KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED

(FORMERLY KARNATAKA LAND ARMY CORPORATION LIMITED) GRAMEENABHIVRUDDHI BHAVANA, 4th & 5th FLOOR, ANAND RAO CIRCLE BANGALORE-9



Quality Control Register Part 1 (Road & Building Work)

Record of Tests

District:

Programme Implementation Unit (Name of Project):

Name of Work:

Total Volumes of this Register:

This Volume Number:

Prescribed By: Quality Control Cell,

INSTRUCTIONS FOR WRITING THE FORMATS AND REGISTERS

- 1) All Corrections and alterations in the registers made in works or figures should be attested by the full signature of Assistant Executive Engineer & Executive Engineer with names.
- 2) The space left blank in any of the format should invariably be cornered by oblique lines.
- 3) Erasures and once writing are absolutely forbidden and must be avoided if any correction be necessary, the incorrect entry.
- 4) Necessary the incorrect entry should be cancelled neatly in red ink and the correct entry inserted.
- 5) Each such correction should by attested by Assistant Executive Engineer & Executive Engineer Setting his dated signature against each.

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED, BANGALORE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED (FORMERLY KARNATAKA LAND ARMY CORPORATION LIMITED) GRAMEENABHIVRUDDHI BHAVANA, 4th & 5th FLOOR, ANAND RAO CIRCLE BANGALORE-9

Quality Control Register Part 1

Record of Tests

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All these specifications and tables have been drawn by referring IRC codes, Building codes, KRRDA norms and IS codes, compiled and rearranged by

T.H. Gurumurthy, SE

K. Abdul Raheem, AEE,

Quality Control Cell,

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 1 Soil Investigation for SBC

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED, BANGALORE

Quality Control Register Part-1

Section 1: Soil Investigation for SBC

Abstract of tests Conducted

Test No.	Name of Test	Test No.	Date of Test	Result, Qualified	If No , Page No and Date of	Page No & Date on which
1	2	3	4	5	6	8
		Earth v	vork For B	uildings		
EW	Detailed SBC &	Test 1		_		
EW	Classification of Soil for					
	Foundation					
		Test 2				
		Test 3				
		Test 4				
		Earth	work For	Roads		
EW-1	Soil gradation	Test 1				
		Test 2				
		Test 3				
		Test 4				
		Test 5				
		Test 6				
		Test 7				
		Test 8				
		Test 9				
EW-2	Atterberg limits	Test 1				
		Test 2				
		Test 3				
		Test 4				
		Test 5				
		Test 6				
		Test 7				

		T	I		
		Test 8			
		Test 9			
EW-3	Natural moisture	Test			
	content	Table			
EW-4	Proctor density	Test 1			
		Test 2			
		Test 3			
		Test 4			
		Test 5			
		Test 6			
		Test 7			
		Test 8			
		Test 9			
EW-5	CBR	Test 1			
		Test 2			
EW-(A)	Swelling Index	Test 1			
	Moisture Content at	Test			
EW-6	the time of Compaction	Table			
EW-7	Thickness	Test			
		Table			
EW-8	Field density	Test 1			
		Test 2			
		Test 3			
		Test 4			
		Test 5			
		Test 6			
		Test 7			
		Test 8			
ALS-1	Horizontal alignment (Tests as Required)	Test	Fable		
ALS-2	Surface level(Tests as Required)	Test	Fable		
ALS-3	Surface regularity(Tests as Required)	Test	Fable		

Quality Control Register Part-1

Record of Tests: Section - 1 Soil Investigation

Details of Lab Tests conducted for SBC and Classification of soil for foundation

Type of Soil :-

Whether Ground water table encountered :-

AVERAGE SOIL PROPERTIES AT A DEAPTHm to.....m

Si. No.PARTICULARSTest Pit-1Test Pit-1Test Pit-1Test Pit-101.Specific Gravity (G $_{27}$ °)02.Incitue bulk density (r t - KN / M ³)03.Natural Moisture Content (W n %)04.Incitue dry density (r d - KN / M ³)05.Grain size Distribution Analysis. Texture: Gravel %; Sand %; Fines %;06.Atterberg limits & indices Liquid limit (W 1 %) Plastic limit (W p %) Plasticity Index (I p %)07.Triaxial Compression Test Cohension (C - KN / M ²) Friction angle (\emptyset^0)08.Consolidation Test. Compression index (Cc)09.Differential Free Swell Index (%)11. </th <th>01</th> <th></th> <th></th> <th>T D 1</th> <th></th>	01			T D 1	
01.Specific Gravity (G $_{27}^{0}$)Image: constraint of the system of the syste	<u>Sl.</u>	PARTICULARS	Test Pit-1	Test Pit-1	Test Pit-1
02.Incitue bulk density (r $_{1}$ - KN / M 3)03.Natural Moisture Content (W n %)04.Incitue dry density (r $_{d}$ - KN / M 3)05.Grain size Distribution Analysis. Texture: Gravel %; Sand %; Fines %;06.Atterberg limits & indices Liquid limit (W $_{1}$ %) Plastic limit (W $_{p}$ %) Plasticity Index (I $_{p}$ %) Plasticity Index (I $_{p}$ %)07.Triaxial Compression Test Cohension (C - KN / M 2) Friction angle (Ø 0)08.Consolidation Test. Compression index (Cc)09.Differential Free Swell Index (%)10.Classifiation (ISSCS) IS: 1498 - 1970	<u>No.</u>				
03.Natural Moisture Content (W n %)Image: Content (W n %)04.Incitue dry density (r d - KN / M 3)Image: Content (W n %)05.Grain size Distribution Analysis. Texture: Gravel %; Sand %; Fines %;Image: Content (W n %)06.Atterberg limits & indices Liquid limit (W 1 %) Plastic limit (W p %) Plasticity Index (I p %)Image: Content (W n %)07.Triaxial Compression Test Cohension (C - KN / M 2) Friction angle (Ø0)Image: Content (W n %)08.Consolidation Test. Compression index (Cc)Image: Content (W n %)09.Differential Free Swell Index (%)Image: Content (W n %)10.Classifiation (ISSCS) IS: 1498 - 1970Image: Content (W n %)	01.	Specific Gravity (G $_{27}^{0}$)			
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05.Grain size Distribution Analysis. Texture: Gravel %; Sand %; Fines %;06.Atterberg limits & indices Liquid limit (W_1 %) Plastic limit (W_p %) Plasticity Index (I_p %)07.Triaxial Compression Test Cohension (C - KN / M²) Friction angle (Ø⁰)08.Consolidation Test. Compression index (Cc)09.Differential Free Swell Index (%)10.Classifiation (ISSCS) IS: 1498 - 1970	03.	Natural Moisture Content (Wn%)			
Texture: Gravel %; Sand %; Fines %;Texture: Gravel % Sand %; Fines %;06.Atterberg limits & indices Liquid limit (W_1 %) Plastic limit (W_p %) Plasticity Index (I_p %)07.Triaxial Compression Test Cohension (C - KN / M 2) Friction angle (\emptyset^0)08.Consolidation Test. Compression index (Cc)09.Differential Free Swell Index (%)10.Classifiation (ISSCS) IS: 1498 - 1970	04.	Incitue dry density (r_d - KN / M ³)			
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Sand %; Fines %;Image: Sand %; Fines %;06.Atterberg limits & indices Liquid limit (W_1 %) Plastic limit (W_p %) Plasticity Index (I_p %)07.Triaxial Compression Test Cohension (C - KN / M ²) Friction angle (\emptyset^0)08.Consolidation Test. Compression index (Cc)09.Differential Free Swell Index (%)10.Classifiation (ISSCS) IS: 1498 - 1970					
Fines %;Image: Constraint of the system of the		Gravel %;			
06.Atterberg limits & indices Liquid limit (W_1 %) Plastic limit (W_p %) Plasticity Index (I_p %)07.Triaxial Compression Test Cohension (C - KN / M ²) Friction angle (\emptyset^0)08.Consolidation Test. Compression index (Cc)09.Differential Free Swell Index (%)10.Classifiation (ISSCS) IS: 1498 - 1970		Sand %;			
Liquid limit ($W_1 \%$) Plastic limit ($W_p \%$) Plasticity Index ($I_p \%$)07.Triaxial Compression Test Cohension ($C - KN / M^2$) Friction angle (\emptyset^0)08.Consolidation Test. Compression index (Cc)09.Differential Free Swell Index (%)10.Classifiation (ISSCS) IS: 1498 - 1970		Fines %;			
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08. Consolidation Test. Compression index (Cc) 09. Differential Free Swell Index (%) 10. Classifiation (ISSCS) IS: 1498 - 1970					
Compression index (Cc)09.Differential Free Swell Index (%)10.Classifiation (ISSCS) IS: 1498 - 1970	00				
09. Differential Free Swell Index (%) 10. Classifiation (ISSCS) IS: 1498 - 1970	08.	Consolidation Test.			
10. Classifiation (ISSCS) IS: 1498 - 1970		Compression index (Cc)			
IS: 1498 - 1970	09.	Differential Free Swell Index (%)			
IS: 1498 - 1970	10.	Classifiation (ISSCS)			
	11				
	11.				

SBC of Soil : Recommendation :

JE/AE:

Counter Signed by:

AEE:

EE:

Quality Control Register Part-1Form No. EW-1 Record of Tests: Section - 1 - B Soil Investigation for Roads

TEST FOR EMBANKMENT: TEST PRIOR TO CONSTRUCTION Sieve Analysis of Soil (IS:2720 (Part 4) -1985)

Test 1

Road / Section Details Sample No. Weight of soil sample taken: Date of Testing : (gm) Dry Sieving

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing	Prescribed Limits (Percentage of Wt. Passing/ Retained)
40 mm					
25 mm					
20 mm					
10 mm					
4.75 mm					

Wet Sieving

Weight of Soil Sample taken: (gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)
2.36 mm				
1.18 mm				
600 µ				
425 µ				
75 μ				

Summary of Results

Clay / silt (-75 micron) percent	
Sand (-4.75 mm + 75 micron) percent	
Gravel (-40 mm + 4.75 mm) percent	

Whether Confirms to the Prescribed Limits (Yes/No)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

Roads & Building / SGY

Checked by:

Sieve Analysis of Soil (IS:2720 (Part 4) -1985) Test 2

Road / Section Details Sample No. Weight of soil sample taken: Date of Testing : (gm) Dry Sieving

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing	Prescribed Limits (Percentage of Wt. Passing/ Retained)
40 mm					
25 mm					
20 mm					
10 mm					
4.75 mm					

Wet Sieving

Weight of Soil Sample taken: (gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)
2.36 mm				
1.18 mm				
600 µ				
425 µ				
75 μ				

Summary of Results

Clay / silt (-75 micron) percent	
Sand (-4.75 mm + 75 micron) percent	
Gravel (-40 mm + 4.75 mm) percent	

Whether Confirms to the Prescribed Limits (Yes/No)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

Checked by:

Sieve Analysis of Soil (IS:2720 (Part 4) -1985) Test 3

Road / Section Details Sample No. Weight of soil sample taken: Date of Testing : (gm) Dry Sieving

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing	Prescribed Limits (Percentage of Wt. Passing/ Retained)
40 mm					
25 mm					
20 mm					
10 mm					
4.75 mm					

Wet Sieving

Weight of Soil Sample taken: (gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)
2.36 mm				
1.18 mm				
600 µ				
425 µ				
75 μ				

Summary of Results

Clay / silt (-75 micron) percent	
Sand (-4.75 mm + 75 micron) percent	
Gravel (-40 mm + 4.75 mm) percent	

Whether Confirms to the Prescribed Limits (Yes/No)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

Checked by:

Atterberg Limits Test Test 1

Road/Section Details: Sample No.:

Date of Testing : Type of soil :

Sample Details :

Determination of Liquid Limit (LL)

	1	2	3	4	5	6	Remarks
Container Number							
Weight of container + wet soil							
Weight of container + dry soil							
Loss of Moisture							
Wt. of container							
Wt. of dry soil							
Moisture content %							
Number of blows							

Liquid Limit (LL) = ----- per cent

Layer	Val	Permissible Value
		Less than 70 per cent

Determination of Plastic Limit (PL)

	1	2	3	Remarks
Container Number				
Weight of container + wet soil				
Weight of container + dry soil				
Loss of Moisture				
Weight of container				
Weight of dry soil				
Moisture content %	(mc ₁)	(mc ₂)	(mc ₃)	

Plastic Limit (PL)

 $m_{\underline{c_1}} m_{\underline{c_2}} m_{\underline{c_3}}$ _____per cent

Plasticity Index (PI) = $LL - PL = __per cent$

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.	Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
Page No Date of issue	PIU. The reference preserved.	of the page No. of t	his Register on which	1

Checked by:

Atterberg Limits Test Test 2 Date of Testing : Sample No.: Date of Testing : Sample No.: Type of soil : Sample Details : Determination of Liquid Limit (LL)

	1	2	3	4	5	6	Remarks
Container Number							
Weight of container + wet soil							
Weight of container + dry soil							
Loss of Moisture							
Wt. of container							
Wt. of dry soil							
Moisture content %							
Number of blows							

Liquid Limit (LL) = ----- per cent

Layer	Value	Permissible Value
		Less than 70 per cent

	1	2	3	Remarks
Container Number				
Weight of container + wet soil				
Weight of container + dry soil				
Loss of Moisture				
Weight of container				
Weight of dry soil				
Moisture content %				
	(mc ₁)	(mc ₂)	(mc ₃)	

Plastic Limit (PL) mc1 mc2 mc3 per cent

Plasticity Index (PI) = LL – PL = _____per cent

LayerValuePermissible LimitWhether Confirms to the Prescribed Limits (Yes/No)							
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the							
PIU. The reference of the page No. of this Register on which Non Conformance Reports copy							
preserved.							
Page No	Page No Date of issue						

Checked by:

Standard Proctor's Compaction Test Data Sheet for Compaction Test of Soil (IS:2720 (Part 7) -1983) Test 1

Road / Section Details:	Date of Testing :
Sample No. :	Weight of Dry Soil:
Description of sample	
Type of test	Standard Proctor
Weight of mould W1 (gm)	
Volume of mould V _m (cc)	
Per cent retained on 20 mm IS sieve	

	+					Moisture	content de	terminat	ion		
S. No.	Weight of mould compacted soil (gms) W2	Weight of wet soil (gms) W2 - W1	Wet density (gm/cc)	Container No.	Weight of container (gms)	Weight of container + wet soil (gms)	Weight of container + dry soil (gms)	Weight of water (Ww) (gms)	Weight of Dry soil (Ws) (gms)	Moisture content (%)	Dry density (gm/cc)
1.											
2.											
3.											
4.											
5.											
6.											

