## Restorative Sand Seal Treatment

The Contractor shall apply a restorative sand seal surface treatment consisting of a restorative asphalt emulsion and blotter sand according to the requirements of Specification 3.24 Chip Seal Coat with modifications as outlined in this special provision.

## Asphalt

The Contractor shall use a restorative asphalt emulsion as listed on the Alberta Transportation Products List under the Proven category for Surface Treatment – Asphalt (Proprietary). The asphalt emulsion shall have rejuvenating characteristics as indicated by a high maltene composition. A minimum two weeks prior to placement of the Sand Seal the Contractor shall provide to the Consultant the name, supplier and typical analysis of the restorative asphalt emulsion.

The asphalt emulsion shall be diluted at a ratio of 2 parts emulsion to 1 part water or as recommended by the supplier. The Contractor shall provide the Consultant a copy of all the supplier’s weigh bills and records of all restorative asphalt emulsion received and/or returned on a daily basis. The Contractor shall follow the supplier’s recommended procedures for storing and handling of the asphalt emulsion on a daily basis. The Contractor shall follow the supplier’s recommended procedures for storing and handling of the asphalt emulsion.

## Aggregate

The sand material shall be free of organics, contain no plastic fines and meet the following gradation requirements.

| **Sieve Size (µm)** | **Cumulative Percent Passing** |
| --- | --- |
| 5000 | 100 |
| 315 | 15 – 40 |
| 80 | 0 – 2 |

## Placement

A minimum of one week prior to placement of the Sand Seal the Contractor shall place a minimum of two test patches on the pavement to be seal coated using different application rates of emulsion ranging from approximately 0.35 l/m2 to 0.60 l/m2. The sand material to be used for the Sand Seal shall be used on the test patches. The Consultant and Contractor shall jointly evaluate the test patches a minimum of two days following placement to determine the optimum binder application rate. The Contractor’s representative for placing and evaluating the test patches shall have previous experience in conducting this work.

The Sand Seal shall not be placed on wet pavements or when the ambient temperature is less than 5°C.

The asphalt emulsion shall be applied using a self-powered pressure distributor meeting the requirements contained in Specification 3.19 Prime, Tack and Fog Coats. Prior to the commencement of the work, the Contractor shall provide the Consultant with calibration data indicating that the distributor has been calibrated to operate at the target application rate. The Contractor is advised that smaller size nozzles may need to be installed in order for the distributor to be properly calibrated.

To achieve the restorative effects of the emulsion the blotter sand material shall not be applied until after the emulsion has cured. The sand shall be spread to provide complete and uniform coverage within an estimated range of 2 kg/m2 to 3 kg/m2. Immediately following spreading, the Sand Seal shall be rolled using self-propelled pneumatic rollers.

The sealed pavement may be opened to traffic after rolling. The sealed surface shall be broomed by the Contractor after the Sand Seal has sufficiently cured as determined by the Consultant.

Bulk measured application rates for the emulsion and sand shall be determined and provided to the Consultant on a daily basis or as requested by the Consultant.

## Measurement and Payment

The amount of concentrate asphalt restorative product incorporated into the work will be measured by litre based upon supplier delivery weigh bills. Payment for supply of accepted rejuvenating product will be at the unit rate bid for “Supply Rejuvenating Agent”.

Measurement of accepted Restorative Sand Seal Treatment will be in square metres. Payment will be made at the unit rate bid for “Sand Seal Surface Treatment”. Payment will be full compensation for preparing the existing surface; test patch placement and evaluation; supplying and installing temporary lane markers; applying the restorative asphalt emulsion; supplying, processing, hauling and placing the blotter sand; rolling and brooming the sand seal surface; replacing and/or maintaining pavement markings; quality control; traffic accommodation and traffic convoy.

**Notes to the Designer (Not to be inserted into the tender)**

Estimate the amount of undiluted restorative asphalt emulsion at a rate of 0.32 l/m2