

## 52.8 SUPPLY OF SODIUM CHLORIDE (SALT)

### 52.8.1 GENERAL

The Work consists of supplying sodium chloride (salt) to approved storage facilities.

### 52.8.2 MATERIALS

The Contractor shall supply salt which is dry and free flowing, and the moisture content shall not exceed 1%.

The material shall be compatible with and easily dispensed by the Contractor's maintenance equipment.

The salt shall be supplied according to the following classifications.

**TYPE I - Fine**  
**TYPE II - Medium**  
**TYPE III - Coarse**

The salt shall be free from dirt, sand or any other foreign matter.

#### 52.8.2.1 Gradation of Salt

Salt shall conform to the following applicable gradation requirements for the type of salt supplied.

Metric Sieve Size ( $\mu\text{m}$ )	Fine (Type I) Percent Passing	Medium (Type II) Percent Passing	Coarse (Type III) Percent Passing
10 000		* 100	* 100
5 000	* 100	* 67-100	* 55-90
2 500	* 98-100	40-85	5-60
1 250	85-100	25-67	0-25
630	35-100	15-45	* 0-8
315	0-50	* 0-17	-
160	* 0-8	-	-
89	* 0-3	* 0-3	* 0-3

Note: The corresponding sieve sizes for the gradation limits marked with an asterisk will be considered price adjustment sieves. Non conformance to the gradation limits specified for these sieve sizes will result in the assessment of penalties as specified in section 52.8.5.4.3

#### 52.8.2.2 Chemical Composition

The salt shall conform to the following chemical composition.

- Sodium Chloride (NaCl) - Minimum 95.0%

- Soluble Chloride - Minimum 99.0%

Soluble Chlorides include sodium, calcium, potassium and magnesium chloride.

### **52.8.3 EQUIPMENT**

The Contractor shall supply all equipment necessary to complete the Work.

### **52.8.4 PROCEDURE**

The Contractor shall ensure that the salt is protected from the weather at all times and not damaged in any way, including fracturing, compacting, segregating, et cetera.

The amounts of salt in storage will be determined through consultation with the Engineer to ensure there is adequate material available.

Placing the salt into each storage facility may be either by blower truck or portable blower or other methods as approved by the Engineer. The use of front-end loaders and push type vehicles to move the salt into the shed is not permitted.

### **52.8.5 SAMPLING AND TESTING**

#### **52.8.5.1 General**

The Contractor shall make available to the Engineer, three quality assurance samples for each load of salt received at the delivery site.

Sampling shall be in accordance with ATT-38 (Section 3.4 and 3.5 or ATT-71), with testing done in accordance with the standard practise and equipment outlined in ASTM D 632 and CGSB 15-GP-9.

Samples shall be identified with the following information:

- Name of supplier
- Bill of lading number
- Batch number
- Origin of product
- Final destination of product
- Quantity in shipment
- Date and time of loading
- Date and time of delivery

#### **52.8.5.2 Testing**

The Department will conduct random testing for gradation quality and chemical analysis on any or all shipments.

The random testing shall consist of testing one of the quality assurance samples. If the test results for this sample determine that the material is subject to penalties, the Contractor has the option of appealing the result and requesting the Engineer test the remaining two samples. If the average of the remaining two samples indicate that the material is still subject to penalty, the Contractor shall bear the cost of testing the additional two samples. If the average of the remaining two samples indicate the material is not subject to penalties, the Engineer will bear the cost of the additional testing.

In cases where no appeal is made, payment will be based on the single test result. In cases where an appeal is

made, payment will be based on the average of the three test results.

### 52.8.5.3 Rejection of Batch Shipments

Any shipment failing to meet the specifications shall be subject to rejection or payment penalty at the discretion of the Engineer.

### 52.8.5.4 Penalties

Shipments that are tested and determined to have characteristics outside the specifications shall be subject to a reduction in payment from the unit price bid per tonne. Each characteristic will carry the following penalty for nonconformance to the specifications:

#### 52.8.5.4.1 Sodium Chloride

<u>Percent Chemical Composition</u>	<u>Penalty (% Reduction of Unit Price Bid)</u>
100 - 95	NIL
94.99 - 94.00	3
93.99 - 93.50	6
93.49 - 93.00	9
less than 93.00	12

#### 52.8.5.4.2 Soluble Chlorides

<u>Percent Chemical Composition</u>	<u>Penalty (% Reduction of Unit Price Bid)</u>
100 - 99.0	NIL
98.99 - 98.00	3
97.99 - 97.50	6
97.49 - 97.00	9
less than 97.00	12

#### 52.8.5.4.3 Gradation

Salt shipments tested and found to be outside the gradation requirements specified in Section 52.8.2.1, Gradation of Salt, will be penalized at the rate of 5% of the Contractor's Supplier's invoiced price for each price adjustment sieve size that is outside its specified range.

In all cases shipments of salt found to be outside the gradation specifications or the chemical composition specifications or any other part of the specifications, will be subject to rejection at the discretion of the Engineer.

Payment adjustments will be applied to each shipment that is accepted but does not meet the specification requirements. These adjustments will be applied for sodium chloride content, soluble chlorides content and gradation requirements on all salt shipments tested. Payment adjustments are cumulative, and the total penalty to be applied to any shipment will include the total penalties assessed to the three properties listed above, to a maximum payment adjustment of 30%. Penalties applied to each salt shipment will be subtracted from the Contractor's supplier's invoiced amount of the shipment.

**52.8.6 TIME TO COMPLETE**

The Contractor shall ensure storage facilities contain salt at all times during the winter months.

**52.8.7 MEASUREMENT AND PAYMENT**

Measurement will be in tonnes of salt placed in storage facilities, based on invoice and bill of lading quantities from the Contractor's suppliers invoice.

Payment will be made at the unit price bid per tonne for "Supply of Sodium Chloride (Salt)" subject to any penalties specified in section 52.8.5.4. This payment shall be full compensation for supplying salt to storage facilities and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

**52.8.8 WARRANTY**

There is no warranty period for this Work.