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)							
If Results don	If Results don't conform to the prescribed Limits, non conformance Report will be issued by the									
PIU. The refer	rence of the page	e No. of this Register on w	which Non Conformance Reports copy							
preserved.										
Page No Date of issue										

Checked by:

Tested by:

Wet density of compacted soil $Y_m = \frac{W_2 - W_1}{V_m}$ gm/cc Where: W_2 – Weight of mould + soil (gm), W_1 – Weight of mould (gm), V_m – Volume of mould (cc) Dry density of compacted soil $Y_d = \frac{100}{100 - W} \times Y_m$

Where W = moisture content

kg.

& Building / SGY C. B. R. Test of Soil (For Sub Grade Soil Only) [IS: 2720 (Part-16)]

Test 1

Sample No.:Date of Testing:Sample Details:Capacity of Proving Ring:Date of Casting of Mould:Value of one divn. in:

Time of Penetration @1.25 mm/Min.	Pene- tration		roviı Ring eadi	ç	(kg/ One	2 /cm) divn.	ensity (A) x Value lunger	In	rrec Load tens g/cm	l ity	Standard Load Intensity (kg/cm ²)	Unsoaked/ Soaked C.B.R. (%) <u>Cx100</u> D		.B.R.	Average C.B.R. (%)
			(A)			(B)			(C)		(D)		(E)		
Min. Sec.	(mm)	i	ii	iii	i	ii	iii	i	ii	iii	Std.	i	ii	iii	
0-0	0.0														
0-24	0.5														
0-48	1.0														
1 – 12	1.5														
1 – 36	2.0														
2 - 0	2.5										70				
2 - 24	3.0														
3 - 12	4.0														
4 - 0	5.0										105	1			
6-0	7.5										134	1			
8-0	10.0										162	1			
10 - 0	12.5										183				

Av. C.B.R. at 2.5 mm penetration: (%)

Av. C.B.R. at 5.0 mm penetration: (%)

Av. Saturation Moisture Content: (%)

Av. Swelling:

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)						
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the									
PII The reference	of the page No. of	this Register on which N	on Conformance Reports conv						

(%)

PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

Page No... Date of issue...

Checked by:

Test 2

kg.

Sample No.:	Date of Testing:
Sample Details:	Capacity of Proving Ring:
Date of Casting of Mould:	Value of one divn. in:

Time of Penetration @1.25 mm/Min.	Pene- tration		rovi Ring eadi	g	(kg/ One	2 /cm) divn.	ensity (A) x Value unger	In	rrec Load tens g/cm	ł ity	Standard Load Intensity (kg/cm ²)	Unsoaked/ Soaked C.B.R. (%) <u>Cx100</u> D		.B.R.	Average C.B.R. (%)
			(A)			(B)			(C)		(D)		(E)		
Min. Sec.	(mm)	i	ii	iii	i	ii	iii	i	ii	iii	Std.	i	ii	iii	
0-0	0.0														
0-24	0.5														
0 - 48	1.0														
1 – 12	1.5														
1 – 36	2.0														
2 - 0	2.5										70				
2 - 24	3.0														
3 - 12	4.0														
4 - 0	5.0										105	1			
6-0	7.5										134	1			
8-0	10.0										162	1			
10 - 0	12.5										183				

Av. C.B.R. at 2.5 mm penetration: (%)

Av. C.B.R. at 5.0 mm penetration: (%)

Av. Saturation Moisture Content: (%)

Av. Swelling:

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
If Results don 't con	form to the prescri	hed Limits non conform	ance Report will be issued by the

(%)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

Page No... Date of issue...

Checked by:

16	6 Quality Control Register Part - 1 for Roads Swelling کوچی Seit کو Swelling کوچی کوچی کوچی کوچی کوچی کوچی کوچی کوچی								
Sample	e No.:		Date of casting						
specimen: Sample Details: Date of Testing:									
Mould Nos.	Height of specimen	Dialgauge reading		L. C. of dial gauge	Total Swelling (C-B)xD	Swelling Index <u>Ex100</u> A			
	(mm)	Initial	Final	(mm)	(mm)	(Percent)			
	(A)	(B)	(C)	(D)	(E)				
i.									
ii.									
iii.									

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
reference of the page	1	n which Non Conforman	Report will be issued by the PIU. The ice Reports copy preserved.

Checked by:

Tested by:

Swelling Test of Soil:- Test 2

Sample No.:

Date of casting

specimen: Sample Details:

Date of Testing:

Mould Nos.	Height of specimen	Dialgauge reading		L. C. of dial gauge	Total Swelling (C-B)xD	Swelling Index Ex100 A
	(mm)	Initial	Final	(mm)	(mm)	
	(A)	(B)	(C)	(D)	(E)	
i.						i.
ii.						ii.
iii.						iii.

Laver	Value	Permissible Limit	Whether Confirms to the							
Luyer	vulue		Prescribed Limits (Yes/No)							
If Results don't cont	If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The									
reference of the page No. of this Register on which Non Conformance Reports copy preserved.										
Page No	Page No									

Checked by:

¹⁷ Swelling Test of Soil :- Test 3

S	Sample No.: Date of casting specimen: Sample Details: Date of Testing:										
Mould Nos.	Height of specimen		lgauge ading	L. C. of dial gauge	Total Swelling (C-B)xD	Swelling Index <u>Ex100</u> A					
	(mm)	Initial	Final	(mm)	(mm)	(Percent)					
	(A)	(B)	(C)	(D)	(E)						
i.											
ii.											
iii.											

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
reference of the page		n which Non Conforman	Report will be issued by the PIU. The ce Reports copy preserved.

Checked by:

Tested by:

Swelling Test of Soil:- Test 4

Sample No.:

Date of casting

specimen: Sample Details:

Date of Testing:

Mould Nos.	Height of specimen		lgauge ading	L. C. of dial gauge	Total Swelling (C-B)xD	Swelling Index <u>Ex100</u> A
	(mm)	Initial	Final	(mm)	(mm)	
	(A)	(B)	(C)	(D)	(E)	
i.						i.
ii.						ii.
iii.						iii.

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
			Report will be issued by the PIU. The ce Reports copy preserved.
10			

Checked by:

(Sand replacement method) IS 2720 (Part 28)-1974 Test 1

Road/Section Details:	Date of Testing :	
Location of test point .:	Thickness of layer :	mm

Observation Tables

(a)	Calibration	Test-1	Test-2	Test-3
	(i) Mean weight of sand in cone (of pouring			
	cylinder) (W ₂) in gm. (ii) Volume of			
	calibrating cylinder (V) in cc.			
	(iii) Weight of sand (+ cylinder) before pouring (W1) in gm.			
	(iv) Mean weight of sand (+cylinder) after pouring (W3) in gm.			
	(v) Weight of sand to fill calibrating cylinder. (Wa			
	= W1 – W2 – W3) in gm. (vi) Bulk density of			
	sand $Y_s = (W_a/V) \text{ gm/cc}$			
(b)	Determination of soil density			
	(i) Determination number			
	(ii) Weight of wet soil from hole (W_W) in gm.			
	(iii) Weight of sand (+ cylinder) before pouring (W1) in gm.			
	(iv) Weight of sand (+ cylinder) after pouring (W4) in gm.			
	(v) Weight of sand in hole, in gm. $W_b = (W_1 - W_4 - W_2)$			
	(vi) Bulk density $Y_b = (W_W/W_b) \times Y_s \text{ gm/cc}$			
	(vii) Moisture content container number			
	(viii) Moisture content (W) percent			
	(ix) Weight of dry soil from the hole in gm. (Wd)			
	(x) Dry density $Y_d = (W_d/W_b) \times Y_s \text{ gm/cc}$			

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
PIU. The referen	ce of the page No	,	ormance Report will be issued by the h Non Conformance Reports copy

* Field density as per cent of Maximum Dry Density at OMC.

Checked by:

Quality Control Register Part - 1 for Roads Field Densitys of Soil (Sand replacement method) IS 2720 (Part 28)-1974

Test 2

Road/Section Details:	Date of Testing :	
Location of test point .:	Thickness of layer :	mm
Observation Tables		

(a)	Calibration	Test-1	Test-2	Test-3
	(i) Mean weight of sand in cone (of pouring			
	cylinder) (W ₂) in gm. (ii) Volume of			
	calibrating cylinder (V) in cc.			
	(iii) Weight of sand (+ cylinder) before pouring (W1) in gm.			
	(iv) Mean weight of sand (+cylinder) after pouring (W3) in gm.			
	(v) Weight of sand to fill calibrating cylinder. ($W_a =$			
	$W_1 - W_2 - W_3$) in gm. (vi) Bulk density of sand $Y_s =$			
	(Wa/V) gm/cc			
(b)	Determination of soil density			
	(i) Determination number			
	(ii) Weight of wet soil from hole (W_W) in gm.			
	(iii) Weight of sand (+ cylinder) before pouring (W1) in gm.			
	(iv) Weight of sand (+ cylinder) after pouring (W4) in gm.			
	(v) Weight of sand in hole, in gm. $W_b = (W_1 - W_4 - W_2)$			
	(vi) Bulk density $Y_b = (W_w/W_b) \times Y_s \text{ gm/cc}$			
	(vii) Moisture content container number			
	(viii) Moisture content (W) percent			
	(ix) Weight of dry soil from the hole in gm. (Wd)			
	(x) Dry density $Y_d = (W_d/W_b) \times Y_s \text{ gm/cc}$			

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)					
the PIU. The refe	If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved. Page No							

* Field density as per cent of Maximum Dry Density at OMC.

