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

Contents

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 work For Buildings						
EW	Detailed SBC & Classification of Soil for Foundation	Test 1				
		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				

		Test 8				
		Test 9				
EW-3	Natural moisture content	**Test 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				
EW-6	Moisture Content at the time of Compaction	**Test 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 Table**				
ALS-2	Surface level(Tests as Required)	**Test Table**				
ALS-3	Surface regularity(Tests as Required)	**Test Table**				

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 DEAPTH ……..…m to……..m

Sl. No.	PARTICULARS	Test Pit-1	Test Pit-1	Test Pit-1
01.	Specific Gravity (G_{27}^{0})			
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 ($\varnothing^0$)			
08.	Consolidation Test. Compression index (Cc)			
09.	Differential Free Swell Index (%)			
10.	Classifiation (ISSCS) IS: 1498 - 1970			
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 Date of Testing :

Sample No. Weight of soil sample taken: (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. Page No… … … … … … .. Date of issue… … … … … … … .

Checked by: Tested by:

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

Road / Section Details Date of Testing :
Sample No. Weight of soil sample taken: (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. Page No... ... ... Date of issue... ... ...

Checked by: Tested by:

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

Road / Section Details Date of Testing :
Sample No. Weight of soil sample taken: (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. Page No... ... ... Date of issue... ... ...

Checked by: Tested by:

Atterberg Limits Test
Test 1

Road/Section Details: 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	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) $mc_1 \frac{mc_2 \quad mc_3}{3}$ ——— 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... ... ...

Checked by: Tested by:

Atterberg Limits Test
Test 2

Road/Section Details: 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

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) $\frac{mc_1 \quad mc_2 \quad mc_3}{3}$ _____ 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... ... ...

Checked by: Tested 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 W_1 (gm)	
Volume of mould V_m (cc)	
Per cent retained on 20 mm IS sieve	

S. No.	Weight of mould + compacted soil (gms) W_2	Weight of wet soil (gms) $W_2 - W_1$	Wet density (gm/cc)	Moisture content determination							Dry 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 (%)	
1.											
2.											
3.											
4.											
5.											
6.											

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: Tested by:

Wet density of compacted soil $Y_m \quad \frac{W_2 \quad W_1}{V_m}$ 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 $Y_d \quad \frac{100}{100 \quad W} \times Y_m$

Where W = moisture content

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: kg.

Time of Penetration @1.25 mm/Min.	**Pene-tration**	**Proving Ring Reading**			**Load Intensity 2 (kg/cm) (A) x One divn. Value area of Plunger**			**Corrected Load Intensity (kg/cm^2)**			**Standard Load Intensity (kg/cm^2)**	**Unsoaked/ Soaked C.B.R. (%) $\frac{Cx100}{D}$**			**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				
6 – 0	7.5										134				
8 – 0	10.0										162				
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 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:

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

Test 2

Sample No.: Date of Testing:

Sample Details: Capacity of Proving Ring:

Date of Casting of Mould: Value of one divn. in: kg.

Time of Penetration @1.25 mm/Min.	Pene-tration	Proving Ring Reading			Load Intensity 2 (kg/cm) (A) x One divn. Value area of Plunger			Corrected Load Intensity (kg/cm^2)			Standard Load Intensity (kg/cm^2)	Unsoaked/ Soaked C.B.R. (%) $\frac{Cx100}{D}$			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				
6 – 0	7.5										134				
8 – 0	10.0										162				
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 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:

Swelling Test of Soil :- Test 1

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 $\frac{Ex100}{A}$
	(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)

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:

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 $\frac{Ex100}{A}$
	(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)

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:

Swelling Test of Soil :- Test 3

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 $\frac{Ex100}{A}$
	(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)

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:

Swelling Test of Soil:- Test 4

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 $\frac{Ex100}{A}$
	(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)

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:

(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

		Test-1	Test-2	Test-3
(a)	*Calibration* (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 (W_1) in gm. (iv) Mean weight of sand (+cylinder) after pouring (W_3) 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 (W_1) in gm. (iv) Weight of sand (+ cylinder) after pouring (W_4) in gm. (v) Weight of sand in hole, in gm. $W_b = (W_1 - W_4 - W_2)$ (vi) Bulk density $Y_b = (W_w/W_b) \times Y_s$ gm/cc (vii) Moisture content container number (viii) Moisture content (W) percent (ix) Weight of dry soil from the hole in gm. (W_d) (x) Dry density $Y_d = (W_d/ W_b) \times Y_s$ gm/cc			

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... ... ...

