

ಕರ್ನಾಟಕ ಸರ್ಕಾರ



ಕರ್ನಾಟಕ ರಾಜ್ಯ ಪೊಲೀಸ್ ವಸತಿ ಮತ್ತು ಮೂಲಭೂತ ಸೌಲಭ್ಯ ಅಭಿವೃದ್ಧಿ ನಿಗಮ ನಿಯಮಿತ
ಗುಣ ನಿಯಂತ್ರಣ ಕಾರ್ಯಕ್ರಮ
(ಕಟ್ಟಡ ಕಾಮಗಾರಿಗಳಿಗೆ)

(ಲೋ.ಇ. ಸಂಹಿತೆ 2014 ರ ಅಧ್ಯಾಯ 11 ರ ಪ್ರಕಾರ)

1	ಕಾಮಗಾರಿಯ ಹೆಸರು	:	
2	ಅಂದಾಜು ಮೊತ್ತ ರೂ.	:	
3	ಲೆಕ್ಕ ಶೀರ್ಷಿಕೆ	:	
4	ತಾಂತ್ರಿಕ ಮಂಜೂರಾತಿ ಸಂಖ್ಯೆ	:	
5	ಗುತ್ತಿಗೆದಾರರ ಹೆಸರು	:	
6	ನಿರ್ಮಾಣ ವಿಭಾಗ/ಉಪವಿಭಾಗ	:	
7	ಗುತ್ತಿಗೆ ಕರಾರು ಸಂಖ್ಯೆ ಮತ್ತು ದಿನಾಂಕ	:	
8	ಗುತ್ತಿಗೆ ಕರಾರಿನಂತೆ ಕಾಮಗಾರಿ ಪ್ರಾರಂಭಿಸುವ ದಿನಾಂಕ	:	
9	ಗುತ್ತಿಗೆ ಕರಾರಿನಂತೆ ಕಾಮಗಾರಿ ಮುಕ್ತಾಯಗೊಳಿಸಬೇಕಾದ ದಿನಾಂಕ	:	
10	ಕಾಮಗಾರಿ ಪೂರ್ಣಗೊಳಿಸಲು ನಿಗದಿಪಡಿಸಿದ ಕಾಲಾವಧಿ	:	

AEE (Execution)

EE(Execution)

Quality Control Programme

Contents

Sl.No	Items		Page Nos.
1	Quality Control Programme	:	
2	Abstract of Quality Control Plan	:	
3	Material Calculation Sheet, Equipments & Workmanship	:	
4	Tender Document Copy with Schedule - B	:	As per Aggrement No.:
5	Drawings	:	As Per Approved Drawings
6	List of Equipments for Field Lab	:	Enclosed
7	List of Approvals	:	Enclosed
8	Register of Observations Memos issued from the Construction / Quality Control	:	Enclosed

* As per the PWD Departmental Code under Section 117 (2)

Quality Assurance Programme

Quality Assurance Programme						
Project:						
1	Project Objectives:	:	Quality Control Plan falls in Category	Home Dept. Buildings		Other than Home Dept. Buildings.
			Type of Building			
2	Approved Drawings	:	As Issued by Construction Division.			
3	Process control aspects	:	Quality Assurance Plan Abstract			
		:	Material Calculation Sheets			
		:	Tools and Equipments			
		:	Workmanship Procedures			
4	Maintenance of records	:	a) Quality Control Results in approved formats.			
		:	b) Calibration Certificates of Field lab Equipments.			
		:	c) Rejected Material Register.			
5	Preparation of Periodical reports	:	a) At the end of every month or during submission of running bills			
		:	b) Photos at different stages			
6	Higher Officers Inspection notes and Compliance Reports.	:	Files Should be maintained			
7	Training /motivataion programme to Field staff.	:	At the begining of the project and every 3 months			
8	List of equipments for Field Lab	:	Enclosed			

Assistant Executive Engineer,
Sub-Division No.

Executive Engineer,
KSPH&IDCC Division.

Abstract of Quality Assurance Plan (BUILDINGS)

FLOOR: GF/FF SF..

