placed on the roadway for use in winter maintenance activities.

52.6.3 EQUIPMENT

The Contractor shall supply all equipment necessary to complete the Work. Requirements for major items of equipment are as follows:

- ! Mixing Equipment shall include metering devices capable of accurately measuring the total quantities of calcium chloride solution and sand processed as well as the rate of application.
- ! Stacking Conveyors shall be capable of stacking the treated sand into a conical pile 10 m high.
- ! Belt Scales shall be certified by Weights and Measures Inspection Services of the Federal Department of Consumer and Corporate Affairs. They shall have sufficient capacity to accurately weigh material at a production rate which will allow mixing operations to be completed by the specified completion date.
- ! The most recent certificate for a scale shall be displayed at all times. In the event a certified scale is modified in any way, it must be re-certified prior to use.

52.6.4 STORAGE SITES

The Contractor shall supply all required storage sites. The minimum storage capacity for each Contract Maintenance Area will be specified in the Special Provisions. The actual location of the storage site(s) within each CMA shall be determined by the Contractor with the exception that the Department may identify critical areas which must contain a specified number of sites and/or capacity for materials. Any critical areas and the associated requirements for storage sites will be identified in the Special Provisions.

52.6.5 PROCEDURE

The quantity of calcium chloride treated sand to be produced will be specified in the Work Order.

The Contractor shall provide the Engineer a minimum of 48 hours prior notice of the commencement of the Work.

The belt scale shall be used to weigh the untreated sand. The Contractor shall ensure the accuracy of the belt scale prior to commencement of the Work and in each instance the belt scale conveyor is moved within a mixing site. The belt scale shall be kept clean so that accurate measurements of the total amount of sand to be treated are obtained. The Contractor shall also ensure the accuracy of the calcium chloride delivery system.

The Engineer reserves the right to verify the accuracy of the belt and the calcium chloride delivery system at any time.

The Contractor shall mix untreated sand with liquid calcium chloride solution at the applicable specified application rate to yield a homogeneous mixture, and stockpile the treated sand into elongated, conical stockpiles at the Contractor's storage locations.

The Work shall be performed in a manner which prevents contamination of the stockpile of treated sand with oversized and/or foreign material.

The application rates for the various solution concentrations are as follows:

Solution	Application Rate
25%	24.2 litres of solution/tonne of sand
30%	19.3 litres of solution/tonne of sand
35%	15.2 litres of solution/tonne of sand

The Contractor shall target the completed stockpile of treated sand to contain 0.75% flake tonne equivalent by weight of untreated sand. The Engineer may reject the Work if this percentage is not achieved and if, in his opinion, the treated sand will not be suitable for its intended use.

52.6.6 SAMPLING AND TESTING

The Engineer may sample the liquid calcium chloride solution and the completed stockpile to verify application rates. The Contractor shall cooperate fully with the Engineer during the sampling and testing procedures.

52.6.7 TIME TO COMPLETE

The Contractor shall complete the Work within 60 calendar days of the issuance of the Work Order.

52.6.8 MEASUREMENT AND PAYMENT

Measurement will be made in tonnes of untreated sand treated with liquid calcium chloride solution and incorporated into the completed stockpile.

Payment will be made at the unit price bid per tonne for "Calcium Chloride Treated Sand - Mix and Stockpile". This payment will be full compensation for weighing the untreated sand, supplying, storing and applying the liquid calcium chloride solution to the untreated sand, mixing and stockpiling the treated sand at the location specified, and all labour, material, equipment, tools and incidentals necessary to complete the Work.

Payment for the supply of calcium chloride treated sand will not be considered to constitute ownership of the material by the Department. The Contractor is considered the owner of the material until such time as the material is placed on the road.

The cost of providing storage sites will be considered included in the unit price bid for "Indirect Operating Costs."

52.6.9 WARRANTY

There is no warranty period for this Work.