Checked by:

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 2 Concrete Structures

Record of Tests: Section - 2 Concrete for Structures

Abstract of tests Conducted

Test No.	Name of Test	Test No.	Date of Test Result	Qualified Not Qualified If No. Page No.	and Date of NCR Page No. & Date on	Which Test Qualified
1	2	3	4	5	6	7
	Concrete for structures					
	Test prior to construction					
	Test on water	Test 1				
CC-1	Setting time of cement	Test 1				
CC-2	Soundness	Test 1				
CC-3	Comp. sig of mortor cubes	Test 1				
CC-4	Crushing stg. Of CA	Test 1				
SB-2	Aggregate impact value	Test 1				
CC-8	Water for construction	Test 1				
GB-1	Flackiness Index	Test 1				
CC-9	Deleterious constituents	Test 1				
CC-10	Gradation of FA	Test 1				
		Test 2				
		Test 3				
CC-11	Gradation of CA	Test 1				
		Test 2				
		Test 3				
GB-2	Water absorption of Aggregate	Test 1				
GB-3/4	Soundness test of Aggregate	Test 1				
CC-13	Mix Design	Test Table				
CC-5	Workability of concrete	Test Table				
CC-12	Alkali Silica reactivity	Test 1				
	Tests during construction					
CC-6	Comp. Stg of CC cubes	Test Table				
CC-14	Moisture content of FA/CA	Test Table				
CC-15	Form work, construction					
	Joints and surface finish	Test Table				
CC-16	Cement consumption, adherence to mix design, Transporting, Placing, Compaction and curing of	Test Table				
	concrete					

Quality Control Register Part-1

Section - 2 : Concrete for Structures

Quantities of Items, Quality control tests, Frequencies and Total Number of Tests Required

SI. No.	Description of item of Work	Unit	Quantity	Test No.	Name of Test	Frequency of Tests	No. of tests reqd
1	2	3	4	5	6	7	8
	CONCRETE FOR STRUCTURES						
					Tests Prior to Construction		
				CC-1	Setting time of Cement	One test for 2000 bags 10 tonnes	
				CC-2	Soundness of cement	One test for 2000 bags or 10 tonnes	
				CC-3	Compressive Stg of Mortor Cubes	3 specimens for each lot	
				CC-4	Crushing strength of CA	3 samples from each source	
				CC10	Gradation of FA	3 samples from each source	
				CC-11	Gradation of CA	3 samples from each source	
				GB-1	Flakiness Index	Once for each source	
				SB-2	Aggregate Impact Value	One test per source	
				GB-2	Water absorption	One test per source	
				GB3/4	Soundness (if water absorption exceeds 2%)	Once	
				CC-12	Alkali Silica reactivity	If in doubt - once	
				CC-9	Deleterious constituents of FA/CA	If in doubt, one test	
				CC-8	Water for construction	Once for large work for each source	
				CC-13	Mix design	Before approval	
					Tests during Construction		
				CC-14	Moisture content of sand/CA	Once	
				CC-5	Workability of concrete by slump test	2 tests / day	
				CC-6	Compressing Stg of CC cubes & its Reviev.	Min 6 cubes per day	
				CC-15	Form Work, Construction joints, and Surface finish,	Daily and through out concerting and as and when work demands	
		Cement consumption, adherence to CC-16 CC-16 CC-16 Compaction and curing of concrete		Regularly and Daily			

Form CC-1

TEST FOR CONCRETE STRUCTURES TEST PRIOR TO CONSTRUCTION

1. Tests on Water:

Sample: Name of project: Name of work: Reference No: Place of work: Date & Time:

Estimation cost:

QCT 21: Laboratory tests on Water

Sl.no.	Tests carried out	BIS code Ref.	Results o	htained	Remarks
51.110.			incounto o	btanicu	Remarks
			As per Standard	As per	
			Standard	report	
1	PH value	IS 3025-1964			
2	Concentration of solids in water				
3	Sulphate impurities				
4	Organic / Inorganic solids	456-1978			
5	Chloride content				

Checked by : AEE/EE

Tested by : AE/JE

Form CC-2

Setting Time of Cement (IS 4032 (Part 5) - 1988

Road / Section details :

Date of testing :

Sam	ple No.	

SI. No.	Starting time (Stop watch) To	Time when initial set has taken place T1	Time when final set has taken place T2	Initial setting time = T1-T6	Final setting time = T2-T0	Whether acceptable Y/N	If No. Date of NCR issued and page no. of Q/C Part II

Checked by : AEE/EE

Tested by : AE/JE

Form CC-2

Soundness of Cement by Le-Chatelier Method IS 4031 (Part 3) - 1988

Road / Section d	etails :	х <i>У</i>	Date :			
Specimen No	Wt. of Cement	Distance Separating the Indicator Points (mm)				
	W (gm)	Before Submegence	After Submegence			

Checked by : AEE/EE

Tested by : AE/JE

Form CC-2

Compressive Stg of Cement IS 4031 (Part 6) - 1988

Road / Section details :

Date :

SI.	Compressive Stg after 3 days				Compressive at 7 days			
No	O Observation							
	Plan area A(mm²)	Load at failure W (N)	Comp Stg N/mm ²	Average Stg N	Plan area A(mm²)	Load at failure N (N)	Comp Stg N/mm ²	Average Stg N

Checked by : AEE/EE

Tested by : AE/JE

Building / SGY

Crushing Strength of coarse aggregate (IS : 2720 (Part 22) - 1972)

Date :

Name of Quarry/Location

SI. No.	Wt. of the container C gm	Wt. of surfaces dry specimen + container A gms	Wt. of fines passing 2.36 mm + container B gms	Crushing Value = B - C x 100% A - C	Whether the volume is within the permissible limits (Y/N)	If no, Date & NCR issued and page no. of Q/C Part II

Checked by : AEE/EE

Tested by : AE/JE

Weight of Sample taken:

Form SB-2

Form CC-4

Aggregate Impact Value (IS : 2386 - Part 4) Test 3 Date of Testing :

Sample No : Name of Quarry/Location :

Observations Test No. Average 1 2 3 Weight of aggregate sample filling in the cylinder = W, (gm) Weight of aggregate passing 2.36 mm Sieve after the test = $W_2(gm)$ Layer Value **Permissible Limit** Whether Conforms to the Prescribed Limits (Yes/No) Max 30% If Results don't conform to the prescribed limits, non conformance Report will be issued by the PIU. The reference of the Page No. of this Register on which Non Conformance Reports copy preserved. Page No..... Date of issue.....

Form CC-8

Test on water (IS : 3025 (17, 18, 23, 24, 32)

	Dh Value and	Limits of acidity	Limits of	Loss in Stg	Setting time				
Sample	ample No. (Y/N)	and its	solids and its	and its	and its	Remarks			
No.		acceptance	acceptance	acceptance	acceptance	Refficiences			
		(Y/N)	(Y/N)	(Y/N)	(Y/N)				

Checked by : AEE/EE

Tested by : AE/JE

Sample No :

Form No. GB-1

Flakiness Index of Aggregate

Test 1

Sample No :

Name of Quarry/Location :

Date of Sampling : Date of Testing:

(gm)

Size of aggregate		Wt. of the	Thickness gauge	Weight of
Passing through	Retained on I.S.	fraction	size, (0.6 times	aggregate in
I.S. Sieve (mm)	Sieve (mm)	consisting of at	the mean sleve)	each fraction
		leaset 200	(mm)	passing
		pieces (gm)		thickness gauge
				(gm)
63	50	W ₁ =	33.90	M =
50	40	W ₂ =	27.00	M =
40	31.5	W ₃ =	21.50	M =
31.5	25	W ₄ =	16.25	M =
25	20	W ₅ =	13.50	M =
20	16	W ₆ =	10.80	M =
16	12.5	W ₇ =	8.55	M =
12.5	10	W ₈ =	6.75	M =
10	6.3	W ₉ =	4.89	M =
Total		W =		M =

Flakiness Index (F.I.) = $\underline{M} \times 100 = (\%)$ W

Layer	Value	Permissible Limit	Whether Conforms to the Prescribed Limits (Yes/No)				
		Max. 25%					
If Result don't co	nform to the prescrib	ped to the prescribed li	mits, non conformance Report				
will be issued by	the PIU. The reference	ce of the Page No. of th	nis Register on which Non				
Conformance Reports copy preserved.							
Page No	Da	te of issue					

Deleterious Materials and Organic Impurities Test IS 2386 Part (2) - 1963

Road / Section Details :				Date of Testing :			
SI. No.	Type of aggregate Sample No Organic CA/FA Impurities		% of Deleterious Materials	Whether the values are within the acceptable limits (Y/N)	If no, Date & NCR issued and page no. of Q/C Part II		

Checked by : AEE/EE

Tested by : AE/JE

Form CC-10

Gradation of Fine Aggregate (Sand)

Road / Section D	etails :		Date of Testing :					
Sample No :		Test 1	Test 1 Wt. of Sample taken :					
Sieve Size	Wt. of sand Retained (gm)	Percent of Wt. Retained %	Cumulative percent of Wt. retained (%)	Percentage of wt. passing	Permissible value Zone II			
10 mm					100			
4.75 mm					90 - 100			
2.36 mm					75 - 100			
1.18 mm					55 - 90			
600 micron					35 - 59			
300 micron					8 - 30			
150 micron					0 - 10			

Checked by : AEE/EE

Tested by : AE/JE

Form CC-11

Gradation of Coarse Aggregates

Test 1

Sieve Size	Wt. of sand Retained (gm)	Percent of Wt. Retained %	Cumulative percent of Wt. retained (%)	Percentage of wt. passing	Permissible value Percent of weight passing the sieve for nominal size of		ig the sieve
					40 mm	20 mm	12.5 mm
63 mm					100	-	-
40 mm					95-100	100	-
20 mm					30-70	95-100	100
12.5 mm					-	-	90-100
10 mm					10-35	25-55	40-85
4.75 mm					0-5	0-10	0-10

Checked by : AEE/EE

Tested by : AE/JE

Form CC-9

	· · · ·		
Gradatia	n of Eino	Aggregate	(Cand)
ULADALIO	п от гтпе	APPIEPAIE	L'SANGT
0.00000		י שיייהם יההי	(001107)

Road / Section D	etails :	Date of Testing :			
Sample No :		Test 2	Wt. of	Wt. of Sample taken :	
Sieve Size	Wt. of sand Retained (gm)	Percent of Wt. Retained %	Cumulative percent of Wt. retained (%)	Percentage of wt. passing	Permissible value Zone II
10 mm					100
4.75 mm					90 - 100
2.36 mm					75 - 100
1.18 mm					55 - 90
600 micron					35 - 59
300 micron					8 - 30
150 micron					0 - 10

Checked by : AEE/EE

Tested by : AE/JE

Gradation of Coarse Aggregates

Test 2

Sieve	Wt. of sand	Percent of	Cumulative	Percentage	P€	ermissible val	ue
Size	Retained	Wt. Retained	percent of Wt.	of	Percent of	weight passir	ig the sieve
5120	(gm)	%	retained (%)	wt. passing	foi	r nominal size	of
					40 mm	20 mm	12.5 mm
63 mm					100	-	-
40 mm					95-100	100	-
20 mm					30-70	95-100	100
12.5 mm					-	-	90-100
10 mm					10-35	25-55	40-85
4.75 mm					0-5	0-10	0-10

Checked by : AEE/EE

Tested by : AE/JE

Gradation of Fine Aggregate (Sand)

Test 3

Road / Section Details : Sample No : Date of Testing : Wt. of Sample taken :

		Wt. of Sample taken.				
Sieve Size	Wt. of sand Retained (gm)	Percent of Wt. Retained %	Cumulative percent of Wt. retained (%)	Percentage of wt. passing	Permissible value Zone II	
10 mm					100	
4.75 mm					90 - 100	
2.36 mm					75 - 100	
1.18 mm					55 - 90	
600 micron					35 - 59	
300 micron					8 - 30	
150 micron					0 - 10	

Gradation of	Coarse Aggregates
Gradation of	Course Apprepares

	Test 3						
Sieve	Wt. of sand	Percent of	Cumulative	Percentage	Pe	ermissible valu	ue
Size	Retained	Wt. Retained	percent of Wt.	of	Percent of	weight passin	ig the sieve
5120	(gm)	%	retained (%)	wt. passing	fo	r nominal size	of
					40 mm	20 mm	12.5 mm
63 mm					100	-	-
40 mm					95-100	100	-
20 mm					30-70	95-100	100
12.5 mm					-	-	90-100
10 mm					10-35	25-55	40-85
4.75 mm					0-5	0-10	0-10

Checked by : AEE/EE

Tested by : AE/JE

Water Absorption of Aggregate [IS : 2386 (part-3)

Sample No : Name of Quarry / Location : Size of aggregate : Date of Sampling : Date of Testing : Type of aggregate :

SI. No.	Specimen No.	Weight of Saturated surface dry sample B gms.	Weight of oven dried sample A gms	Water Absorption (%) = <u>B-A</u> x 100 A	Average Value	Remarks
1	2	3	4	5	6	7

Value	Permissible Limit	Whether Conforms to the				
value		Prescribed Limits (Yes/No)				
If Results don't conform to the prescribed limits, non conformance Report will be issued by the PIU. The reference of the Page No. of this Register on which Non Conformance Reports copy preserved.						
Page No	Date of issue					

Building / SGY

Soundness test of aggregate with sodium sulphate / Magnesium Sulphate [IS : 2386 (part-5]

Test 1

Sample No :

Name of Quarry / Location :

Size of aggregate :

Date of Sampling :

Date of Testing :

Type of aggregate :

Sieve S	Size, mm	Grading of	Weight of each fraction finer sieve after test		Demostra
Passing	Retained	Original sample (%)	before test (gms)	(actual percent loss)	Remarks
1	2	3	5	6	7
60	40				
40	20				
20	10				
10	4.75				
Number	of particies	coarser than	Number of	aarticles offected classi	field as to the
20 mm b	efore test			particles affected, classi	
Daccing	Retained	Number	 number disintegrating, splitting, crumbing, cracking or flanking 		
Passing	Retained	before test			
40 mm	20 mm				
60 mm	40 mm				

Value	Permissible Limit	Whether Conforms to the Prescribed Limits (Yes/No)			
	Max. 12% for Sodium Sulphate				
	Mas 18% for Magnesium				
	Sulphate				
If Results don't confor	m to the prescribed limits, non conf	formance Report will be			
issued by the PIU. The	reference of the Page No. of this Re	egister on which Non			
Conformance Reports copy preserved.					
Page No Date of issue					

Form CC-12

Alkali Aggregate Reactivity IS 2386 (Part VII) - 1963

From Lab - Paste the Report

Form CC-13

Mix Design IS : 10262 - 1982 and IRC SP 23 (S & T) - 1982

Paste the Report

Checked by : AEE/EE

Tested by : AE/JE

Workability of Concrete				
Sample Identification No:				
Date of Testing :	No. of Sample			
Quality of Concrete	Good / Bad			
Weight of water (g)				