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

Checked by: Tested by:

Field Density of Soil
& Building /XSD1
(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

		Test-1	Test-2	Test-3
(a)	*Calibration* (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 (W_1) in gm. (iv) Mean weight of sand (+cylinder) after pouring (W_3) 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 (W_1) in gm. (iv) Weight of sand (+ cylinder) after pouring (W_4) in gm. (v) Weight of sand in hole, in gm. $W_b = (W_1 - W_4 - W_2)$ (vi) Bulk density $Y_b = (W_w/W_b) \times Y_s$ gm/cc (vii) Moisture content container number (viii) Moisture content (W) percent (ix) Weight of dry soil from the hole in gm. (W_d) (x) Dry density $Y_d = (W_d/ W_b) \times Y_s$ gm/cc			

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… … … … … … … **.**

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

Checked by: Tested by:

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED

Quality Control Register-Part 1

Record of Tests

Section 2 Concrete Structures

Quality Control Register Part-1

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 concrete	Test Table				

Quality Control Register Part-1

Section - 2 : Concrete for Structures

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

Sl. 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	
				CC-16	Cement consumption, adherence to mix design, Transporting, placing, compaction and curing of concrete	Regularly and Daily	

Form CC-1

TEST FOR CONCRETE STRUCTURES
TEST PRIOR TO CONSTRUCTION

1. Tests on Water:

Sample: Reference No: Date & Time:

Name of project: Place of work:

Name of work: Estimation cost:

QCT 21: Laboratory tests on Water

Sl.no.	Tests carried out	BIS code Ref.	Results obtained		Remarks
			As per Standard	As per 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 :

Sample No.

Sl. 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 details : Date :

Specimen No	Wt. of Cement W (gm)	Distance Separating the Indicator Points (mm)	
		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 :

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

Checked by : AEE/EE Tested by : AE/JE

Form CC-4

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

Sample No : Date :
Name of Quarry/Location

Sl. 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

Form SB-2

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

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

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 No. GB-1

Flakiness Index of Aggregate

Test 1

Sample No : Date of Sampling :

Name of Quarry/Location : Date of Testing:

(gm)

Size of aggregate		**Wt. of the fraction consisting of at leaset 200 pieces (gm)**	**Thickness gauge size, (0.6 times the mean sleve) (mm)**	**Weight of aggregate in each fraction passing thickness gauge (gm)**
Passing through I.S. Sieve (mm)	**Retained on I.S. Sieve (mm)**			
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 =

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

Layer	**Value**	**Permissible Limit**	**Whether Conforms to the Prescribed Limits (Yes/No)**
		Max. 25%	
If Result don't conform to the prescribed 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 : AEE/EE Tested by : AE/JE

Form CC-9

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

Road / Section Details : Date of Testing :

Sl. No.	Type of aggregate CA/FA	Sample No	Organic 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 Details : Date of Testing :

Sample No : **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		
					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)

Road / Section Details : Date of Testing :

Sample No : **Test 2** 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 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		
					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 : Date of Testing :

Sample No : 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 3

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		
					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 : Date of Sampling :

Name of Quarry / Location : Date of Testing :

Size of aggregate : Type of aggregate :

Sl. No.	Specimen No.	Weight of Saturated surface dry sample B gms.	Weight of oven dried sample A gms	Water Absorption (%) = $\frac{B-A}{A} \times 100$	Average Value	Remarks
1	2	3	4	5	6	7

Value	Permissible Limit	Whether Conforms 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 : AEE/EE Tested by : AE/JE

Soundness test of aggregate with sodium sulphate / Magnesium Sulphate
[IS : 2386 (part-5]
Test 1

Sample No : Date of Sampling :

Name of Quarry / Location : Date of Testing :

Size of aggregate : Type of aggregate :

