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*Dated the 5th August, 1974*

To

The Chief Engineers/Additional Chief Engineers of all State Public Works Departments and Union Territories dealing with National Highways Works

Sub : Proper construction of thin bituminous surfacing like surface dressing and premix carpets

Thin bituminous surfacings like single or two coat surface dressing and premix carpet have been in common use on highways in India for a long time and will continue to be so. Road tests have shown that these specifications if properly executed could provide satisfactory service over long periods. The matter also came up for discussion at the last Chief Engineer's meeting held in May 1974.

2. Principles of laying such surfacings are well known and stand incorporated in the relevant IRC Standards (IRC: 14-1970, IRC: 17-1965 and IRC: 23-1966) as well as the Ministry's Specification for Road and Bridge works. Despite this, it has been noticed at many occasions that these surfacings have not been laid properly and this has led to poor riding quality and avoidable failures. Generally, these defects have been due to non-compliance with the specification and in sufficient quality control. For realising the full worth of thin surfacings on National Highways, it is emphasised that the prescribed specifications should be scrupulously followed in future. The following points deserve to be specially kept in view:

- (i) The base should be prepared to the specified grade and camber and thoroughly cleaned of dust and other extraneous matter. The work should not start when it is raining or the road surface and aggregates are wet.
- (ii) Equipment used should be of appropriate type and in good working order. For instance in the case of spray of bitumen for tack coats or surface dressing, invariably mechanical sprayers should be used.
- (iii) The aggregates should conform to the stipulated grading and requirements for stripping, hardness etc.

- (iv) The binder should be of the specified grade and its quantity for spraying/premixing should be in accordance with the specification;
  - (v) Binder for tack coat/surface dressing should be sprayed at the right temperature;
  - (vi) Aggregates for surface dressing and seal coat should be spread over binder immediately following the spray of binder on the road and their compaction should follow immediately and be thorough till the aggregates are firmly embedded in the case of surface dressing and seal coat and no roller marks are left in the case of premix carpet;
  - (vii) For premix carpet, seal coat of the specified type should be applied immediately after the premix carpet before opening the road to traffic. In the case of surface dressing, traffic should not be permitted to run on the new surface until the following day. If permitted, its speed should be limited to 16 km per hour.
  - (viii) Strict control over the quality of materials and work should be exercised through quality control tests. Requisite, tests are mentioned in detail in the Ministry's Specification for Road and Bridge Works as well as the Handbook on Quality Control published by the Indian Roads Congress.
3. It is requested that these points may be brought to notice of all officers in your department engaged on National Highways works.
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