SI. No.	Specimen No.	Concrete taken from (Place)	Value of Slump Test or compacting factor test
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			

Layer	Value	Permissible Value

Checked by : AEE/EE

Tested by : AE/JE

Form CC-6

Compressive Strength of Concrete Cubes

	(IS - 516 - 1959)
Sample Identification No:	Age (Days) 7 and 28 days
Date of Testing :	Minimum No. of Samples = 3 for each test
Temperature oand Humidity	27 <u>+</u> 2 ⁰ C, Relative Humidity = 90%
Mis Proportion by weight	As specified or as per Mix Design IRC : 44/IS : 10262-
	1982
Rate of Loading	140 Kg/sqcm/minute
Workability	As per the requirement of Slump/Compaction Factor

SI. No.	Specimen N	Plan Area o mould 15 m mm Ap	im x 150	Maximum Applied Load just before failure at 7 and 28 days (kg) Ap	(kg/cm2)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.				-	
			te sample (k	g/cm ²) at 7 and 28	
days)	nearest to 1	L kg/sqcm			
	Layer	Value		Permissib	le Limit
			strength o	compressive of concrete g/cm ²) at 7 and	Individual Variation = + 15% of the average

Building / SGY

Moisture content of sand / Coarse aggregate

Road / Section details :

Date :

SI. No.	Sample No.	Wt. of FA/CA W ₁ gms	Wt. of oven dried FA/CA W ₂ gms	Moisture content = $\frac{W_1 - W_2}{100}$ x W_2	Remarks

Checked by : AEE/EE

Form CC-15

Test for Concrete Structures Test during construction Formwork, Construction Joints and Surface Finish

Form CC-16

Test for Concrete Structures Test during construction Cement Consumption, Adherence to mix design, transporting, Placing, Compaction and Curing of Concrete

Checked by : AEE/EE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 3 Brick and Stone Masonry

Quality Control Register Part - 1 for Roads & Building / SGY Record of Tests: Section - 3 Brick and Stone Masonry

Abstract of tests Conducted

Test No.	Name of Test	Test No.	Date of Test Result	Qualified Not Qualified If No. Page No.	And Date of NCR Page No. & Date on	Which Test Qualified
	Brick & Stone Masonry					
Τe	est prior to constyruction					
BR-1	Colour, Shape, Texture,					
	affloresence, Dressing of					
	stones and dimensional					
	Checks of bricks	Test Table				
BR-2	Water absorption	Test Table				
BR-3	Compressive Stg of bricks	Test Table				
BR-5	Gradation of Sand	Test 1				
		Test 2				
		Test 3				
		Test 4				
CC-1	Settign time of cement	Test Table				
CC-7	Deleterious materials test	Test Table				
BR-6	Consistancy,					
	Water retentivity, Mix					
	Proportions and consump-					
	tion of mortor test	Test Table				
CC-8	Test on water	Test Table				
BR-4	Compressive Stg. Of					
	Cement mortor	Test Table				
	Test during construction					
BR-6	Consistancy, Water reten-	Test Table				
	Tivity, Mix proportions and					
BR-7	Height, bond, plumbness	Test Table				
	Stagering, Thickness of					
	joints and plaster, location,					
	size and spacing of					
	weepholes finishing and					
	pointing					
BR-4	Compressive Stg of mortor	Test 1				
		Test 2				
		Test 3				

Section - 3: Brick and Stone Masonry

Quantities of Items, Quality control tests, Frequencies and Total Number of Tests Required

SI. No.	Description of item of Work	Unit	Quantity	Test No.	Name of Test	Frequency of Tests	No. of tests reqd
1	2	3	4	5	6	7	8
	BRICK AND STONE MASONRY						
					Tests Prior to Construction		
					Colour, Shape, Texture, efflorosence		
				BR-1	Dressing of stones & Dimensional	3 Samples at random at source	
					check for bricks		
				BR-2	Water absorption of bricks & Stones	3 samples	
				BR-3	Compressive Strength of bricks	3 Samples at random at source	
				CC-1	Setting time of cement	3 samples of same type and grade	
				BR-5	Gradation of sand	3 samples of each source of supply	
				CC-7	Deleterious materials and organic impurities	One best	
				CC-8	Water for construction (If in doubt)	One test for each source	
				BR-6	Consistency, Water retentivity and mix proportion for different works in SSM	As required	
				BR-4	Compressive Stg of mortor	3 samples of cubes where specified	
					Tests during Construction		
				BR-7	Height, bond, plumbness, staggering, Thickness of Joints & Plaster location, size and spacing of weepholes, finishing and pointing	For each course and Regularly	
				BR-6	Consistency and water retentivity, mix proportion and consumption of mortor	As required at close intervals	
				BR-4	Compressive stg. Of motor	3 Samples of cubes where specified regularly	

Quality Control Register Part - 1 for Roads & Building

Date :

Test for Brick / Stone Masonry / Concrete Blocks

Test prior to construction

Colour, Shape, Texture, effluroscence, Dressing of Stones & Dimensional check of bricks

Road / section details :

	Colour, Shape, Texture,		Whether Dimensions	If No, Date of issue of
Sample	Dressing of Stones,		are within the	NCR & Page No. of Q.C.
No.	efflorescence of bricks etc is	Dimension	permissible limits	Reg.
	acceptable Y/N		Y/N	Part II
1				
2				
3				

Checked by : AEE/EE

Tested by : AE/JE

Form BR-2

Water absorption test of Bricks / Stone IS 3495 (Part 2) 1992

Road / section details :

	Wt. of the dried	Wt. of the	Water absorption	Whether water	If No, Date of
Sample	specimen	specimen after	percent by mass	absorption is	issue of NCR &
No.	cooled at air	immersion in	<u>M₂-M₁ x 100</u>	within the	Page No. of
	temperature M_1	water for 24hr	 M1	permissible limit?	Q/C Reg.
		M ₂		Y/N	Part II
1					
2					
3					

Checked by : AE/AEE/EE

Tested by :

Form BR-3

Compressive Strength of bricks (IS 3495(Part 1) - 1992

Road / section details :

	Road / section details :								D	ate :		
SI. No.	Length of bed No.1 (mm)	Width of bed face No.1 (mm)	Area of bed face no.1 (mm ²)	Length of bed face no.2 (mm)	Width of bed face No.2 (mm)	Area of bed face no.1 (mm ²)	Average area of bed face (mm ²)	Max load at failure P N _n	Compressive strength <u>Max load</u> area of bed face(N/mm)	Whether comp. stg is within the permissible limit? Y/N	Whether comp.stg is within the permissible limit? Y/N	If no, date of Issue of NCR and page no. of Reg. Part II

Checked by : AEE/EE

Tested by : AE/JE

39

Date :

Gradation test of sand (IS 2386 (Part 1-1963 & IS 2116-1984) & IS 1542-1977) Test 1

/ SGY

Road / section details : Sample No. Date of testing : Wt. of soil sample taken : _____ gm

IS Sieve	Wt. of sand Retained	Percent of Wt.	Cumulative percent of wt.	Percentage of		oed Limits of wt. passing
Designation	(gm)	Retained	retained (%)	wt. passing	Masonry	Plaster
10 mm					-	100
4.75 mm					100	95-100
2.36 mm					90-100	95-100
1.18 mm					70-100	90-100
600 micron					40-100	80-100
300 micron					5-70	20-65
150 micron					0-15	0-50

Checked by : AEE/EE

Tested by : AE/JE

Form BR-5

Gradation test of sand (IS 2386 (Part 1-1963 & IS 2116-1984) & IS 1542-1977) Test 2

Road / section details : Sample No. Date of testing : Wt. of soil sample taken : _____ gm

IS Sieve	Wt. of sand Retained	Percent of Wt.	Cumulative percent of wt.	Percentage of	Prescribed Limits wt. pass	-
Designation	(gm)	Retained	retained (%)	wt. passing	Masonry	Plaster
10 mm					-	100
4.75 mm					100	95-100
2.36 mm					90-100	95-100
1.18 mm					70-100	90-100
600 micron					40-100	80-100
300 micron					5-70	20-65
150 micron					0-15	0-50

Checked by : AEE/EE

Gradation test of sand (IS 2386 (Part 1-1963 & IS 2116-1984) & IS 1542-1977) Test 3

/ SGY

Road / section details : Sample No. Date of testing : Wt. of soil sample taken : _____ gm

IS Sieve	Wt. of sand Retained	Percent of	Cumulative percent of wt.	Percentage of	Prescribed Lim of wt. ۱	its Percentage bassing
Designation	(gm)	Wt. Retained	retained (%)	wt. passing	Masonry	Plaster
10 mm					-	100
4.75 mm					100	95-100
2.36 mm					90-100	95-100
1.18 mm					70-100	90-100
600 micron					40-100	80-100
300 micron					5-70	20-65
150 micron					0-15	0-50

Checked by : AEE/EE

Tested by : AE/JE

Form BR-5

Gradation test of sand (IS 2386(Part 1-1963 & IS 2116-1984) & IS 1542-1977) Test 4

Road / section details : Sample No. Date of testing : Wt. of soil sample taken : _____ gm

IS Sieve	Wt. of sand Retained	Percent of	percent of wt	Percentage of	Prescribed Limits Percentage of wt. passing	
Designation	(gm)	Wt. Retained	retained (%)	wt. passing	Masonry	Plaster
10 mm					-	100
4.75 mm					100	95-100
2.36 mm					90-100	95-100
1.18 mm					70-100	90-100
600 micron					40-100	80-100
300 micron					5-70	20-65
150 micron					0-15	0-50

Checked by : AEE/EE

/ SGY

Setting Time of Cement (IS 4032 (Part 5) - 1988

Road / section details : Sample No. Date of testing :

SI. No.	Starting time (Stop watch) To	Time when initial set has taken place T1	Time when final set has taken place T2	Initial setting time = T1-T6	Final setting time = T2-T0	Whether acceptable Y/N	If No. Date of NCR issued and page no. of Q/C Part II

Checked by : AEE/EE

Tested by : AE/JE

Form CC-7

Deleterious Materials and Organic Impurities Test IS 2386 Part

Road / section details :

Date of testing :

SI. No.	Type of aggregate CA/FA	Sample No	Organic Impurities	% of Deleterious Materials	Whether values are within the acceptable limits Y/N	If No. Date of NCR issued and page no. of Q/C Part II

Checked by : AEE/EE

Quality Control Register Part - 1 for Roads & Building

/ SGY

Consistency, Water retentivity, Mix Proportions and Consumption of mortor test (IS 2250 - 1981)

Road	l / Sectio	n Details :			Date of testing :				
SI. No.	Sample No.	Consistency	Water retentivity	Mix Proportion	Consumption of mortor	Whether values are within the acceptable limits (Y/N)	If no, Date & NCR issued and page no. of Q/C Part II		

Checked by : AEE/EE

Tested by : AE/JE

Form CC-8

Test on water (IS : 3025 (17,18,23,24,32)

Sample No.	Ph Value and its acceptance (Y/N)	Limits of acidity and its acceptance (Y/N)	Limits of solids and its acceptance (Y/N)	Loss in Stg and its acceptance (Y/N)	Setting time and its acceptance (Y/N)	Remarks

Checked by : AEE/EE

Tested by : AE/JE

Form BR-4

Compressive Stg. Of Cement Mortor

Road / Section details : Sample No.

Date of testing :

SI.		Plan area of	Load at	Compressive
No.	Specimen No.	Cube mould	failure	Stg=W/A
INO.		A (mm2)	w (N)	N/mm2
1.				
2.				
3.				

Checked by : AEE/EE

Tested by : AE/JE

Form BR-7

Height, Bond, Plumbness, Staggering & Thickness of Joints

Form BR-6

Plaster Finish, Pointing, Location, Size and spacing & Weep holes (IS 2250 - 1981)

Road / Section Details :

Date of testing :

SI. No.	Location	Date	Whether acceptable limits (Y/N)	If no, Date of NCR issued and Page No. of Part II	Tested by	Checked by

Checked by : AEE/EE

Tested by : AE/JE

Date of testing :

Form BR-4

Compressive Stg. Of Cement Mortar

Test 1

Road / Section details : Sample No.

SI. No.	Specimen No.	Plan area of Cube mould A (mm2)	Load at failure w (N)	Compressive Stg=W/A N/mm2
1.				
2.				
3.				

Checked by : AEE/EE

Tested by : AE/JE
Compressive Stg. Of Cement Mortar
Test 2 Form BR-4

Road / Section details : Sample No.

Date of testing :

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45 SI.		Plan area of _{/ SGY} Cube mould	Quality Control Regist LOAD at	er Part - 1 for Roads & Buildi Compressive	ing
	Specimen No.	Cube mould	failure w	Stg=W/A	
NO.		A (mm2)	(N)	N/mm2	
1.					
2.					
3.					

Checked by : AEE/EE

Tested by : AE/JE

Form BR-4

Compressive Stg. Of Cement Mortar

Test 3

Road / Section details : Sample No. Date of testing :

SI. No.	Specimen No.	Plan area of Cube mould A (mm2)	Load at failure w (N)	Compressive Stg=W/A N/mm2
1.				
2.				
3.				