Sieve Size, mm		Grading of Original sample (%)	Weight of each fraction before test (gms)	Percentage passing finer sieve after test (actual percent loss)	Remarks
Passing	Retained				
1	2	3	5	6	7
60	40				
40	20				
20	10				
10	4.75				
Number of particies coarser than 20 mm before test			Number of particles affected, classified as to the number disintegrating, splitting, crumbing, cracking or flanking		
Passing	Retained	Number 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 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 : AEE/EE Tested by : AE/JE

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)	

Sl. 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± 2^0C, 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

Sl. No.	Specimen No.	Plan Area of cube mould 15 mm x 150 mm Ap	Maximum Applied Load just before failure at 7 and 28 days (kg) Ap	Compressive Strength (kg/cm2) W1 AP 7 days 28 days
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
Average flexural strength of concrete sample (kg/cm^2) at 7 and 28 days) nearest to 1 kg/sqcm				

Layer	Value	Permissible Limit	
		Specified compressive strength of concrete sample (kg/cm^2) at 7 and 28 days)	Individual Variation = + 15% of the average

Checked by : AEE/EE

Tested by : AE/JE

Moisture content of sand / Coarse aggregate

Road / Section details : Date :

Sl. No.	Sample No.	Wt. of FA/CA W_1 gms	Wt. of oven dried FA/CA W_2 gms	Moisture content = $\frac{W_1 - W_2}{W_2} \times 100$	Remarks

Checked by : AEE/EE Tested by : AE/JE

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 Tested by : AE/JE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED

Quality Control Register-Part 1

Record of Tests

Section 3 Brick and Stone Masonry

Quality Control Register Part-1

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						
Test 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				

Quality Control Register Part-1

Section - 3: Brick and Stone Masonry

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

Sl. 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		
				BR-1	Colour, Shape, Texture, efflorosence Dressing of stones & Dimensional check for bricks	3 Samples at random at source	
				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	

Form BR-1

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 : Date :

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

Sample No.	Wt. of the dried specimen cooled at air temperature M_1	Wt. of the specimen after immersion in water for 24hr M_2	Water absorption percent by mass $\frac{M_2 - M_1}{M_1} \times 100$	Whether water absorption is within the permissible limit? Y/N	If No, Date of issue of NCR & Page No. of Q/C Reg. **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 : Date :

Sl. 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 $\frac{\text{Max load}}{\text{area of bed face}}$(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

Form BR-5

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

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

IS Sieve Designation	Wt. of sand Retained (gm)	Percent of Wt. Retained	Cumulative percent of wt. retained (%)	Percentage of wt. passing	Prescribed Limits Percentage of 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 : Date of testing :
Sample No. Wt. of soil sample taken : _____ gm

IS Sieve Designation	Wt. of sand Retained (gm)	Percent of Wt. Retained	Cumulative percent of wt. retained (%)	Percentage of wt. passing	Prescribed Limits Percentage of 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 3

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

IS Sieve Designation	Wt. of sand Retained (gm)	Percent of Wt. Retained	Cumulative percent of wt. retained (%)	Percentage of wt. passing	Prescribed Limits Percentage of 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 : Date of testing :
Sample No. Wt. of soil sample taken : _____ gm

IS Sieve Designation	Wt. of sand Retained (gm)	Percent of Wt. Retained	Cumulative percent of wt. retained (%)	Percentage of wt. passing	Prescribed Limits Percentage of 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 CC-1

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

Road / section details : Date of testing :

Sample No.

Sl. 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 :

Sl. 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 Tested by : AE/JE

Form BR-6

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

Road / Section Details : Date of testing :

Sl. 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 : Date of testing :

Sample No.

Sl. 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-7

Height, Bond, Plumbness, Staggering & Thickness of Joints

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

Road / Section Details : Date of testing :

Sl. 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

Form BR-4

Compressive Stg. Of Cement Mortar
Test 1

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

Sl. 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 : Date of testing :
Sample No.

Sl. 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
Test 3

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

Sl. 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
Test 4

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

Sl. 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

Quality Control Register-Part 1

Record of Tests

Section 4 - Steel Reinforcements

Quality Control Register 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
Steel 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				

Quality Control Register Part-1

Section - 4: Steel Reinforcements

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

Sl. 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	

Form SR-1

Test for Steel Reinforcement

Test prior to construction

Road / Section Details : Date of testing :

Sl. 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

Form SR-2

Road / Section Details : Date of testing :

Sl. 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

Road / Section Details : Date of testing :

Sl. 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

Checked by : AEE/EE Tested by : AE/JE

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

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	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				

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.