Name of Work :																	
Estimate Cost :							Sanction No.:			Contractor:							
Date of Commencement of Work (as Per Tender) :				Date of Completion of Work (as Per Tender) :													
Sl. No.	Materials required for finished item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No. of Tests to be conducted by		Total Nos. of Tests conducted by		Frequency as per Relevant IS Codes	Reference	Remarks					
						Constr. Agency	PMC/ 3rd Party	Const. Agency	PMC/ 3rd Party								
1	2	3	4	5	6	7	8	9	10	11	12	13					
Earthwork																	
1	Soil for Filling	Cum		Grain Size Analysis		100%	10%			Two Tests per 3000 Cum or Change in Source	IS 2720-1973 (part 4) & IS 2720 (Part 5) - 1980						
				Atterberg Limits													
				Lab MDD & OMC													
Concrete Works																	
2	40 mm and down size Coarse Aggregates	Cum		Gradation		100%	10%			One Test per 100 Cum or Change in Source	IS 383-2016, IS2386(part1 - 8)						
				Flakiness and Elongation index									1 No./AR (As Reqd.)	1 No./AR (As Reqd.)	Once at beginning for each Source	IS 383-2016, IS2386(part1)-1963 &2430-1969	Any change in source / visual observations, number of tests may be increased and subsequently on monthly basis
				Impact value									1 No./AR	1 No./AR			
				Water Absorbtion									1 No./AR	1 No./AR			
3	20 mm and 12.5 mm down size Coarse Aggregates	Cum		Gradation		100%	10%			One Test per 100 Cum or Change in Source	IS 383-2016, IS2386(part1)-1963 & sampling 2430-1969 ,4926-2003						
				Flakiness and Elongation Index									1 No./AR	1 No./AR	Once at beginning for each Source	IS 383-2016, IS2386(part1)-1963 &2430-1969	Any change in source / visual observations, number of tests may be increased and subsequently on monthly basis
				Impact Value									1 No./AR	1 No./AR			
				Water Absorbtion									1 No./AR	1 No./AR			
4	Fine Aggregates	Cum		Seive analysis		100%	10%			One Test per 100cum or Change in Source	IS 383-2016, IS2386(part 2)-1963 &2430-1969	Any change in source / visual observations, number of tests may be increased					

Sl. No.	Materials required for finished item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No. of Tests to be conducted by		Total Nos. of Tests conducted by		Frequency as per Relevant IS Codes	Reference	Remarks
						Constr. Agency	PMC/ 3rd Party	Const. Agency	PMC/ 3rd Party			
1	2	3	4	5	6	7	8	9	10	11	12	13
5	Cement	Bags		Normal Consistency		1 No./AR	1 No./AR			One Test for each consignment/ 1 Test for every 5000 bags/as decided by the Engineer -In-Charge	IS 269, IS 455, IS 1489, IS 8112-1989 IS 12269-1987	Any change in cement grade/brand test to be carried out/ Manufacture Certificate
				Initial setting time		1 No./AR	1 No./AR					
				Final setting time		1 No./AR	1 No./AR					
				Compressive strength		1 No./AR	1 No./AR					
7	Steel	MT		Tensile test a) Dia of bar b) weight/mtr c) Yeild stress d) Tensile test		1 No./AR	1 No./AR			One Test for Each Consignment (all dia of rods)	IS 1786-2008 & IS1608-2005	Certificate from authorised testing labs followed by Manufactures certificate.
				Bend and re- bend test		1 No./AR	1 No./AR				IS 1786-2008 & IS1599-1985	
				Chemical Analysis		1 No./AR	1 No./AR				IS 1786-2008 & IS 228 (part1-24)	
8	Super Plastisizer	Ltr				1 No./AR	1 No./AR			One Test for Each Consignment	IS 9103-1999 &2003	Certificate from authorised testing labs followed by Manufactures Certificate.
9	Concrete M-20/25/30	Cum		Mix Design		1 No					IS 456-2000,IS4926-2003,IS 516-1959 & 1199-1959 IS 8112-1989 for 43 grade IS 12269-1987 for 53 grade	Mix design performed at the beginning of work by contractor & get approval from competent authority
				Slump Test		ARI	ARI			Two Tests per Day / as required at Site		
				7 days Compressive Strength		100%	10%			1-5cum - 1 set, 5-15 cum- 2 set, 15-30cum- 3 set, 30-50cum - 4 set , aabove 50 cum- additio 1 set and above 100 cum - 1 set for every 100 cum . For RMC concrete 1 set for every 50cum or part/ As decided by Engineer Incharge		
				28 days Compressive Strength		100%	10%					

