CIRCULAR R-5/2012

Subject: Construction of Long Lasting Bituminous Roads in Rajasthan.

The bitumen roads are being constructed since long in Rajasthan. Roads are frequently damaged in Monsoon season resulting in great inconvenience to public and road user. Looking to cost constraint the specification taken for the road construction are bare minimum compared to the IRC: 37-2001 “Guidelines for the design of flexible pavement”.

There is need for adopting richer specifications and dense mixes in place of open graded and semi dense mixes in the projects where higher design traffic is expected to prevent damage to roads in monsoon season. Dense mixes are better proposition as these provide an impervious layer to prevent water penetrating inside the surface.

IRC: 37-2001 recommends Dense mixes for higher design traffic as below:

**RECOMMENDED TYPE AND THICKNESS OF BITUMINOUS WEARING COURSES FOR FLEXIBLE PAVEMENT UNDER DIFFERENT SITUATIONS**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Type of Base /Binder Course</th>
<th>Type of Bituminous Wearing Course</th>
<th>Annual Rainfall Low (L) less than 1500 mm; Medium (M) 1500-3000 mm; High (H) more than 3000 mm</th>
<th>Design Traffic (msa)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Dense Bituminous Macadam</td>
<td>Bituminous Concrete</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(i) 25 mm</td>
<td>L,M and H</td>
<td>&gt;5&lt;10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(ii) 40 mm</td>
<td>L,M and H</td>
<td>≥10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(iii) 50 mm</td>
<td>L,M and H</td>
<td>≥100</td>
</tr>
</tbody>
</table>

Therefore, only **dense graded bituminous mixes**, as mentioned above, shall hence forth be used on all BOT, Mega Highways, RIMOT & DBFOT road projects in Rajasthan.

This bears approval of Government vide No.489/M/PWDR Dated 4.5.12

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Copy forwarded to the following for information and necessary action:

1. P.S. to Hon’ble PWM Govt. of Rajasthan, Jaipur.
2. P.S. to Pr. Secretary PWD Govt. of Rajasthan, Jaipur.
3. P.S. to Secretary PWD Govt. of Rajasthan, Jaipur.
5. Addl. Chief Engineer PWD Zone.................................................. (All)
6. Superintending Engineer PWD Circle........................................... (All)
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