Sl. 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 2

Road / Section details : Date of testing :

Sample No.

Sl. 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.

Sl. 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

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

Sl. 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 Max load 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.

Sl. 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 Tested by : AE/JE

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					
		Test 1				
		Test 2				
		Test 3				
		Test 4				
2	Sanitation works					
		Test 1				
		Test 2				
		Test 3				
		Test 4				

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

Tested by : AE/JE

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

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	Electrification work					
		Test 1				
		Test 2				
		Test 3				
		Test 4				

Section - 7: Electrification work

For Electrical works
Test during construction

Paste the Report

Checked by : AEE/EE

Tested by : AE/JE

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

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	Painting(External) works					
		Test 1				
		Test 2				
		Test 3				
		Test 4				
2	Painting(Internal) works					
		Test 1				
		Test 2				
		Test 3				
		Test 4				
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

Paste the Report

Checked by : AEE/EE Tested by : AE/JE

KARNATAKA RURAL INFRASTRUCTURE DEVELOPMENT LIMITED

Quality Control Register-Part 1

Record of Tests

Section-9 Granular Construction

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
Drainage Layer						
SB-1	Gradation Drainage Layer	Test 1				
		Test 2				
Granular 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 Table**				
SB-4	Density of Compacted Layer					
SB-8	CBR Test G S B					
		Test 1				
SB-5	Thickness of Layer G S B					
Base Course Water Bond Macadam						
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				

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**				

Tests for Drainage Layer
Sieve Analysis (IS:2720 (Part 4) -1985) Test 1

Road / Section Details Date of Testing :

Sample No. Weight of soil sample taken: (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 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: 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 :

Sample No. Weight of soil sample taken: (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 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.

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Instruction for Blending

(Date & Signature)
Officer in charge

Test for Granular Sub Base
Atterberg Limits Test : Test 1

Road/Section Details: 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) = ---------- 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.
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 %	(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: Tested 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 sample	
Type of test	Standard Proctor
Weight of mould W_1 (gm)	
Volume of mould V_m (cc)	
Per cent retained on 20 mm IS sieve	

S. No.	Weight of mould + compacted soil (gms) W_2	Weight of wet soil (gms) $W_2 - W_1$	Wet density (gm/cc)	Moisture content determination							Dry 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)	
1.											
2.											
3.											
4.											
5.											
6.											

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...			

Test for Granular Sub Base

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

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

Time of Penetration @1.25 mm/Min.	**Pene-tration**	**Proving Ring Reading**			**Load Intensity 2 (kg/cm) (A) x One divn. Value area of Plunger**			**Corrected Load Intensity (kg/cm^2)**			**Standard Load Intensity (kg/cm^2)**	**Unsoaked/ Soaked C.B.R. (%) Cx100 D**			**Average C.B.R. (%)**
		(A)			(B)			(			(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				
6 – 0	7.5										134				
8 – 0	10.0										162				
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 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:

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: 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 = W_2 (gm)				
A.I.V = (W_2/ W_1) 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 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:

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 = W_2 (gm)				
A.I.V = (W_2/ W_1) x 100				

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.

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Checked by: Tested by:

Test for Water Bond Macadam Base

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

WBM Grade 2 Test 3

Sample No.: Date of Testing:

Name of Quarry / Location: 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 = W_2 (gm)				
A.I.V = (W_2/ W_1) 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 No… … … … … … **..** Date of issue… … … … … … … **.**

Checked by: Tested by:

Test for Water Bond Macadam Base

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

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:

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)
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:

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 3

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)
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:

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: Date of Sampling:

Name of Quarry / Location: Date of Testing:

Size of aggregate		Wt. of the fraction consisting of at least 200 pieces (gm)	Thickness gauge size, (0.6 times the mean sieve) (mm)	Weight of aggregate in each fraction passing thickness gauge, (gm)
Passing through I.S. Sieve, (mm)	Retained on I.S. Sieve (mm)			
63	50	W_1 =	23.90	w_1 =
50	40	W_2 =	27.00	w_2 =
40	31.5	W_3 =	19.50	w_3 =
31.5	25	W_4 =	16.95	w_4 =
25	20	W_5 =	13.50	w_5 =
20	16	W_6 =	10.80	w_6 =
16	12.5	W_7 =	8.55	w_7 =
12.5	10	W_8 =	6.75	w_8 =
10	6.3	W_9 =	4.89	w_9 =
Total		W =		w =

$$\text{Flakiness Index (F.I.)} \quad \frac{w}{W} \times 100 \quad (\%)$$

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: Tested by:

Date: _____ Date: _____

Test for Water Bond Macadam Base

Flakiness Index of Aggregate

WBM Grade 2 Test 2

Sample No: Date of Sampling:

Name of Quarry / Location: Date of Testing:

Size of aggregate		Wt. of the fraction consisting of at least 200 pieces (gm)	Thickness gauge size, (0.6 times the mean sieve) (mm)	Weight of aggregate in each fraction passing thickness gauge, (gm)
Passing through I.S. Sieve, (mm)	Retained on I.S. Sieve (mm)			
63	50	W_1 =	23.90	w_1 =
50	40	W_2 =	27.00	w_2 =
40	31.5	W_3 =	19.50	w_3 =
31.5	25	W_4 =	16.95	w_4 =
25	20	W_5 =	13.50	w_5 =
20	16	W_6 =	10.80	w_6 =
16	12.5	W_7 =	8.55	w_7 =
12.5	10	W_8 =	6.75	w_8 =
10	6.3	W_9 =	4.89	w_9 =
Total		W =		w =

$$\text{Flakiness Index (F.I.)} \quad \frac{w}{W} \times 100 \quad (\%)$$

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: Tested by:

Date: _____ Date: _____

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 :

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 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... ... ...

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) $\frac{mc_1 \quad mc_2 \quad mc_3}{3}$ _____ 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... ... ...

Checked by: Tested by:

Test for Water Bond Macadam Base

Water Absorption of Aggregate

WBM Grade 2 Test 1

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.**		
	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) x 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 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:

Test for Water Bond Macadam Base

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

Grade 3 Test 1

Sample No.: Date of Testing:

Name of Quarry / Location: 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 = W_2 (gm)				
A.I.V = (W_2/ W_1) 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 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 3 Test 2

Sample No.: Date of Testing:

Name of Quarry / Location: 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 = W_2 (gm)				
A.I.V = (W_2/ W_1) 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 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 3 Test 3

Sample No.: Date of Testing:

Name of Quarry / Location: 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 = W_2 (gm)				
A.I.V = (W_2/ W_1) 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 No... ... ... Date of issue... ... ...

Checked by: Tested by:

Test for Water Bond Macadam Base

Sieve Analysis of Aggregate (IS: 2386 Part-1)

WBM Grade 3 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

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: 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: 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)
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:

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: 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)
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:

Instruction for Blending

(Date & Signature)
Officer in charge

Test for Water Bond Macadam Base

Flakiness Index of Aggregate

WBM Grade 3 Test 1

Sample No: Date of Sampling:

Name of Quarry / Location: Date of Testing:

Size of aggregate		**Wt. of the fraction consisting of at least 200 pieces (gm)**	**Thickness gauge size, (0.6 times the mean sieve) (mm)**	**Wight of aggregate in each fraction passing thickness gauge, (gm)**
Passing through I.S. Sieve, (mm)	**Retained on I.S. Sieve (mm)**			
63	50	W_1 =	23.90	w
50	40	W_2 =	27.00	w
40	31.5	W_3 =	19.50	w
31.5	25	W_4 =	16.95	w
25	20	W_5 =	13.50	w
20	16	W_6 =	10.80	w
16	12.5	W_7 =	8.55	w
12.5	10	W_8 =	6.75	w
10	6.3	W_9 =	4.89	w
Total		W =		w

$$\text{Flakiness Index (F. I.)} = \frac{w}{W} \times 100\ (\%)$$

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... ... ... Date of issue... ... ...