Sl. No.	Materials required for finished item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No. of Tests to be conducted by		Total Nos. of Tests conducted by		Frequency as per Relevant IS Codes	Reference	Remarks
						Constr. Agency	PMC/ 3rd Party	Const. Agency	PMC/ 3rd Party			
1	2	3	4	5	6	7	8	9	10	11	12	13
	RMC Concrete	Cum		Mix Design		1 No					IS 456-2000,IS4926-2003,IS 516-1959 & 1199-1959 IS 8112-1989 for 43 grade IS 12269-1987 for 53 grade	Mix design performed at the beginning of work by contractor & get approval from competent authority The RMC should be Obtained only from the Plant Certified by the Quality Council of India as per the letter no: CE(C&B) dated: 02.09.2015
			Slump Test		ARI	ARI			Two Tests per Day / as required at Site			
			7 days Compressive Strength		100%	10%			1-5cum - 1 set, 5-15 cum- 2 set, 15-30cum- 3 set, 30-50cum - 4 set , aabove 50 cum- additio 1 set and above 100 cum - 1 set for every 100 cum .			
			28 days Compressive Strength		100%	10%			For RMC concrete 1 set for every 50cum or part/ As decided by Engineer Incharge			
Masonry & Plastering Works												
10	AAC Blocks	Nos.		Density		100%	10%			1 sets of 5 Blocks for every 10000 nos	IS:2185 (part-3) 1984 and IS 6441-1972	
				Compression Strength		100%	10%					
				Dimension Test		100%	10%					
11	Solid Blocks	Nos.		Dimension		100%	10%			1 sets of 5 Blocks for every 1000 nos	IS 2185-1 -Part 1 Re 1998	
				Compression strength		100%	10%					
				Water Absorbtion		100%	10%					
12	Bricks	Nos.		Dimension		100%	10%			1 sets of 20 Bricks for every 5000 need to be tested	IS 1077-1992, IS 5454-1978 & IS 3495(part2)-1992	
				Compression strength		100%	10%					
				Water Absorbtion		100%	10%					
13	Brick bats for integral Waterproofing	Sqm		Dimension 25mm -100mm		100%	10%			Each Lot	IS 3068:1986	
				Water Absorbtion			10%					
				Compressive strength			10%					
14	Sand for Masonry	Cum		Sieve Analysis		100%	10%			1 test/100cum and for change of source	IS 2116- 1980, IS2386(part1)-1963 ,2430-1969 &2250-1981.	
15	Sand for Plastering	Cum		Sieve Analysis		100%	10%			1 test/100cum and for change of source	IS 1542- 1992, IS2386(part1)-1963 ,2430-1969 &2250-1981	