Checked by : AEE/EE

Tested by : AE/JE

Date of testing :

Form BR-4

Compressive Stg. Of Cement Mortar

Test 4

Road / Section details : Sample No.

SI. No.	Specimen No.	Plan area of Cube mould A (mm2)	Load at failure w (N)	Compressive Stg=W/A N/mm2
1.			(17)	
2.				
3.				

Checked by : AEE/EE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 4 - Steel Reinforcements

Quality Control Register Part - 1 for Roads & Building Screen Part-1 Record of Tests: Section - 4 Steel Reinforcements

Abstract of tests Conducted

Test No.	Name of Test	Test No.	Date of Test Result	Qualified Not Qualified If No. Page No.	and Date of NCR Page No. & Date on	Which Test Qualified
1	2	3	4	5	6	7
Ste	el Reinforcements					
Test	prior to construction					
SR-1	Grade, Percentage					
	elangatin and ultimate					
	Tensile stg. Of steel	Test Table				
SR-2	Pitch of the ribs, nominal					
	Diameter protection and					
	Storage of steel	Test Table				
	Tests during construction					
SR-3	Bending, placing, spliang					
	Welding, Spacing					
	covers etc.,	Test Table				

Section - 4: Steel Reinforcements

Quantities of Items, Quality control tests, Frequencies and Total Number of Tests Required

SI. No.	Description of item of Work	Unit	Quantity	Test No.	Name of Test	Frequency of Tests	No. of tests reqd
1	2	3	4	5	6	7	8
	STEEL REINFORCEMENT						
					Tests Prior to construction		
				SR-1	Grade, Percentage elongation and ultimate tensile stg of steel	3 samples from each supplier	
				SR-2	Pitch of the ribs, nominal diameter, Protection & Storage of Steel	Random Checking and Regularly	
					Tests during construction		
				SR-3	Bending, Placing of reinforcement Splicing, Welding, Spacing, Covers etc.	Regularly and as and when work is taken up and before concreting	
		_					

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Quality Control Register Part - 1 for Forms SR-1

Test for Steel Reinforcement

Test prior to construction

Roa	d / Section D	etails :		D	Date of testing :		
SI. No	Specimen . No.	Grade of Steel	Percentage of elongation	Ultimate Tensile Stg of Steel	Whether the values are acceptable Y/N	If No. Date of NCR and Page No. of Q/C, Reg. Part II	

Checked by : AEE/EE

Tested by : AE/JE

Pond / Soction Dotails :

коаа	/ Section De	etalis :		Date of testing :				
SI. No.	Pitch of the ribs	Nominal dia of Steel	Protection & Storage of Steel is acceptable Y/N	Whether the value are within the permissible limits Y/N	If No. Date of NCR and Page No. of Q/C, Reg. Part II			

Checked by : AEE/EE

Tested by : AE/JE

Form SR-2

Form SR-2

Road	/ Section Details :	Da	te of testing :	
SI. No.	Bending and Placing is acceptable Y/N Splicing Welding and Spacing is acceptable Y/N		Cover to Reinforcement is acceptable Y/N	If No. Date of NCR and Page No. of Q/C, Reg. Part II

Data of tasting :

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 5 - Plastering & Flooring

Quality Control Register Part-1 Section 5: Plastering & Flooring <u>Abstract of tests Conducted</u>

Test No.	Name of Test	Test No.	Date of Test Result	Qualified Not Qualified If No. Page No.	And Date of NCR Page No. & Date on	Which Test Qualified
1	Compressive Stg. Of Cement Mortar for					
	Plastering					
		Test 1				
		Test 2				
		Test 3				
		Test 4				
2	Compressive Stg. Of Cement Mortar for flooring	Test 1				
		Test 2				
		Test 3				
		Test 4				
3	Flexural Strength of Glazed, Ceramic, Vitrified Tiles, Granite, Marble for floor	Test 1				
		Test 2				
		Test 3				
		Test 4				

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Quality Control Register Part-1 Section 5: Plastering & Flooring Compressive Stg. Of Cement Mortar for Plastering Test 1

Road / Section details :

Date of testing :

Sample No.

SI. No.	Specimen No.	Plan area of Cube mould A (mm2)	Load at failure w (N)	Compressive Stg=W/A N/mm2
1.				
2.				
3.				

Checked by : AEE/EE

Tested by : AE/JE

Date of testing :

Form BR-4

Compressive Stg. Of Cement Mortar for Plastering

Test 2

Road / Section details :

Sample No.

SI. No.	Specimen No.	Plan area of Cube mould A (mm2)	Load at failure w (N)	Compressive Stg=W/A N/mm2
1.				
2.				
3.				

Checked by : AEE/EE

Tested by : AE/JE

Form BR-4

Compressive Stg. Of Cement Mortar for Plastering

Test 3

Road / Section details :

Date of testing :

Sample No.

SI. No.	Specimen No.	Plan area of Cube mould A (mm2)	Load at failure w (N)	Compressive Stg=W/A N/mm2
1.				
2.				
3.				

Checked by : AEE/EE

5. Flooring Flexural Strength of Glazed, Ceramic, Vitrified Tiles, Granite, Marble for floor

SI. No.	Length of bed (mm)	Width of bed face (mm)	Area of bed face (mm ²)	Average area of bed face (mm ²)	Max load at failure P N _n	Flexural strength <u>Max load</u> area of bed face(N/mm)	Whether comp. stg is within the permissible limit? Y/N	Whether comp.stg is within the permissible limit? Y/N	If no, date of Issue of NCR and page no. of Reg. Part II	Tested by - Signature of AE/JE
Test	1	Date:								
Test	2	Date:								
-										
Test	3	Date:	•							

Checked by : AEE/EE

Compressive Stg. Of Cement Mortar for flooring

Test 1

Road / Section details :

Date of testing :

Sample No.

SI. No.	Test Nos	Specimen No.	Plan area of Cube mould A (mm2)	Load at failure w (N)	Compressive Stg=W/A N/mm2
1.	Test No.1				
2.					
3.					
1.	Test No.2				
2.					
3.					
1.	Test No.3				
2.					
3.					

Checked by : AEE/EE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 6 - Water Supply and Sanitation

Quality Control Register Part-1

Section 6: Water supply and Sanitation

Abstract of tests Conducted

Test No.	Name of Test	Test No.	Date of Test Result	Qualified Not Qualified If No. Page No.	And Date of NCR Page No. & Date on	Which Test Qualified
1	Water supply works					
1	Water supply works	Test 1				
-		Test 2				
		Test 3				
		Test 4				
		Test 4				
2	Sanitation works					
		Test 1				
		Test 2				
		Test 3				
		Test 4				
ļ						
ļ						

Quality Control Register Part-1

Section 6: Water supply and Sanitation For Water supply and Sanitation works Test during construction

Paste the Report

Checked by : AEE/EE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 7 - Electrification Works

Quality Control Register Part-1 Section - 7: Electrification work <u>Abstract of tests Conducted</u>

Test No.	Name of Test	Test No.	Date of Test Result	Qualified Not Qualified If No. Page No.	And Date of NCR Page No. & Date on	Which Test Qualified
1	Electrification work					
		Test 1				
		Test 2				
		Test 3				
		Test 4				

Section - 7: Electrification work

For Electrical works Test during construction

Paste the Report							

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section 8 - Finishing Work

Quality Control Register Part-1 Section - 8: Finishing work <u>Abstract of tests Conducted</u>

Test No.	Name of Test	Test No.	Date of Test	Qualified Not	And Date of NCR	Which Test
			Result	Qualified If No. Page No.	Page No. & Date on	Qualified
1	Painting(External) works			NO. Page NO.		
		Test 1				
		Test 2				
		Test 3				
		Test 4				
2	Painting(Internal) works					
		Test 1				
		Test 2				
		Test 3				
		Test 4				
2						
3	Joineries(Wooden/Aluminum/ Steel) works					
		Test 1				
		Test 2				
		Test 3				
		Test 4				

Section - 8: Finishing work

(a) For Painting works Test during construction

Paste the Report		

Checked by : AEE/EE

Tested by : AE/JE

(b) For Joineries(Wooden/Aluminum/Steel) works Test during construction

Paste the Report

Checked by : AEE/EE

Tested by : AE/JE

(c) For Painting(External/Internal) works Test during construction

	<u> </u>	
Paste the Report		

Checked by : AEE/EE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section-9 Granular Construction

Abstract of tests Conducted							
Test No.	Name of Test	Test No.	Date of Test	Result Qualified/ Not Qualified	If No , Page No and Date of NCR	Page No & Date on which Test Qualified	
1	2	3	4	5	6	7	
Draina	ge Layer						
SB-1	Gradation Drainage Layer	Test 1					
		Test 2					
Granul	ar Sub Base						
SB-1	Gradation G S B	Test 1					
		Test 2					
SB-2	Atterberg limits G S B	Test 1					
SB-3	Moisture content	Test Ta	able				
SB-4	Density of Compacted Layer						
SB-8	CBR Test G S B	T 1					
		Test 1					
SB-5	Thickness of Layer G S B						
Base C	ourse Water Bond Macadan	n					
GB-1	Aggregate Impact Value Grading-2	Test 1					
		Test 2					
		Test 3					
GB-2	Gradation WBM Grading-2	Test 1					
		Test 2					
		Test 3					
GB 3	Flakiness Index WBM Grading-2	Test 1					
		Test 2					
		Test 3					
GB-4	Atterberg Limits Binding Material Grading 2	Test 1					

Quality Control Register Part 1 Record of Tests Section-9 Granular Construction Abstract of tests Conducted

GB-6	Thickness of Layer	Test Table		
GB-1	Aggregate Impact Value Grading-3	Test 1		
		Test 2		
		Test 3		
GB-2	Gradation WBM Grading-3	Test 1		
		Test 2		
		Test 3		
GB 3	Flakiness Index WBM Grading-3	Test 1		
		Test 2		
		Test 3		
GB-4	Atterberg Limits Binding Material Grading 3	Test 1		
GB-5	Water Absorption of Aggregate Grading 1 & 2	Test 1		
GB-6	Thickness of Layer	Test Table		

	Sieve A		rainage Layer 20 (Part 4) -1985)	Test 1		
Road / Section		•	te of Testing :			
Sample No. Dry Sieving		We	eight of soil samp	le taken: (gm	a)	
I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained			Prescribed Limit % Wt. Passing/ Retained	
Wat Size			aight of Sail Same			
Wet Siev	ing	We	eight of Soil Samp	ple taken: (gm	1)	
I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Prescribed Limit % Wt. Passing/ Retained	

Tests for Drainage Laver

Whether Confirms to the Prescribed Limits (Yes/No)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

Checked by:

Tested by:

Instruction for Blending

(Date & Signature)

Officer in charge

Tests for Drainage Layer Sieve Analysis (IS:2720 (Part 4) -1985) Test 2

Road / Section Details

Date of Testing : Weight of soil sample taken:

(gm)

Sample No. Dry Sieving

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing	Prescribed Limit % Wt. Passing/ Retained

Wet Sieving

Weight of Soil Sample taken: (gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Prescribed Limit % Wt. Passing/ Retained

Whether Confirms to the Prescribed Limits (Yes/No)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

Page No... Date of issue...

Checked by:

Instruction for Blending

(Date & Signature) Officer in charge

Test for Granular Sub Base Atterberg Limits Test : Test 1

Road/Section Details: Sample No.: Sample Details :

Date of Testing : Type of soil :

T \

Determination of Liquid Limit (LL)							
	1	2	3	4	5	6	Remarks
Container Number							
Weight of container + wet soil							
Weight of container + dry soil							
Loss of Moisture							
Wt. of container							
Wt. of dry soil							
Moisture content %							
Number of blows							
τ,	· 1 T	·	(T T)				

Liquid Limit (LL) = ----- percent

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)				
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.							

