

**Name of work:** - Hire charges for Laying of Asphalt painting for works to be carried out under Chiloda Govt. Hot Mix Plant as and when required on various roads work.

## **SPECIFICATION**

### **Item No.1**

Laying Asphalt painting on B.T. surface with Bitumen grade at the rate of 5 Kg./10 Sqm. by mechanical sprayer and spreading the stone dust on prepared surface at the rate of 0.03 Cum./10 Sqm. etc. complete (Mechanical sprayer & stone dust supplied by Department)

### **502. PRIME COAT/ ASPHALT-VG-40 OVER ANY SURFACE**

#### **502.1. Scope**

This work shall consist of the application of a single coat of low viscosity liquid bituminous material to a porous granular surface preparatory to the superimposition of bituminous treatment or mix. the work shall be carried out on a previously prepared granular/ stabilized surface to clause 501.8.

#### **502.2. Materials**

**502.2.1. Primer:** The primer shall be cationic bitumen grade conforming to IS:8887 or medium curing cut back bitumen conforming to IS:217 or as specified in the contract.

**502.2.2. Quality of bitumen grade for various types of granular surface shall be as given in table 500-3.**

**TABLE 500-3. Quality of bitumen grade for various types of granular surfaces.**

Type of surface	Rate of spray (Kg/Sqm.)
WMM/WBM	2.5-5.0
Stabilized soil bases/crusher run macadam	5.0-7.0

**502.2.3.** Cutback for primer shall not be prepared at the site. Type and quantity of cutback bitumen for various types of granular surface shall be as given in Table 500-4.

**Table 500-4: type and quantity of cutback bitumen for various types of granular surface**

Type of surface	Type of cutback	Rate of spray (Kg/Sqm.)
WMM/WBM	MC 30	0.6-0.9
Stabilized soil bases/crusher run macadam	MC 70	0.9-1.2

**502.4.** The correct quantity of primer shall be decided by the engineer and shall be such that it can be absorbed by the surface without causing run-off of excessive primer and to achieve desired penetration of about 8-10 mm.

### **502.3 Weather and seasonal limitations**

Primer shall not be applied during a dust storm or when the weather is foggy, rainy or windy or when the temperature in the shade is less than 10°C. cut back bitumen as primer shall not be applied to a wet surface. surfaces which are to receive emulsion primer should be damp, but no free or standing water shall be present. surface can be just wet by very light sprinkling of water.

### **502.4 Construction**

#### **502.4.1 Equipment**

The primer shall be applied by a self-propelled or lowed bitumen pressure sprayer equipped for spraying the material uniformly at specified rates and temperatures, Hand spraying shall not be allowed except in small areas, in accessible to the distributor, or in narrow strips where primer shall be sprayed with a pressure hand sprayer, or as directed by the Engineer.

**502.4.2. Preparation of road surface:** The granular surface to be primed shall be swept clean of dust by power brooms or mechanical sweepers and made free from dust. All loose material and other foreign material shall be removed completely. If soil/ moorum binder has been used in the WBM surface, part of this should be brushed and removed to a depth of about 2 mm so to achieve good penetration.

**502.4.3. Application of bituminous primer:** After preparation of the road surface as per clause 502.4.2, the primer shall be sprayed uniformly at the specified rate. The method for application of the primer will depend on the type of equipment to be used, size of nozzles, pressure at the spray bar and speed of forward movement. The Contractor shall demonstrate at a spraying trial, that the

equipment and method to be used is capable of producing a uniform spray, within the tolerances specified.

#### **502.5. Quality Control of Work**

For control of the quality of materials and the works carried out, the relevant provisions of Section 900 shall apply.

#### **502.6. Arrangements for Traffic**

During construction operations, arrangements for traffic shall be made in accordance with the provisions of Clause 112.

#### **503.1. Scope**

This work shall consist of the application of a single coat of low viscosity liquid bituminous material to an existing bituminous road surface preparatory to the superimposition of a bituminous mix, when specified in the Contract or instructed by the Engineer.

#### **503.2. Materials**

**503.2.1. Binder:** The binder used for tack coat shall be either cationic bitumen grade complying with IS:8887 or suitable low viscosity paving bitumen of emulsion RS-1 grade conforming to IS:73. The use of cutback bitumen RC:70 as per IS:217 shall be restricted only for sites at sub-zero for temperatures or for emergency applications as directed by the Engineer. The type and grade of binder for tack coat shall be as specified in the contract or as directed by the Engineer.

#### **503.3. Weather and Seasonal Limitations**

Bituminous material shall not be applied during a dust storm or when the weather is foggy, rainy or windy or when the temperature in the shade is less than 10°C. Where the tack coat consists of emulsion, the surface shall be slightly damp, but not wet. Where the tack coat is of cutback bitumen, the surface shall be dry.