Sl. No.	Materials required for finished item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No. of Tests to be conducted by		Total Nos. of Tests conducted by		Frequency as per Relevant IS Codes	Reference	Remarks
						Constr. Agency	PMC/ 3rd Party	Const. Agency	PMC/ 3rd Party			
1	2	3	4	5	6	7	8	9	10	11	12	13
Doors & Windows												
16	Sal Wood Frames	Nos.		Moisture Content		As per Code				For 1500 frames (for each consignment of same source)	IS 1708-1986	Certificate from authorised testing labs followed by Manufactures certificate.
				Identification of Wood								
				Physical Test								
17	Flush Shutters	Nos.		Dimension, Local Planeness, Impact indentation, Edge Loading test, Shock resistance, Buckling Test, Slamming Test, Misuse, Knife Edge Test, Glue Adhesion Test, End Immersion Test, Screw With Drawl Test		As per Code				For 1000 shutters	IS 4020 - 1988 IS 2202 - 1999	Certificate from authorised testing labs followed by Manufactures certificate.
18	UPVC Windows	Sqm		Density		As per Code				Each Consignment	ASTMD 792	Certificate from authorised testing labs followed by Manufactures certificate.
				Tensile strength							ASTMD 638	
				Vicat softening temperature							IS 6307	
19	Aluminium Works	Sqm		Thickness		As per Code				Each Consignment	IS 1081-1960, IS1948-1961, IS3908-1986, IS3909-1986 & 3921-1985.	Manufactures certificate.
				Weight/ Meter								
20	Glass	Sqm		Thickness		As per Code				Each Consignment	SP 21 Doc CED13(7127), IS 1003(Part 2):1994	Manufactures certificate.

Sl. No.	Materials required for finished item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No. of Tests to be conducted by		Total Nos. of Tests conducted by		Frequency as per Relevant IS Codes	Reference	Remarks
						Constr. Agency	PMC/ 3rd Party	Const. Agency	PMC/ 3rd Party			
1	2	3	4	5	6	7	8	9	10	11	12	13
Flooring and Dadoing												
21	Granite	Sqm		Density		As per Code				1 Test for each consignment for each variety upto 100-1 nos, 300-3 nos, 301-600 6 nos	IS 1237 -1980 IS 14223(part-1)-1995 & IS 4905-1969,1706-1972 ,1124-1974 .	Certificate from authorised testing labs followed by Manufactures certificate.
				Compressive strength								
				Abrasion test								
				Thickness								
				Shade & colour								
				Water absorption								
22	Vitrified Tiles	Sqm		Water absorption		As per Code				1 Test for each consignment for each variety upto 100-1 nos, 300-3 nos, 301-600 6 nos	IS 13630 part 15-2006 & ISO 10545-2	Certificate from authorised testing labs followed by Manufactures certificate.
				Modulus of rupture								
				Warpage								
				Hardness								
				Rectangularity								
				Straightness								
23	Ceramic Tiles / Glazed Tiles	Sqm		Modulus rupture		As per Code				1 Test for each consignment for each variety upto 100-1 nos, 300-3 nos, 301-600 6 nos	IS 13630 part 15-2006 & ISO 10545-2	Certificate from authorised testing labs followed by Manufactures certificate.
				Warpage								
				Hardness								
				Rectangularity								
				Straightness								
				Water Absorption								
24	Paver Blocks	Sqm		Dimension test		As per Code				(Frequency 8 for each test for each consignment of 50000nos)	IS -15658-2006	Certificate from authorised testing labs followed by Manufactures certificate.
				Abrasion Test								
				Water absorption								

Sl. No.	Materials required for finished item of work	Unit	Quantity of Materials	Name of Test to be Conducted	No of Tests Required	No. of Tests to be conducted by		Total Nos. of Tests conducted by		Frequency as per Relevant IS Codes	Reference	Remarks
						Constr. Agency	PMC/ 3rd Party	Const. Agency	PMC/ 3rd Party			
1	2	3	4	5	6	7	8	9	10	11	12	13
Steel Fabrication Works												
25	Stainless steel for railing	Sqm		Physical Test		1 No./AR	1 No./AR			Each Consignment	IS 1608-2005 & IS 1599-2012	Certificate from authorised testing labs followed by Manufactures certificate.
				Chemical Test		1 No./AR	1 No./AR					
26	M S Steel for fabrication Window & Door Grill works	Kgs		Physical Test		1 No./AR	1 No./AR			Each Consignment	IS: 1608 - 2005; IS: 1730-1989, IS :808-1989 & IS :1599-2012	Certificate from authorised testing labs followed by Manufactures certificate.
				Chemical Test		1 No./AR	1 No./AR				IS: 8811 - 1998	
27	M S Steel for fabrication Truss Work	Kgs		Physical Test		1 No./AR	1 No./AR			Each Consignment	IS: 1608 - 2005	Certificate from authorised testing labs followed by Manufactures certificate.
				Chemical Test		1 No./AR	1 No./AR				ASTM E 415 : 2014 / IS 8811 : 1998	
Water Proofing Works												
28	Waterproofing Works	No of Units		Pond Test		100%	100%			Each Unit	As per Relevant Codes	