Determination of Plastic Limit (PL)

Determination of Thiste Limit (TL)							
	1	2	3	Remarks			
Container Number							
Weight of container + wet soil							
Weight of container + dry soil							
Loss of Moisture							
Weight of container							
Weight of dry soil							
Moisture content %	(mc1)	(mc2)	(mc3)				

Plasticity Index (PI) = $LL - PL = __per cent$

Layer	Val	Permissible	Whether Confirms to the			
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The						
reference of the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Date of issue						

Checked by:

Test for Granular Sub Base Data Sheet for Compaction Test of Soil (IS:2720 (Part 7) -1983) Test 1

Road / Section Details:Date of Testing :Sample No. :Weight of Dry Soil:Description of sampleImage: Constraint of the section of the secti

Per cent retained on 20 mm IS sieve

	+		Moisture content determination								
S. No.	Weight of mould - compacted soil (gms) W2	Weight of wet soil (gms) W2 - W1	Wet density (gm/cc)	Container No.	Weight of container (gms)	Weight of container + wet soil (gms)	Weight of container + dry soil (gms)	Weight of water (Ww) (gms)	Weight of Dry soil Ws) (gms)	Moisture content (%) (W)	Dry density (gm/cc)
1.											
2											
3											
4											
5											
6											

Layer	Value	E ELITISSIDIE LITTIL	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU.						
The reference of the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Date of issue						

Sample No.:				Dat	e of	Test	ing:								
Sample Details:				Cap	Capacity of Proving Ring:										
Date of Casting	of Mould:			Val	ue of	f one	e divn.	in	:				kg.		
Time of Penetration @1.25 mm/Min.	Pene- tration			ing Ring 2 Load Load eading (kg/cm) (A) x Intensity Intensi		INTENSITY		Average C.B.R. (%)							
			(A)			(B))		((D)		_ (E	E)	
Min. Sec.	(mm)	i	ii	iii	i	ii	iii	i	ii	iii	Std.	i	ii	iii	
0-0	0.0														
0-24	0.5														
0 - 48	1.0														
1 – 12	1.5														
1 – 36	2.0														
2 - 0	2.5										70				
2 - 24	3.0														
3 - 12	4.0														
4 - 0	5.0										105				
6-0	7.5										134				
8-0	10.0										162				
10 - 0	12.5										183				

Test for Granular Sub Base C. B. R. Test of Soil [IS: 2720 (Part-16)] Test

Av. C.B.R. at 2.5 mm penetration: Av. Saturation Moisture Content: (%) Av. C.B.R. at 5.0 mm penetration:
 (%) Av. Swelling:
 (%)

Layer	Value		Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Date	of issue					

Checked by:

Test for Water Bond Macadam Base Aggregate Impact Value of Aggregate (IS: 2386 – Part 4) WBM Grade Test 1

Sample No.:	Date of Testing:				
Name of Quarry / Location:	Weigh	t of Sam	ole taken	1:	
Observations		Test No	s.	Average	
	1	2	3		
Weight of aggregate sample filling in the cylinder $=$ W1					
(gm)					
Weight of aggregate passing 2.36 mm					
sieve after the test = W_2 (gm)					
$A.I.V = (W_2/W_1) \ge 100$					

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
If Results don 't confor	m to the prescribe	ed Limits, non conformand	ce Report will be issued by the
PIU. The reference of	the page No. of th	is Register on which Non	Conformance Reports copy
preserved.	10	C	
Page No	Date of issue		

Checked by:

Tested by:

Test for Water Bond Macadam Base

Aggregate Impact Value of Aggregate (IS: 2386 – Part 4)

WBM Grade 2 Test 2

Sample No.:Date of Testing:Name of Quarry / Location:Weight of Sample taken:ObservationsTest Nos.Average(gm)123Weight of aggregate sample filling in the cylinder = W1
(gm)(gm)(gm)Weight of aggregate passing 2.36 mm
sieve after the test = W2 (gm)(gm)(gm)A.I.V = $(W2/W1) \ge 100$ (gm)(gm)

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
f Results don't conform to	the prescribed Limits	, non conformance Report will	be issued by the PIU. The reference of			
the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Da	ate of issue	.				

Checked by:

Test for Water Bond Macadam Base Aggregate Impact Value of Aggregate (IS: 2386 – Part 4) WBM Grade 2 Test 3

Sample No.: Name of Quarry / Location: Date of Testing: Weight of Sample taken:

Observations		Test No	Average	
	1	2	3	
Weight of aggregate sample filling in the cylinder = W1 (gm)				
Weight of aggregate passing 2.36 mm sieve after the test = W2 (gm)				
A.I.V = $(W_2/W_1) \times 100$				

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
If Results don 't confor	m to the prescribe	ed Limits, non conformand	ce Report will be issued by the
PIU. The reference of	the page No. of th	is Register on which Non	Conformance Reports copy
preserved.	10	C	1 10
Page No	Date of issue	.	

Checked by:

Test for Water Bond Macadam Base Sieve Analysis of Aggregate (IS: 2386 Part-1) WBM Grade 2 Test 1

Road / Section Details: Sample No. : Date of Testing : Weight of Sample taken:

(gm)

I. S. S designa	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value

Whethe	er Confirms to the Prescribed Limits (Yes/No)
If Results don 't conform to the	prescribed Limits, non conformance Report will be issued by the PIU.
The reference of the page No. of	f this Register on which Non Conformance Reports copy preserved.
Page No Date of	issue
C1 1 11	T (11

Checked by:

Tested by:

Instruction for Blending

(Date & Signature) Officer in charge

Test for Water Bond Macadam Base Sieve Analysis of Aggregate (IS: 2386 Part-1) WBM Grade 2 Test 2 Road / Section Details: Date of Testing :

Sample No. :

Weight of Sample taken:

(gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value

Whether Confirms to the Prescribed Limits (Yes/No)

Checked by:

Tested by:

Instruction for Blending

Test for Water Bond Macadam Base

Sieve Analysis of Aggregate (IS: 2386 Part-1) WBM Grade 2 Test 3

Road / Section Details: Sample No. : Date of Testing : Weight of Sample taken:

(gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value

Whether Confirms to the Prescribed Limits (Yes/No)

Checked by:

Tested by:

Instruction for Blending

(Date & Signature) Officer in charge

Test for Water Bond Macadam Base Flakiness Index of Aggregate WBM Grade 2 Test 1

Sample No: Name of Quarry / Location: Date of Sampling: Date of Testing:

Size of aggregate		Wt. of the fraction	Thickness gauge size,	Weight of aggregate in	
Passing through I.S. Sieve, (mm)	Retained on I.S. Sieve (mm)	consisting of at least 200 pieces (gm)	(0.6 times the mean sieve) (mm)	each fraction passing thickness gauge, (gm)	
63	50	W1 =	23.90	w1 =	
50	40	W2 =	27.00	w2 =	
40	31.5	W3 =	19.50	w3 =	
31.5	25	W4 =	16.95	w4 =	
25	20	W5 =	13.50	w5 =	
20	16	W6 =	10.80	w6 =	
16	12.5	W7 =	8.55	w7 =	
12.5	10	W8 =	6.75	w8 =	
10	6.3	W9 =	4.89	w9 =	
Total		W =		w =	

Flakiness Index (F.I.) $\frac{W}{W}$ x100 (%)

VV							
Layer	ValuePermissible Limit		Whether Confirms to the Prescribed Limits (Yes/No)				
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.							
Page No Date of issue							

Checked by:

Tested by:

Date:

Date: _____

Test for Water Bond Macadam Base Flakiness Index of Aggregate WBM Grade 2 Test 2

Sample No: Name of Quarry / Location: Date of Sampling: Date of Testing:

Size of aggregate		Wt. of the fraction	Thickness gauge size,	Weight of aggregate in	
Passing through I.S. Sieve, (mm)	Retained on I.S. Sieve (mm)	consisting of at least 200 pieces (gm)	(0.6 times the mean sieve) (mm)	each fraction passing thickness gauge, (gm)	
63	50	W1 =	23.90	w1 =	
50	40	W2 =	27.00	w2 =	
40	31.5	W3 =	19.50	w3 =	
31.5	25	W4 =	16.95	w4 =	
25	20	W5 =	13.50	w5 =	
20	16	W6 =	10.80	w6 =	
16	12.5	W7 =	8.55	w7 =	
12.5	10	W8 =	6.75	w8 =	
10	6.3	W9 =	4.89	w9 =	
Total		W =		w =	

Flakiness Index (F.I.) $\frac{W}{W}$ x100 (%)

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
	page No. of this R	egister on which Non (e Report will be issued by the Conformance Reports copy

Checked by:

Tested by:

Date: _____

Date:

Remarks

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Test for Water Bond Macadam Atterberg Limits Test for Binding Material WBM Grade 2 Test 1

Road/Section Details:Date of Testing :Sample No:Type of soil :Sample Details :Type of soil :Determination of Liquid Limit (LL)1234Container NumberIIWeight of container + wet soilIIWeight of container + dry soilIILoss of MoistureII

Liquid Limit (LL) = ----- per cent

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)					
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The								
reference of the page No. of this Register on which Non Conformance Reports copy preserved.								
Page No Dat	te of issue	Page No Date of issue						

Determination of Plastic Limit (PL)

	1	2	3	Remarks
Container Number				
Weight of container + wet soil				
Weight of container + dry soil				
Loss of Moisture				
Weight of container				
Weight of dry soil				
Moisture content %				

Plastic Limit (PL)
$$\frac{\text{mc}_1 \text{ mc}_2 \text{ mc}_3}{3}$$
 per cent
Plasticity Index (PI) = LL – PL = _____per cent

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The						
reference of the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Date of issue						
	If Results don 't conform to reference of the page No. of	If Results don 't conform to the prescribed Limit reference of the page No. of this Register on wh	If Results don 't conform to the prescribed Limits, non conformance Repreference of the page No. of this Register on which Non Conformance R			

Checked by:

Tested by:

Wt. of container Wt. of dry soil Moisture content % Number of blows

Test for Water Bond Macadam Base Water Absorption of Aggregate WBM Grade 2 Test 1 IS: 2386 (Part 3)

Sample No: Name of Quarry / Location Size of aggregate: Date of sampling: Date of Testing: Type of aggregate:

Observations		Test Nos.			
	1	2	Mean value		
Wt. of saturated aggregate and basket in water (W_1) gm					
Wt. of basket in water (W_2) gm					
Wt. of saturated surface dry aggregate in air (W_3) gm					
Wt. of oven dried aggregate in air (W_4) gm					
Specific gravity = $W_4/W_3 - (W_1 - W_2)$					
Apparent Specific gravity = $W_4 / W_4 - (W_1 - W_2)$					
Water absorption = $(W_3 - W_4) \times 100 / W_4$ (%)					
Mean value of Specific gravity =					
Mean value of apparent specific gravity =					
Mean value of Water absorption =					

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)				
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the							
preserved.	PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved. Page No						

Checked by:

Test for Water Bond Macadam Base Aggregate Impact Value of Aggregate (IS: 2386 – Part 4) WBM Grade 3 Test 1

Sample No.: Name of Quarry / Location: Date of Testing: Weight of Sample taken:

Observations	Test Nos.			Average
	1	2	3	
Weight of aggregate sample filling in the cylinder = W ₁ (gm)				
Weight of aggregate passing 2.36 mm sieve after the test = W2 (gm)				
A.I.V = $(W_2/W_1) \ge 100$				

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference						
of the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Da	ate of issue	· ··· ··· ·				

Checked by:

Tested by:

Test for Water Bond Macadam Base

Aggregate Impact Value of Aggregate (IS: 2386 – Part 4) WBM

Grade 3 Test 2

Sample No.: Name of Quarry / Location: Date of Testing: Weight of Sample taken:

		Test Nos	A verage	
Observations	1	2	3	
Weight of aggregate sample filling in the cylinder $=$ W1				
(gm)				
Weight of aggregate passing 2.36 mm sieve after the test = W2 (gm)				
A.I.V = $(W_2/W_1) \ge 100$				

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don't conform to	If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference					
of the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Date of issue						

Checked by:

Test for Water Bond Macadam Base Aggregate Impact Value of Aggregate (IS: 2386 – Part 4) WBM Grade 3 Test 3

Sample No.: Name of Quarry / Location: Date of Testing: Weight of Sample taken:

Observations	Test Nos.			Average
Observations		2	3	
Weight of aggregate sample filling in the cylinder = W1 (gm)				
Weight of aggregate passing 2.36 mm sieve after the test = W2 (gm)				
A.I.V = $(W_2/W_1) \ge 100$				

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)		
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the					
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Page No	Date of issue				

Checked by:

Test for Water Bond Macadam Base Sieve Analysis of Aggregate (IS: 2386 Part-1) WBM Grade 3 Test 1 Date of Testing : Road / Section Details: Sample No. : Weight of Sample taken: (gm) Percentage of I. S. Sieve Weight of sample Percent of Wt. Cumulative Permissible Wt. Passing percent of Wt. designation retained (gm) retained (%) Value (%) retained (%)

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don	If Results don't conform to the prescribed Limits, non conformance Report will be issued by the					
PIU. The refer	rence of the page No.	. of this Register on which N	on Conformance Reports copy			
	10	Date of issue	1 10			

Checked by:

Tested by:

Instruction for Blending

(Date & Signature) Officer in charge

	Test	for Water Bon	d Macadam Base	e	
Si	ieve Analysis of Ag	gregate (IS: 2	386 Part-1) WB	M Grade 3 Test	2
Road / Section E	Details:	Da	te of Testing :		
Sample No. :		We	eight of Sample ta	aken:	(gm)
I. S. Sieve designationWeight of sample retained (gm)Percent of Wt. retained (%)Cumulative percent of Wt. retained (%)Percentage of Wt. Passing (%)Permissible Value					

Whether Confirms to the Prescribed Limits (Yes/No)
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU.
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Checked by: Tested by:

Instruction for Blending

(Date & Signature) Officer in charge

Test for Water Bond Macadam Base

Sieve Analysis of Aggregate (IS: 2386 Part-1) WBM Grade 3 Test 2 Road / Section Details:

Sample No. :	Weight of Sample taken: (gm)				
I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value

Whether	Confirms to	the Prescribed	Limits (Yes/No)
	00111110000			

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU.
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Tested by:

