

कार्यालय ज्ञाप

अधोहस्ताक्षरी के विभिन्न कार्यस्थलों के भ्रमण के दौरान यह दृष्टिगोचर हुआ है कि Premix Carpet का कार्य निर्धारित मानकों एवं विशिष्टियों के अनुरूप नहीं करवाया जा रहा है। विशेषकर इस कार्य में प्रयुक्त होने वाले Aggregate की Grading विशिष्टियों के अनुरूप नहीं है। इस कारण ऐसे मार्गों पर Premix Carpet की सतह अपनी निर्धारित समय सीमा पूर्ण करने से पूर्व ही क्षतिग्रस्त हो जाती है।

अतः एतद् द्वारा निर्देशित किया जाता है कि Premix Carpet के समस्त कार्य हेतु Mix Hot Mix Plant के माध्यम से ही तैयार करवाया जाए तथा Paver के द्वारा ही बिछाया जाए। Ministry of Rural Development (MORD) की विशिष्टियों के अनुरूप Open Graded Premix Carpet, Seal Coat, Close Graded Premix Carpet (Mix Seal Surfacing) एवं Surface Dressing की विशिष्टियों के संबंध में निम्न दिशानिर्देशों का पालन सुनिश्चित किया जाए :

I) OPEN GRADED PREMIX CARPET

Quantities of Materials Required for 10 sqm of Road Surface for 20 mm Thick Premix Carpet Using Suitable Grade of Bitumen

Aggregate	
(a) Nominal Stone Size 13.2 mm (passing 22.4 mm sieve and retained on 11.2 mm sieve)	0.18 cum
(b) Nominal Stone Size 11.2 mm (passing 13.2 mm sieve and retained on 5.6 mm sieve)	0.09 cum
Total	0.27 cum
Binder (Quantities in terms of straight run bitumen)	
(a) For 0.18 cum of 13.2 mm nominal size stone at 52 kg bitumen per cum.	9.5 kg
(b) For 0.09 cum of 11.2 mm nominal size stone at 56 kg bitumen per cum.	5.1 kg
Total	14.6 kg

II) SEAL COAT

- (a) **Type A Seal Coat** : Liquid seal coat comprising of an application of a layer of bituminous binder followed by a cover of stone chips. The stone chips shall be 6.7 mm size defined as 100 percent passing through 11.2 mm sieve and retained on 2.36 mm sieve. The quantity used for spreading shall be 0.09 cum per 10 sqm area.

(b) **Type B Seal Coat** : Premixed seal coat comprising of a thin application of fine aggregate premixed with bitumen binder. The aggregate shall pass 2.36 mm sieve and be retained on 180 micron sieve. The quantity used for premixing shall be 0.06 cum per 10 sqm area.

(c) **Type C Seal Coat** : Premixed seal coat comprising of an application of 6.7 mm size stone chips premixed with bituminous binder. The stone chips shall be 6.7 mm size defined as 100 percent passing through 9.5 mm sieve and retained on 2.36 mm sieve. The quantity for spreading shall be 0.09 cum per 10 sqm area.

Required Quantities of Binder for Seal Coat

Type of Seal Coat	Per 10 sqm Area	
	Bitumen (Kg)	Bitumen Emulsion(Kg)
Type A : Liquid Seal Coat	9.8	12 to 14
Type B : Premix Seal Coat	6.8	10 to 12
Type C : Premixed Seal Coat using stone chips of 6.7 mm size	4.5	9 to 11

Guidelines On the type of Seal Coat

Annual Rainfall (mm)	>1500	Type A Seal Coat	Type A Seal Coat	Type A Seal Coat
	1000 – 1500	Type B Seal Coat	Type B Seal Coat	Type C Seal Coat
	<1000	Type B Seal Coat	Type B Seal Coat	Type C Seal Coat
		Less than 20	20-200	More than 200

Approximate Number of Commercial Vehicles with a Laden Weight Greater than 3.0 tonnes Currently Carried per day in the lane Under Consideration

III)

CLOSE GRADED PREMIX CARPET (MFI SEAL SURFACING)

Aggregate Gradation and Quantity of Binder

IS Sieve Designation (mm)	Cumulative percent by weight of total aggregate passing	
	Type A(For Areas having Rainfall Less than 1500 mm)	Type B (For Areas having Rainfall More than 1500 mm)
13.2 mm	-	100
11.2 mm	100	88 – 100
5.6 mm	52 – 88	31 – 52
2.8 mm	14 – 38	5 – 25
0.090 mm	0 – 5	0 – 5
Total quantity of aggregate per 10 sqm area	0.27 cum	0.27 cum
Quantity of binder used for premixing in terms of straight run bitumen (per 10 sqm area)	22 kg	19 Kg

IV)

