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Dated the 31st January, 1986

To.

All Chief Engineers of States/Union Territories dealing with roads

Subject : Prime coat over WBM/wet mix macadam base course before laying bituminous binder course or bituminous wearing surface — Application of

The tentative specification for priming of base course with bituminous primers (IRC : 16 — 1965) envisages the use of a bituminous prime coat as an initial application of a low viscosity liquid bituminous material to an absorbent surface preparatory to any super-imposed treatment or construction to penetrate the existing surface so as to plug capillary voids, to coat and bond dust and loose mineral particles and thus harden or toughen the surface and promote adhesion between it and the superimposed treatment or construction. It classified the base course surface into three categories, namely, surfaces of low porosity, medium porosity and high porosity depending upon the porosity characteristics and prescribed different quantities of bituminous primers depending on the type of surface and also viscosity of primers.

2. However, it is observed that the prime coat is not generally being applied to the granular base course in actual practice. Most probably this is on the understanding that tack coat is being invariably provided on the granular base course. But the functions of the prime coat and tack coat are different and a clear distinction needs to be drawn between the two. It is considered that prime coat must be invariably provided over WBM/wet mix macadam or any other granular base course before laying bituminous course or bituminous wearing course as per Tentative Specification for Priming of Base Course with Bituminous Primers (IRC : 16-1965). In addition, the following shall also be kept in view : —

- (a) It shall always be ensured, while opening to any kind of traffic, that the primed surface is fully cured and is not sticky to avoid being picked up by traffic.
  - (b) Bituminous binder course or bituminous wearing surface shall be laid on the primed WBM surface in the usual manner as per relevant specifications for the same including the requirement of tack coat.
3. It is requested that suitable instructions in the matter may please be issued to the field staff.

#### ANNEXURE-A

#### SPECIFICATION FOR PRIMER COAT ON WBM SURFACE AS PREPARATION FOR LAYING SURFACE DRESSING AND PREMIX CARPET

##### 1. Primer

The primer to be used should be a cutback bitumen of medium viscosity (in the range of 0.7 to 1.5 stockes at 50°C). This may be prepared in the field by cutting back 80/90 bitumen with kerosene in the ratio of 100 parts by volume of bitumen to about 35 parts by volume of kerosene (or 40 parts by Vol. of diesel oil if kerosene is not available). The bitumen is to be heated first in a bitumen boiler to 160°C to 180°C and then mixed with kerosene or diesel oil (outside the range of fire for safety) at the specified proportions as mentioned above.

##### 2. Application of Primer

The cut-back bitumen should be applied hot on the WBM surface (suitably cleaned free of dirt dust etc.) at the rate of 1 kg. per square metre. A mechanical sprayer should be used for ensuring uniformity of application of bitumen. Any area of surplus primer should be broomed to distribute the surplus over adjacent deficit areas.

##### 3. Curing

The WBM surface as treated with primer should be cured for one to two days and rendered dry before being opened to traffic. If sticky patches remain at the end of the end of the curing period. These should be treated with a blotter course i.e. an application of fine grit or coarse sand. It is always to be ensured, while opening the picked up by traffic. For existing roads, the work can be done over half width at a time the other half being used to carry the traffic.

##### 4. Laying Surface Dressing of Premix Carpet

The WBM surface treated with primer coat may be allowed to carry traffic for one to two weeks or more based on observed site experience, the essential objective being to allow the primed surface to get traffic compacted, but not revelled. Thereafter regular thin surfacing in the form of surface dressing/premix carpet may be laid in the usual manner.