Instruction for Blending

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(Date & Signature) Officer in charge

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Test for Water Bond Macadam Base Flakiness Index of Aggregate							
	WBM Grade 3 Test 1						
Sample No:							
Name of Qua	arry / Location:	Date o	of Testing:				
Size of a	iggregate	Wt. of the fraction	Thickness gauge	Wight of			
Passing through	Retained on I.S.	consisting of at least 200 pieces	5				
I.S. Sieve, (mm)	Sieve (mm)	(gm)	(mm)	thickness gauge,			
				(gm)			
63	50	W1 =	23.90	W			
50	40	W2 =	27.00	W			
40	31.5	W3 =	19.50	W			
31.5	25	W4 =	16.95	W			
25	20	W5 =	13.50	W			
20	16	W6 =	10.80	W			
16	12.5	W7 =	8.55	W			
12.5	10	W8 =	6.75	W			
10	6.3	W9 =	4.89	W			
Total		W =		W			

Flakiness Index (F. I.) <u>W</u> x 100 (%)

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the						
PIU. The reference of the page No. of this Register on which Non Conformance Reports copy						
preserved. Page	preserved. Page No Date of issue					

Checked by:

Test for Water Bond Macadam Base Flakiness Index of Aggregate						
	WBM Grade 3 Test 2					
Sample No:						
Name of Qua	arry / Location:	Date o	f Testing:			
Size of a	iggregate	Wt. of the fraction	Thickness gauge	Wight of		
Passing through	Retained on I.S.	consisting of atsize, (0.6 timesleast 200 piecesthe mean sieve)		aggregate in each fraction passing		
I.S. Sieve, (mm)	Sieve (mm)	(gm)	(mm)	thickness gauge,		
				(gm)		
63	50	W1 =	23.90	W		
50	40	W2 =	27.00	W		
40	31.5	W3 =	19.50	W		
31.5	25	W4 =	16.95	W		
25	20	W5 =	13.50	W		
20	16	W6 =	10.80	W		
16	12.5	W7 =	8.55	W		
12.5	10	W8 =	6.75	W		
10	6.3	W9 =	4.89	W		
Total		W =		W		

Flakiness Index (F.I.) W x 100 (%)

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
PIU. The referen	ce of the page No. of		ce Report will be issued by the Conformance Reports copy

Checked by:

Test for Water Bond Macadam Atterberg Limits Test for Binding Material WBM Grade 3 Test 1

Road/Section Details: Sample No.: Sample Details : Date of Testing : Type of soil :

Determination of Liquid Limit (LL)

	1	2	3	4	5	6	Remarks
Container Number							
Weight of container + wet soil							
Weight of container + dry soil							
Loss of Moisture							
Wt. of container							
Wt. of dry soil							
Moisture content %							
Number of blows							
т	1 Т '	·/ /T T	\ \				

Liquid Limit (LL) = ----- per cent

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)	
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the				
PIU. The reference of th	e page No. of this Re	gister on which Nor	n Conformance Reports copy	
preserved.				

Determination of Plastic Limit (PL)

Determination of Trastic Limit (TL)						
	1	2	3	Remarks		
Container Number						
Weight of container + wet						
Weight of container + dry						
Loss of Moisture						
Weight of container						
Weight of dry soil						
Moisture content %	(mc1)	(mc2)	(mc3)			

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)	
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the				
PIU. The reference of the page No. of this Register on which Non Conformance Reports copy				
preserved. Page No	 Date	of issue		

Checked by:

Test for Water Bond Macadam Base Water Absorption of Aggregate WBM Grade 3 Test 2 IS: 2386 (Part 3)

Sample No:	Date of
sampling: Name of Quarry / Location	Date of
Testing: Size of aggregate:	Type of
aggregate:	

Observations		Test Nos.		
		2	Mean value	
Wt. of saturated aggregate and basket in water (W1) gm				
Wt. of basket in water (W2) gm				
Wt. of saturated surface dry aggregate in air (W3) gm				
Wt. of oven dried aggregate in air (W4) gm				
Specific gravity = $W4/W3 - (W1 - W2)$				
Apparent Specific gravity = $W4 / W4 - (W1 - W2)$				
Water absorption = $(W3 - W4) \times 100 / W4 (\%)$				
Mean value of Specific gravity =				
Mean value of apparent specific gravity =				
Mean value of Water absorption =				

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)	
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the				
PIU. The reference of the page No. of this Register on which Non Conformance Reports copy				
preserved.				
Page No				

Checked by:

Test for Granular Sub-base/Gravel Base or Surface Course Field Density of Compacted Layer (Sand replacement method) IS 2720 (Part 28)-1974 Test 1

Road/Section Details:	Date of Testing :	
Location of test point .:	Thickness of layer :	mm
Observation Tables		
 cylinder) (W2) in gm. (ii) cylinder (V) in cc. (iii) Weight of sand (+ c (iv) Mean weight of sand (v) Weight of sand to fi 	d in cone (of pouring Volume of calibrating ylinder) before pouring (W1) in gm. d (+cylinder) after pouring (W3) in g ll calibrating cylinder. n gm. (vi)Bulk density of sand Ys	gm.
(iii) Weight of sand (+ c (iv) Weight of sand (+ c (iv) Weight of sand (+ c (v) Weight of sand in he (vi) Bulk density $Y_b = ($ (vii) Moisture content c (viii) Moisture content (V (ix) Weight of dry soil f	for hole (W_W) in gm. where (W_W) in gm. where (W_1) in gm. where (W_1) in gm. where $(W_1 - W_2) = (W_1 - W_2 - W_2)$ where $(W_W/W_b) \propto Y_8$ gm/cc where $(W_1 - W_2) = (W_1 - W_2)$ where $(W_1 - W_2) = (W_1 - W_2)$	

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)
The reference of	the page No. of		ormance Report will be issued by the PIU. a Conformance Reports copy preserved.

* Field density as per cent of Maximum Dry Density at OMC.

Checked by:

Test for Granular Sub-base/Gravel Base or Surface Course Field Density of Compacted Layer (Sand replacement method) IS 2720 (Part 28)-1974 Test 2

Road/Section Details:	Date of Testing :	
Location of test point .:	Thickness of layer :	mm

Observation Tables

(a)	Calibration	Test-1Test-2Test-3
	(i) Mean weight of sand in cone (of pouring	
	cylinder) (W2) in gm. (ii) Volume of calibrating	
	cylinder (V) in cc.	
	(iii) Weight of sand (+ cylinder) before pouring (W1) in gm.	
	(iv) Mean weight of sand (+cylinder) after pouring (W3) in gm.	
	(v) Weight of sand to fill calibrating cylinder.	
	$(W_a = W_1 - W_2 - W_3)$ in gm. (vi)Bulk density of sand Y _s	
	= (W _a /V) gm/cc	
(b)	Determination of soil density	
	(i) Determination number	
	(ii) Weight of wet soil from hole (W_W) in gm.	
	(iii) Weight of sand (+ cylinder) before pouring (W1) in gm.	
	(iv) Weight of sand (+ cylinder) after pouring (W4) in gm.	
	(v) Weight of sand in hole, in gm. $W_b = (W_1 - W_4 - W_2)$	
	(vi) Bulk density $Y_b = (W_W/W_b) \times Y_s \text{ gm/cc}$	
	(vii) Moisture content container number	
	(viii) Moisture content (W) percent	
	(ix) Weight of dry soil from the hole in gm. (Wd)	
	(x) Dry density $Y_d = (W_d/W_b) \times Y_s \text{ gm/cc}$	

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)					
The reference of	If Results don't conform to the prescribed Limits, non conformance Report will be issued by the P The reference of the page No. of this Register on which Non Conformance Reports copy preserved							
Page No	Page No Date of issue							

* Field density as per cent of Maximum Dry Density at OMC.

Checked by:

Test for WMM/CRM Standard Proctor's Compaction Test Data Sheet for Compaction Test of Soil (IS:2720 (Part 7) -1983) Test 1

Road / Section Details:	Date of Testing :
Sample No. :	Weight of Dry
Soil:	
Description of sample	
Type of test	Standard Proctor
Weight of mould W1 (gm)	
Volume of mould V _m (cc)	
Per cent retained on 20 mm IS sieve	

	+					Moisture	content de	terminat	ion		
S. No.	Weight of mould - compacted soil (gms) W2	Weight of wet soil (gms) W2 - W1	Wet density (gm/cc)	Container No.	Weight of container (gms)	Weight of container + wet soil (gms)	Weight of container + dry soil (gms)	Weight of water (Ww) (gms)	Weight of Dry soil (Ws) (gms)	Moisture content (%)	Dry density (gm/cc)
1.											
2.											
3.											
4.											
5.											
6.											

Layer	Value	Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don?	If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU.					
	The reference of the page No. of this Register on which Non Conformance Reports copy preserved.					
Page No Date of issue						

Checked by:

Test During Construction Aggregate Impact Value (IS : 2386 - Part 4) Test 1

Sample No :
Name of Quarry/Location :Date of Testing :
Weight of Sample taken:ObservationsTest No.Average123Weight of aggregate sample filling in
the cylinder = W, (gm)Weight of aggregate passing 2.36
mm
Sieve after the test = $W_2(gm)$

Test 2

Sample No : Name of Quarry/Location : Date of Testing : Weight of Sample taken:

Observations		Test No.		
	1	2	3	
Weight of aggregate sample filling in				
the cylinder = W, (gm)				
Weight of aggregate passing 2.36				
mm				
Sieve after the test = W ₂ (gm)				

Test 3

Sample No : Name of Quarry/Location : Date of Testing : Weight of Sample taken:

Observations	Test No.		Average	
	1	2	3	
Weight of aggregate sample filling in				
the cylinder = W, (gm)				
Weight of aggregate passing 2.36				
mm				
Sieve after the test = W ₂ (gm)				

Layer	Value	Permissible Limit	Whether Conforms to the Prescribed Limits (Yes/No)				
		Max 30%					
If Results don't conforn	n to the prescribed limits	, non conformance Report	t will be issued by the				
PIU. The reference of the	PIU. The reference of the Page No. of this Register on which Non Conformance Reports copy						
preserved.							
Page No	Date of issue						

Form ALS-1

Test for Base Course Test During Construction Horizontal Alignment

The edges of the carriage way should be correct within a tolerance limit (\pm) 30mm in plain and roling terrain and (\pm) 50 mm in Hilly terrain.

Form ALS-2

Test for Base Course Test During Construction Surface Levels

The tolerance in Surface levels

A grid of IOM by 2.5 mm may be formed to check the surface level of the WBM would be as under:

- a. Sub-Base +10 mm and (-) 20 mm
- b. Base Course <u>+</u>15mm
- c. Surfacing Course +10 mm

For WMM	-	<u>+</u> 10 mm
For CRM	-	\pm 10 mm for machine level and 15 mm for manually laid
course.		

Form ALS-3

Test for Base Course Test During Construction Surface Levels

The maximum allowable difference between the road surface and a 3 m straight edge shall be 12 mm and 8 mm for longitudinal and cross profile of WBM / CRM and 10 mm and 8 mm for WMM

Form ALS-4

Test for Base Course Test During Construction Transverse Profile (Camber / Crossfall / Superelevaion)

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED



Quality Control Register-Part 1

Record of Tests

Section-10 Bituminous Construction

Test No.	Name of Test	Conducted Test No.	Date of Test	Result, Qualified (Yes/No)	If No , Page No and Date of NCR	Page No & Date on which Test Qualified
1	2	3	4	5	6	7
1.	Viscosity of Bitumen	Test 1				
		Test 2				
2.	Storage Stability Test on Emulsion	Test 1				
		Test 2				
3.	Penetration of Bitumen	Test-1				
4.	Ductility of Bitumen	Test 1				
5.	Softening Point of Bitume	Test 1				
6.	Specific Gravity of Bitumen	Test 1				
7.	Water Content of Bitumen	Test 1				
8.	Aggregate impact value of Aggregate	Test 1				
		Test 2				
9.	Flakiness Index of Aggregate	Test 1				
10	Stripping Value of Aggregate	Test 1				
11.	Water Absorption of Aggregate	Test 1				
12.	Aggregate of Premix Carpet	Test 1				
		Test 2				
13.	Aggregate for Seal Coat	Test 1				
		Test 2				
14.	Soundness of Aggregate	Test 1				
15.	Prime Coat and other Surfaces	Test 1				

Quality Control Register Part 1 Record of Tests Section 3 Bituminous Construction Abstract of tests Conducted

Test for Emulsions Test Prior to Construction Viscosity of Emulsion by Standard Saybolt - Furol Viscometer (IS-3117-1965 (Appendix A) and IS 8887-2004) Bitumen for Premix Carpet/ Surface Dressing

Form No. BL-1(G)

Date of Testing :

Viscosity of Bitumen Test 1

Sample Ref.:

Tanker No.:

Type of Emulsion:

Sample No.	Flash time	Atmospheric Pressure	Viscosity	Whether the Viscosity is within the Permissible limits

Requirement Criteria				
Type of Emulsion	Acceptance limits at			
	50 [°] C in Seconds.			
Rs.1	20-100			
Rs.2	100-200			
MS	50-400			
SS-1	20-100			
SS-2	30-150			

Test 2

Sample Ref.: Tanker No.: Date of Testing : Type of Emulsion:

Sample No.	Flash time	Atmospheric Pressure	Viscosity	Whether the Viscosity is within the Permissible limits Y/N

Requirement Criteria				
Type of Emulsion	Acceptance limits at			
	50 [°] C in Seconds.			
Rs.1	20-100			
Rs.2	100-200			
MS	50-400			
SS-1	20-100			
SS-2	30-150			

Checked by:

Tested by:

Storage Stability Test on Emulsion <u>Test 1</u>

Sample Ref. : Tanker No. :

Sample No.	% of residue from top sample (A)	% of residue from bottom sample (B)	Settlement (B-A)	Acceptable Limit
1.				As per IS: 8887-1995
2.				