Note:

1. Additional items if any under BOQ may be incorporated as per Code requirements.

2. For Water Supply, Sanitary, Electrical and other Items, ncessary certificates indicating the quality as per the prescribed IS Codes shall be obtained by the Authorised Manufactures before execution of the Work.

Prepared By
Agency/ Client

Verified by
PMC/Third party

Ckeeked by
JE/AE (Execution)

Ckeeked & Recommended by
AEE (Execution)

Approved by
EE (Execution)

List of Field Laboratory Equipments (Building Works)

Name of Work:

Estimation Cost:

Contractor:

Sl.No.	Name of the Equipments	Nos.	Remarks
1	2	3	
A)	General		
1)	Weigh Balances		
	a) 5-20 kg capacity Electronic type - Accuracy 1 gm	1 No.	
	b) 500 gm capacity - Electronic Type - Accuracy 0.01 gm	1 No.	
2)	Oven-Electrically Operated, Thermostatically controlled (including Thermometer), Stainless Steel Interior		
	From 0° C to 220° C Sensitivity 1° C.	1 No.	
3)	Sieves: As per IS:460-1962		
	a) I.S. Sieves 450 mm internal dia of Sieve sets as per BIS of required sieve sizes complete with lid and pan.	1 Set	
	b) IS Sieve 200 mm internal dia (brass frame and steel/or brass wire Cloth mesh) consisting of sieve sets of required sieve sizes complete with lid.	2 Set	
4)	Sieve Shaker capable of shaking 200 mm and 450 mm dia Sieves-Electrically operated with time switch.	1 No.	
5)	Enamel Trays		
	a) 600 mm x 450mm x 50mm	2 Nos.	
B)	FOR SOILS		
1)	Sand pouring cylinder with conical funnel and tap and complete as per IS: 2720 (Part 28) 1974 including modern equipment with standard sand grade II	2 Nos.	If provisions are made in estimates For Approach Road
2)	Speedy moisture meter complete with chemicals	1 No.	
C)	FOR BITUMEN AND BITUMINOUS MIXES		
1)	Core cutting machine suitable for upto 150 mm dia core. (own/hire as per the requirement)	1 Set.	
2)	Thermometers	4 Nos.	
D)	FOR CEMENT, CEMENT CONCRETE AND MATERIALS		
1)	Flakiness Index Test Apparatus	1 No.	
2)	Equipment for Slump Test	1 No.	
3)	Mould for Casting Cubes	9 Nos.	
4)	Compression Testing Machine - 2000 KN	1 No.	
E)	FOR CONTROL OF PROFILE AND SURFACE EVENNESS		
1)	3 meter straight edge and measuring wedge	1 Set.	If provisions are made in estimates For Approach Road
2)	Camber template 2 Lane		
	a) Crown type cross-section	1 Set.	
	b) Straight run cross-section	2 Set.	

AEE (Execution)

EE(Execution)

List of Approvals required

Name of Work :			
Name of Contractor :			
Sl. No.	Description	Make/ Approvals	Remarks
1	SBC of Soil		
2	Structural Design & Drawings		
3	Steel Detailing		
4	Cement		
5	Mix Design for Concrete		
6	Reinforcement Steel		
7	Floor Laying pattern by Architect		
8	Granite Slabs		
9	Vitrified Tiles		
10	Ceramic Tiles		
11	Flush Door Shutters		
12	UPVC Windows		
13	SS Railings		
14	Waterproofing Chemicals		
15	Admixtures		
16	RMC Plant		
17	Electrical Items and Fixtures		
18	Water Supply and Sanitary Fittings		

AEE (Execution)

EE(Execution)

|