SURFACE DRESSING

Grading Requirments For Aggregates For Surface Dressing

IS Sieve Designation mm	Cumulative per cent by weight of total aggregate passing for the following nominal size (mm)			
	19	13	10	6
26.5	100	-	-	-
19.0	85-100	100	-	-
13	0-40	85-100	100	-
9.5	0-7	0-40	85-100	100
6.3	-	0-7	0-35	85-100
4.75	-	-	0-10	-
3.35	-	-	-	0-35
2.36	0-2	0-2	0-2	0-10
0.60	-	-	-	0-2
0.075	0-1.5	0-1.5	0-1.5	0-1.5
Minimum 65% by weight of aggregate	Passing 19 mm, retained on 13.2 mm	Passing 13.2 mm, retained on 9.5 mm	Passing 9.5 mm, retained on 6.3 mm	Passing 6.3 mm, retained on 3.35 mm

Notional Rates Of Application For Binder And Aggregates

Nominal Aggregate Size (mm)	Binder (Kg/m ²)			Aggregates Cum/ m ²
	Uncoated Aggregates		Coated Aggregates	
	Bitumen	Emulsion	Bitumen	
19	1.2	1.8	1.0	0.014-0.015
13	1.0	1.5	0.8	0.009-0.011
10	0.9	1.3	0.7	0.007-0.009
6	0.75	1.1	0.6	0.003-0.005

Note : In the case of two coat surface dressing using emulsion, emulsion quantity for each coat may be added and 40 to 50 percent is applied in the first coat and remaining in second coat. Bitumen for coated aggregates excludes quantity of bitumen required for coating.

Precoated Chips : As an alternative to the use of an adhesion agent the chips may be precoated before they are spread except when the sprayed binder firm is a bitumen emulsion. Precoating the chips may be carried out by mixing aggregates with 0.75 to 1.0 percent of bitumen by weight of chips in a suitable mixer.

Recommended Nominal Sizes of Stone Chippings (MM)

Type of Surface	Approximate Number of Commercial Vehicles with a Laden weight Greater than 3.0 tonnes Currently Carried per day in the Lane Under Consideration		
	200-1000	20-200	Less than 20
Very Hard	6	6	6
Hard	10	6	6
Normal	10	10	6
Soft	13	13	10
Very Soft	19	13	10

Note : The size of stone chippings is related to the midpoint of each lane traffic category. Light traffic conditions may make the next smaller size of stone more appropriate.

The assessment of hardness of the existing road surface shall be made on the basis of judgement with the help of the definitions given below:

Category of Surface	Definition
Very Hard	Surfaces such as concrete or very lean bituminous structures with dry stony surfaces into which negligible penetration of chippings will occur under the heaviest traffic.

Hard	Surfaces into which chippings will penetrate only slightly under heavy traffic.
Normal	Surfaces into which chippings will penetrate moderately under medium and heavy traffic.
Soft	Surfaces into which chippings will penetrate considerably under medium and heavy traffic.
Very Soft	Surfaces usually rich in binder into which even large aggregates will be submerged under heavy traffic.


In selecting the nominal size of chippings for two coat surface dressings, the size of chippings for the first layer shall be selected on the basis of the hardness of the existing surface and the traffic category as indicated above. The nominal size of chipping selected for the second layer shall then be about half the nominal size of that of the first layer to promote good interlock between the layers.

भविष्य में समस्त PC तथा Surface Dressing के कार्यों हेतु उपरोक्त विशिष्टियों का शत प्रतिशत अनुपालन सुनिश्चित किया जाये।


 प्रमुख अभियन्ता
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प्रतिलिपि निम्नलिखित को सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :

1. प्रमुख सचिव, लोक निर्माण विभाग उत्तराखण्ड शासन।
2. तकनीकी सलाहकार, प्रमुख सचिव, लोक निर्माण विभाग उत्तराखण्ड शासन।
3. क्षेत्रीय मुख्य अभियन्ता लो०नि०वि०, पौड़ी / देहरादून / अल्मोड़ा / हलद्वानी।
4. मुख्य अभियन्ता, मुख्यालय, विभागाध्यक्ष कार्यालय / मुख्य अभियन्ता ए०डी०बी० / आई०टी० / रा०मा० / पी०एम०जी०एस०वाई० लो०नि०वि० देहरादून / अल्मोड़ा।
5. समस्त अधीक्षण अभियन्ता, सिविल लोक निर्माण विभाग उत्तराखण्ड। अधीक्षण अभियन्ता अपने स्तर से अधिशासी अभियन्ताओं को उपलब्ध कराना सुनिश्चित करें।
6. अधिशासी अभियन्ता टी०ए०सी० वित्त विभाग, उत्तराखण्ड शासन।
7. वरिष्ठ स्टाफ आफिसर I, II / समस्त अधिशासी अभियन्ता कार्यालय प्रमुख अभियन्ता लो०नि०वि० देहरादून।
8. कनिष्ठ अभियन्ता (प्रा०), कार्यालय विभागाध्यक्ष, लोक निर्माण विभाग, देहरादून।
9. Head IT(Operations) को इस आशय से कि उपरोक्त कार्यालय ज्ञाप लोक निर्माण विभाग की website पर upload कर दें।


 प्रमुख अभियन्ता
 लो०नि०वि०