Requirement Criterion

Storage Stability after 24 hr percent	Grade of Emulsion				
Max	2	1	1	2	2
	0.05	0.05	0.05	0.05	0.05

Checked By:

Tested By:

Date:

Date:

Test 2

Sample Ref.:Tanker No.:

Sample No.	% of residue from top sample (A)	% of residue from bottom sample (B)	Settlement (B-A)	Acceptable Limit
1.				As per IS: 8887-1995
2.				

Requirement Criterion

Storage Stability after 24 hr percent		(Grade of Emuls	sion	
Max	2	1	1	2	2
	0.05	0.05	0.05	0.05	0.05

Bitumen for Premix Carpet/ Surface Dressing Penetration of Bitumen Test 1

Sample No.:

Date of Testing:

Tank	er No. :	
1.	Pouring Temperature, °C	
2.	Period of cooling in atmosphere, minutes	
3.	Room temperature, °C	
4.	Period of cooling in water bath, minutes	
5.	Actual test temperature, °C	

Depatromator dial reading	Sample No.		Sample No.					
Penetrometer dial reading	Test 1	Test 2	Test 3	Mean value	Test 1	Test 2	Test 3	Mean value
Initial								
Final								
Penetration value								
Mean Penetration value		1					•	

Layer	Value	Permissible Limit
		Depending upon grade specified

Checked by:

Tested by:

Bitumen for Premix Carpet/ Surface Dressing Ductility of Bitumen Test 1

Sample No.:

Date of sampling:

Tanke	er No.:	Date of Testing:
1.	Grade of bitumen	
2.	Pouring temperature, °C	
3.	Test temperature, °C	
4.	Period of cooling, (minutes)	
4.1	In Air	
4.2	In water bath before trimming	
4.3	In water bath after trimming	

Test property	E	Briquette numbe	Maan value	
	(a)	(b)	(c)	Mean value
Ductility value (cm)				

Layer	Value	Permissible Limit
		More than 75 unit

Checked by:

Bitumen for Premix Carpet/ Surface Dressing

Softening Point of Bitumen Test 1

Sample No.:

Date of sampling:

Tan	ker No.:	Date of Testing:
1.	Grade of bitumen	
2.	Approximate softening point	
3.	Liquid used in water bath (water / Glycerin)	
4.	Period of air cooling (minutes)	
5	Period of cooling in water bath (minutes)	

Test property	Sample No. 1		Sample No. 2		
		Ball No. Ball No.		No.	
Temp. at which sample	1	2	1	2	
touch bottom plate (°C)					
Mean Value, softening point					

Layer	Value	Permissible Limit
		More than 40°C

Checked by:

Tested by:

Bitumen for Premix Carpet/ Surface Dressing Specific Gravity of Bitumen Test 1

Sample No.:

Date of Sampling: Date of Testing:

Bitumen grade):

Sample No.	Wt. of Bottle (gm) W1	Wt. of Bottle + distilled water (gm) W2	Wt. of Bottle + half filled material (gm) W3	Wt. of Bottle + half filled material + distilled water (gm) W4	Specific gravity (gm/cc)
1.					
2.					
3.					

Layer	Value	Permissible Limit
		Not less than 0.99 gm/cc

Checked by:

Tested by:

- . ..

Bitumen for Premix Carpet/ Surface Dressing Water Content of Bitumen IS 73 – 1992 Test 1

Sample Ref.:		Date of Testing	g :		
Tanker No.:		Bitumen grade	:		
Sample No.	Wt. of sample before heating (w1)	Wt. of sample after heating (w2)	Water loss (w1 - w2)	Percentage Water content	

Layer	Value	Permissible Limit
		Max. 0.2%

Checked by:

Sample No.:

Tested by:

Aggregate for Premix Carpet/ Surface Dressing/ Bituminous Macadam Aggregate Impact Value of Aggregate (IS: 2386 – Part 4) Test 1

Date of Testing:

Name of Quarry / Location:

Weight of Sample taken:

Observations		Test Nos	Average	
Observations	1	2	3	
Weight of aggregate sample filling in the cylinder = $W1$ (gm)				
Weight of aggregate passing 2.36 mm sieve after the test = W2 (gm)				
A.I.V = (W2/W1) x 100				

Layer	Value	Permissible Limit
Sub-base course		Not more than 50
Base course		Not more than 40
Wearing course		Not more than 30

Checked by:

Aggregate for Premix Carpet/ Surface Dressing/ Bituminous Macadam Aggregate Impact Value of Aggregate (IS: 2386 – Part 4) <u>Test 2</u>

Sample No.: Name of Quarry / Location:		of Testing: t of Sample	taken:	
		Test Nos	Average	
Observations	1	2	3	
Weight of aggregate sample filling in the cylinder = W_1 (gm)				
Weight of aggregate passing 2.36 mm sieve after the test = W2 (gm)				
A.I.V = (W2/W1) x 100				

Layer	Value	Permissible Limit
Sub-base course		Not more than 50
Base course		Not more than 40
Wearing course		Not more than 30

Checked by:

Tested by:

Date of Sampling: Name of Quarry /

Test During Construction Test for Aggregate for Bituminous construction Flakiness Index of Aggregate

Test 1

Date of Testing:

Size of aggregate Wt. of the fraction Weight of aggregate in Thickness gauge Passing through I.S. **Retained on I.S.** consisting of at least size, (0.6 times the each fraction passing Sieve, (mm) Sieve (mm) 200 pieces (gm) mean sieve) (mm) thickness gauge, (gm) $W_1 =$ 23.90 50 63 $w_1 =$ W2 = 50 40 27.00 w2 = 40 31.5 $W_3 =$ 19.50 w3 = 25 31.5 $W_4 =$ 16.95 w4 = 25 20 W5 = 13.50 w5 = 20 16 $W_{6} =$ 10.80 $w_{6} =$ 16 12.5 W7 = 8.55 w7 = 12.5 10 W8 = 6.75 w8 = 10 6.3 W9 =4.89 w9 =W = Total w =

Flakiness Index (F.I.)

<u>₩</u>100 (%)

Layer		Permissible Limit	Whether Confirms to the Prescribed Limits (Yes/No)			
If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The						
eference of the page No. of this Register on which Non Conformance Reports copy preserved.						
Page No Date	of issue	ľ				

Checked by:

Sample No: Location:

Aggregate for Premix Carpet/ Surface Dressing/ Bituminous Macadam Stripping Value of Aggregate <u>Test 1</u>

Sample No: Location:		of Sampling: Name of Quarry / of Testing:
Type of aggregate:		or resuring.
Type of Binder		
Percentage of binder used:		
Total weight of aggregate:		
Total weight of binder:		
Temperature of water bath:		
Number of observatior	าร	Stripping (%)
2		
3		
Average value		
Layer	Value	Permissible Limit
		Not more than 15 per cent

Checked by:

Tested by:

Aggregate for Premix Carpet/ Surface Dressing/ Bituminous Water Absorption of Aggregate IS: 2386 (Part 3) Test 1

Sample No: Name of Quarry /Location Size of aggregate: Date of sampling: Date of Testing: Type of aggregate:

				٦	Fest Nos	
Obs	Observations			1	2	Mean value
Wt. of saturated aggregate and bas	sket in water (W	/1) gm				
Wt. of basket in water(W2) gm						
Wt. of saturated surface dry aggree	gate in air (W3)) gm				
Wt. of oven dried aggregate in air(W	V4) gm					
Specific gravity = $W4/W3 - (W1 - V)$	Specific gravity = W4/W3 - (W1 - W2)					
Apparent Specific gravity = W4 / W	4 - (W1 - W2))				
Water absorption = (W3 - W4) x 10	00 / W4 (%)					
Mean value of Specific gravity	=					
Mean value of apparent specific gra	avity =					
Mean value of Water absorption	=					
Layer	Va	lue		Permissib	le Limit	
			Not	more than	n 2 per ce	ent

Checked by:

Aggregate for Premix Carpet Sieve Analysis (IS:2720 (Part 4) -1985)

Test 1

Road / Section Details: Date of Testing :

Sample No. :

Weight of Sample taken:

(gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value
22.4mm					
13.2 mm					
11.2 mm					
05.6 mm					

Whether Confirms to the Prescribed Limits (Yes/No)

Checked by:

Tested by:

Aggregate for Premix Carpet Sieve Analysis (IS:2720 (Part 4) -1985)

Test 2

Road / Section Details:

Sample No. :

Date of Testing :

Weight of Sample taken:

(gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Percentage of Wt. Passing (%)	Permissible Value
22.4mm					
13.2 mm					
11.2 mm					
05.6 mm					

Whether Confirms to the Prescribed Limits (Yes/No)

Checked by:

Aggregate for Seal Coat Sieve Analysis (IS:2720 (Part 4) -1985)

Test 1

Road / Section Details:

Date of Testing :

Sample No. :

Weight of Sample taken:

(gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Permissible 100% Passing on 11.2 mm and 100% retained on 2.36
11.2 mm				mm sieve for type A
2.36 mm				100% passing on 2.36 mm and 100% retained on 180
180 micron				micron sieve for type B

Whether Confirms to the Prescribed Limits (Yes/No)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

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Test 2

Road / Section Details:

Date of Testing :

Sample No. :

Weight of Sample taken:

(gm)

I. S. Sieve designation	Weight of sample retained (gm)	Percent of Wt. retained (%)	Cumulative percent of Wt. retained (%)	Permissible 100% Passing on 11.2 mm and 100% retained on 2.36
11.2 mm				mm sieve for type A
2.36 mm				100% passing on 2.36 mm
180 micron				and 100% retained on 180 micron sieve for type B

Whether Confirms to the Prescribed Limits (Yes/No)

If Results don't conform to the prescribed Limits, non conformance Report will be issued by the PIU. The reference of the page No. of this Register on which Non Conformance Reports copy preserved.

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Soundness of Aggregate Test 1

Sample No:

Name of Quarry / Location:

Type of reagent used:

Date of Sampling:

Number of cycles:

Date of Testing:

sed:

Type of coarse aggregate sample:

Sieve s	size, mm	Grading of original	Wt. of eachPercentage passingfraction beforefiner sieve after test								Weighted average (corrected percentage
Passing	Retained	sample (%)	test (gm)	(actual percent loss)	loss)						
1	2	3	4	5	6						
60	40										
40	20										
20	10										
10	4.75										
Number 2	of particles 20mm befo		Number of re		ified on the the number						
Passing	Retained	Number before test	 Number of particles affected, classified as to the number disintegrating, splitting, crumbing, cracking or flanking 								
40 mm	20 mm										
60 mm	40 mm										

Laver	Value	Permissible Limit
		Maximum 12 per cent
		(Sodium Sulphate Solution)
		Maximum 18 per cent
		(Magnesium Sulphate Solution)

Checked by:

Tested by

Tests of Bitumen Emulsions for Prime Coat and other Surfaces Sieve Test for Bitumen Emulsions Test1

Sample Re	ef.	:	Date:			
Tanker No		:	Type of Emulsion:			
Sample No.	Wt. of sieve (w1)	Wt. of sieve + sample (w2)	Wt. of sieve + sample after heating (w3)	Sample wt. retained after heating (w3- w1)	Percentage {(w3-w1)/ (w2-w1)} 100	Acceptable Limit
						As per IS:8887-1995

Layer	Value	Permissible Limit
		Max. 0.05%

Checked By:

Tested By:

Form ALS-1

Test for Bituminous Course Test During Construction Horizontal Alignment

The edges of the carriage way should be correct within a tolerance limit (\pm) 20 mm in plain and roling terrain and (\pm) 30 mm in hilly terrain.

Form ALS-2

Test for Bituminous Course Test During Construction Surface Levels

The tolerance in Surface levels would be (+) 6 mm for machine laid work and (+) 10 mm for work executed manually.

Form ALS-3

Test for Bituminous Course Test During Construction Surface Levels

The maximum allowable difference between the pavement course (PMC/MSS) and a 3 m Straight edge shall not exceed 8 mm for both longitudinal profile and the cross profile

For surface dressing is shall not exceed 10 mm for longitudinal pro-file

and 12 mm for cross profile

Form ALS-4

Test for Bituminous Course Test During Construction Transverse Profile (Camber / Crossfall / Superelevaion)