#### **503.4. Construction**

**503.4.1. Equipment:** The tack coat shall be applied by a self-propelled or towed bitumen pressure sprayer, equipped for spraying the material uniformly at a specified rate. Hand spraying of shall not be permitted except in small areas, inaccessible to the distributor, or in narrow strips, shall be sprayed with a pressure hand sprayer, or as directed by the Engineer.

**503.4.2. Preparation of base:** The surface on which the tack coat is to be applied shall be clean and free from dust, dirt, and any extraneous material, and be otherwise prepared in accordance with the requirements of Clauses 501.8. The granular or stabilized surfaces shall be primed as per clause 502. Immediately before the application of the tack coat, the surface shall be swept clean with a mechanical broom, and high pressure air jet, or by other means as directed by the Engineer.

**503.4.3. Application of tack coat:** The application of tack coat shall be at the rate specified in Table 500-5, and it shall be applied uniformly. If rate of application of Tack coat is not specified in the contract, then it shall be the rate specified in Table 500-5, Paving bitumen if used for tack coat shall be heated to appropriate temperature in bitumen boilers to achieve viscosity less than 2 poise. The normal range of spraying temperature for a bituminous emulsion RS-1 grade

shall be 120°C to 140°C and for cutback, 150°C to 170°C. The method of application of tack coat will depend on the type of equipment to be used, size of nozzles, pressure at the spray bar, and speed or forward movement. The contractor shall demonstrate at a spraying trial, that the equipment and method to be used is capable of producing a uniform spray, within the tolerances specified.

**TABLE 500-2. RATE OF APPLICATION OF TACK COAT**

Type of Surface	Quantity of liquid bituminous material in Kg per sq. m. area
i) Bituminous surfaces	0.20 - 0.30
ii) Granular surfaces treated with primer	0.25 - 0.30
iii) Cement concrete pavement	0.30 - 0.35

**503.4.4. Curing of tack coat:** The tack coat shall be left to cure until all the volatiles have evaporated before any subsequent construction is started. No plant or vehicles shall be allowed on the tack coat other than those essential for the construction.

#### **503.5 Quality control of work**

For control of the quality of material and the works carried out, the relevant provisions of section 900 shall apply.

#### **503.6 Arrangements for traffic**

During the period of construction, arrangements for traffic shall be made in accordance with the provisions of clause 112.

**Measurements for Payment:**

The rate shall be for a unit of one Square Meter.

Dated signature of contractor.

Executive Engineer,  
Capital Project Division No.3,  
Gandhinagar.

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000

Q1000



**Name of work:** - Hire charges for Laying of Asphalt painting for works to be carried out under Chiloda Govt. Hot Mix Plant as and when required on various roads work.

### GENERAL CONDITION

- 1 The contractor shall have to supply the all vehicles and machineries with driver, operator (helper) incl. all running cost like fuel, oil etc, and maintaining the machineries in good condition for the operation at his own cost of Insurance of driver helper & other operative staff various functions either at Chiloda hot mix plant site or at various roads site as directed.
- 2 The vehicles which is approved and permitted by the RTO shall be supplied for the works only. RTO, insurance and any such charge are to be borne by the contractor.
- 3 During the operation if accident occurs or any such thing happens the contractor shall be responsible for such matters. The contractor shall have to borne all the cost and has to arrange to face all legal matters. The department will not be responsible for any such matters.

- 4 The contractor shall have to make agreement in advance as directed by the Engineer in charge for various functions at different site of works to maintain the smooth progress of work to get qualitative work.
- 5 The contractor shall have to co - operate in the whole operation of work for various functions as directed by the engineer in charge and he shall not be paid any extra cost by the department.
- 6 If in case nay shortage or damage to the Govt. material is occurred the double cost will be recovered from contractor's SD as decided by the Executive Engineer.
- 7 If the contractor fails to maintain the proper operation of whole work , the decision of the Executive Engineer shall be final for both the parties and if any financial loss to the department it be recovered from the contractor. The contractor shall have to manage with advance planning. if he fails he shall be held responsible for such events
8. The rate shall remain in effect upto 12 (Twelve) months form the date of work order.

9 The contractor is bound to carry out work effectively as directed by the Engineer in charge. The Engineer in charge may ask for the performance test before starting the work. If contractor fails in performance test the decision of the Executive Engineer will be final and binding for both the parties and if any financial loss to the department, it will be recovered from the contractor. The work shall be carried out as per the directives of specification MORT&H or as directed by the Engineer in charge.

10 Contractor has to make arrangement of machinery within 24 hrs. of order placed or informed. If contractor fails to make arrangement within 24 hrs of intimation Rs. 1000.00 per day penalty shall be recovered from contractor for delay from his bill or security deposit.

Dated signature of contractor.

Executive Engineer,  
Capital Project Division No.3,  
Gandhinagar.