Checked by: Tested by:

Test for Water Bond Macadam Base

Flakiness Index of Aggregate

WBM Grade 3 Test 2

Sample No: Date of Sampling:

Name of Quarry / Location: Date of Testing:

Size of aggregate		**Wt. of the fraction consisting of at least 200 pieces (gm)**	**Thickness gauge size, (0.6 times the mean sieve) (mm)**	**Wight of aggregate in each fraction passing thickness gauge, (gm)**
Passing through I.S. Sieve, (mm)	**Retained on I.S. Sieve (mm)**			
63	50	W_1 =	23.90	w
50	40	W_2 =	27.00	w
40	31.5	W_3 =	19.50	w
31.5	25	W_4 =	16.95	w
25	20	W_5 =	13.50	w
20	16	W_6 =	10.80	w
16	12.5	W_7 =	8.55	w
12.5	10	W_8 =	6.75	w
10	6.3	W_9 =	4.89	w
Total		W =		w

$$\text{Flakiness Index (F. I.)} = \frac{w}{W} \times 100\ (\%)$$

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... ... ... Date of issue... ... ...

Checked by: Tested by:

Test for Water Bond Macadam

Atterberg Limits Test for Binding Material

WBM Grade 3 Test 1

Road/Section Details: 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 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)

	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 %	(mc_1)	(mc_2)	(mc_3)	

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: Tested 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.		
	1	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) x 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… … … … … … .. Date of issue… … … … … … … .

Checked by: Tested 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

		Test-1	Test-2	Test-3
(a)	*Calibration* (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 (W_1) in gm. (iv) Mean weight of sand (+cylinder) after pouring (W_3) 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 (W_1) in gm. (iv) Weight of sand (+ cylinder) after pouring (W_4) in gm. (v) Weight of sand in hole, in gm. $W_b = (W_1 - W_4 - W_2)$ (vi) Bulk density $Y_b = (W_w/W_b) \times Y_s$ gm/cc (vii) Moisture content container number (viii) Moisture content (W) percent (ix) Weight of dry soil from the hole in gm. (W_d) (x) Dry density $Y_d = (W_d/ W_b) \times Y_s$ gm/cc			

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... ... ...

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

Checked by: Tested 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* (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 (W_1) in gm. (iv) Mean weight of sand (+cylinder) after pouring (W_3) 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	Test-1	Test-2	Test-3
(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 (W_1) in gm. (iv) Weight of sand (+ cylinder) after pouring (W_4) in gm. (v) Weight of sand in hole, in gm. $W_b = (W_1 - W_4 - W_2)$ (vi) Bulk density $Y_b = (W_w/W_b) \times Y_s$ gm/cc (vii) Moisture content container number (viii) Moisture content (W) percent (ix) Weight of dry soil from the hole in gm. (W_d) (x) Dry density $Y_d = (W_d/ W_b) \times Y_s$ gm/cc			

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... ... ...

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

Checked by: Tested 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 W_1 (gm)	
Volume of mould V_m (cc)	
Per cent retained on 20 mm IS sieve	

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

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: Tested by:

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

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

Test 2

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

Test 3

Sample No : Date of Testing :
Name of Quarry/Location : 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 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 : AEE/EE Tested by : AE/JE

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 (±) 30mm in plain and roling terrain and (±) 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 - ± 15mm

c. Surfacing Course - ±10 mm

For WMM - ±10 mm
For CRM - ± 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

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

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				

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)

Viscosity of Bitumen
Test 1

Sample Ref.: Date of Testing :

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 50^0 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.: Date of Testing :
Tanker No.: 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 50^0 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

Test 1

Sample Ref. : Date:
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 Max	Grade of Emulsion				
	2	1	1	2	2
	0.05	0.05	0.05	0.05	0.05

Checked By: Tested By:

Test 2

Sample Ref. : Date:
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 Max	Grade of Emulsion				
	2	1	1	2	2
	0.05	0.05	0.05	0.05	0.05

Checked By: Tested By:

Bitumen for Premix Carpet/ Surface Dressing

Penetration of Bitumen

Test 1

Sample No.: Date of Testing:

Tanker 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	

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

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:

Tanker 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	Briquette number			Mean value
	(a)	(b)	(c)	
Ductility value (cm)				

Layer	Value	Permissible Limit
		More than 75 unit

Checked by: Tested by:

Bitumen for Premix Carpet/ Surface Dressing

Softening Point of Bitumen
Test 1

Sample No.: Date of sampling:

Tanker 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.	
	1	2	1	2
Temp. at which sample touch bottom plate (°C)				
Mean Value, softening point				

Layer	Value	Permissible Limit
		More than 40ºC

Checked by: Tested by:

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

Sample No.: Date of Sampling:

Bitumen grade: Date of Testing:

Sample No.	Wt. of Bottle (gm)	Wt. of Bottle + distilled water (gm)	Wt. of Bottle + half filled material (gm)	Wt. of Bottle + half filled material + distilled water (gm)	Specific gravity (gm/cc)
	W_1	W_2	W_3	W_4	
1.					
2.					
3.					
Average					

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 :

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: Tested by:

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

Sample No.: Date of Testing:

Name of Quarry / Location: 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 = W_2 (gm)				
A.I.V = (W_2/ W_1) 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:

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

Sample No.: Date of Testing:
Name of Quarry / Location: 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 = W_2 (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:

Test During Construction
Test for Aggregate for Bituminous construction
Flakiness Index of Aggregate
Test 1

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

Size of aggregate		Wt. of the fraction consisting of at least 200 pieces (gm)	Thickness gauge size, (0.6 times the mean sieve) (mm)	Weight of aggregate in each fraction passing thickness gauge, (gm)
Passing through I.S. Sieve, (mm)	Retained on I.S. Sieve (mm)			
63	50	W_1 =	23.90	w_1 =
50	40	W_2 =	27.00	w_2 =
40	31.5	W_3 =	19.50	w_3 =
31.5	25	W_4 =	16.95	w_4 =
25	20	W_5 =	13.50	w_5 =
20	16	W_6 =	10.80	w_6 =
16	12.5	W_7 =	8.55	w_7 =
12.5	10	W_8 =	6.75	w_8 =
10	6.3	W_9 =	4.89	w_9 =
Total		W =		w =

Flakiness Index (F.I.) $\frac{w}{W}100$ (%)

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... ... ... Date of issue...			

Checked by: Tested by:

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

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

Type of aggregate:	
Type of Binder	
Percentage of binder used:	
Total weight of aggregate:	
Total weight of binder:	
Temperature of water bath:	

Number of observations	Stripping (%)
1	
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: Date of sampling:
Name of Quarry /Location Date of Testing:
Size of aggregate: Type of aggregate:

Observations	Test Nos.		
	1	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 = $W_4/W_3 - (W_1 - W_2)$			
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
		Not more than 2 per cent

Checked by: Tested 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)
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:

Aggregate for Premix Carpet

Sieve Analysis (IS:2720 (Part 4) -1985)

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
22.4mm					
13.2 mm					
11.2 mm					
05.6 mm					

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:

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 (%)	Percentage of Wt. Passing (%)	Permissible
11.2 mm					**100% Passing on 11.2 mm and 100% retained on 2.36 mm sieve for type A**
2.36 mm					**100% passing on 2.36 mm and 100% retained on 180 micron sieve for type B**
180 micron					

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:

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
11.2 mm					**100% Passing on 11.2 mm and 100% retained on 2.36 mm sieve for type A**
2.36 mm					**100% passing on 2.36 mm and 100% retained on 180 micron sieve for type B**
180 micron					

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:

:

:

Soundness of Aggregate
Test 1

Sample No: Date of Sampling:

Name of Quarry / Location: Date of Testing:

Type of reagent used: Number of cycles:

Type of coarse aggregate sample:

Sieve size, mm		Grading of original sample (%)	Wt. of each fraction before test (gm)	Percentage passing finer sieve after test (actual percent loss)	Weighted average (corrected percentage loss)
Passing	Retained				
1	2	3	4	5	6
60	40				
40	20				
20	10				
10	4.75				
Number of particles coarser than 20mm before test			Number of particles affected, classified as to the number disintegrating, splitting, crumbing, cracking or flanking		
Passing	Retained	Number before test			
40 mm	20 mm				
60 mm	40 mm				

Layer	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 Ref. : 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 (±) 20 mm in plain and roling terrain and (±) 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)