

Black topping treatment for  
Roads -  
Guidelines for the -

**Government of Maharashtra.  
Public Works Department,  
Circular No. DBM-1082/CR-2457/Plan-3,  
Mantralaya, Bombay - 400 032. D/- 20-10-1993.**

- Read : 1. Government Circular , Public Works Department  
No. BDM-1082@CR-2457 /Desk-11 dated. 14.7.1982
1. Government Circular, Public Works Department  
No. BDM-1082/ 2457/ Desk-11 dated. 30.9.1986.
  2. Government Circular, Public Works Department  
No. BDM-1082/ 2457/ Desk-11 dated. 23.1.1991.
  3. Chief Engineer's Circular No.6 of 1974 issued under Buildings and  
communications Department's No. PLN-1071/1354-40/PI/C dated.  
13.1.1975.

Different treatments black topping on roads to be provided in case of new construction of roads as well as strengthening and black topping of existing roads have been prescribed in Government Circulars referred to above. The treatments prescribed take into consideration the conditions of traffic intensity and the average annual rainfall on the road under consideration. The treatments so far provided on the State Roads predominantly consists of cold mix treatments using conventional plant and machinery and manually laid on the roads mainly on economic considerations. It has, however, been experienced that the black topping treatments provided by use of hot mix plant and paver finisher not only increase the life and serviceability of treatments but also result into superior riding quality for the road users. The Government has since the last three years, taken up substantial road improvement programme consisting of both new black topping as well as straightening of existing material roads. To keep pace with the modern techniques in road construction, Government has already taken a decision to adopt hot mix hot laid construction for roads having traffic intensity more than 3,000 tonnes / day vide Government Circular dated 23.1.91. It is, therefore, felt necessary to issue detailed guidelines in this regard taking into consideration the factors like traffic intensity, rainfall, situations such as new construction, strengthening or renewal and the existing pavement condition of the roads.

In order, therefore, to take cognisance of the above mentioned factors, the roads have been divided into 4 zones depending on the consideration of traffic intensity viz.

- i) Less than 1,000 tonnes / day.
- ii) 1,000 to 3,000 tonnes / day.
- iii) 3,000 to 10,000 tonnes / day.
- iv) More than 10,000 tonnes / day.

Similarly, the roads have been divided into 3 zones, depending on the rainfall condition as follows :

- i) Average annual rainfall less than 500mm (20")
- ii) Average annual rainfall between 500 (20") to 2500mm (100")
- iii) Average annual rainfall more than 2500mm (100")

The black topping treatment under various situations such as new constructions , strengthening and black topping and renewal under the conditions listed above, have to be provided hereafter in accordance with the treatments shown in Annexure - I attached to this Circular.

In order that the field officers will not experience difficulties while switching over from conventional cold mix black topping treatments to hot mix hot laid treatment, Government is also pleased to issue the following guidelines with regard to such works for observations by the field officers :

- i) Considerable cost is involved in installation of hot mix plant and the location normally depends on availability of nearby quarry and availability of space for erection of plant and storage of aggregate. The operation of the plant becomes uneconomical if sufficient number of works are not available in the range of say about 30 Kms. , from the plant site. So far the practice in the Department is to invite separate tenders for individual work, sanctioned under various programmes. However, the field officers may if required club together number of such works under the same budget head for inviting tenders.
- ii) While awarding works for black topping, it is necessary to ensure that the concerned contractor owns required machinery i.e. hot mix plant, paver finisher, tipper etc. , for use on the work for which he has tendered for, and that having regard to the commitments which he has already made on the date of submission of tender for the use of above mentioned machinery, he shall be in a position to deploy the machinery on the tendered work within a reasonable time. In case the contractor does not own this plant and machinery but intends to hire it from another agency, it is necessary to ensure that he has entered into legal agreement with another agency for supplying the required plant and machinery and also to ensure that the said agency shall be in a position to spare plant and machinery to the contractor in a reasonable time after award of the work. If the contractor intends to purchase the plant and machinery from the manufacturer, it is necessary to verify whether a firm order has been placed by him with the manufacturers and manufacturers have given firm commitment for supply of machinery within a reasonable time after a award of the work, Superintending Engineers/ Executive Engineers are requested to call for necessary information in this regard from the intending contractors, to be included in Envelope No. 1. They should carry out a through scrutiny of the information supplied by the tenderer to satisfy themselves that the requisite plant and machinery will be available within a reasonable time after award of the work and then only open financial bid contained in the Envelope No. 2.

- iii) The Executive Engineers while framing any proposal for black topping works should also identify the requirement of surface and sub-surface drainage in the length under consideration and incorporate the same in the estimate for the concerned work. It should also be ensured that the work of drainage improvement is completed before completion of the black topping work.
- iv) The roads having traffic intensity of more than 10,000 tonnes / day need to be provided with black topped carriageway of 5.5 meters width. The estimate should therefore, make provisions for widening if necessary while undertaking black topping work. It is also instructed that general approval of the Chief Engineer should be taken to the estimate for black topping of such roads at the time of new construction or strengthening and black topping.
- v) While framing estimate for black topping, adequate provision should also be made for local widening in situations such as curves, bus-bays, parking places etc.
- vi) Provision for diversion and control of traffic should also be made for works of black topping on single lane roads.
- vii) In case of renewal works, provision upto 20% for extra materials should be made for profile correction of the original surface.
- viii) As modern hot mix machinery such as drum mix plant or plant with secondary gradation control and modern paver finisher with a electronic sensing device etc., are not available in large number and since they also require huge capital investment, it is directed that eventhough the specifications in MOST, Standard specification for Road and Bridge works 1988 have to be adopted, the condition of modern hot mix plant and paver finisher mentioned above, may be relaxed to that extent only in hilly and inaccessible areas where work may be got done with mechanical pavers.
- ix) The Superintending Engineer of Vigilance and quality control circles are instructed to frame suitable short duration training programme of 1 or 2 days to impart training to Deputy Engineers/ Junior Engineers for hot mix and hot laid bitumenous works.

D.A. : Annexure 1.

Sd/-  
Deputy Secretary to Government.