DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER
Q.C. CELL: VIKAS SADAN: INA

No. CE(3)QC/93/DDA/278 dt. 9/2/94

CIRCULAR 126

Sub:- Bimonthly progress report of works costing above seven lakhs from Ex. Engineers.

*****

As per the order No. PA/VC/94/295-D dt. 24.1.94 the works of tendered cost of Rs. 7 lakhs (seven lakhs) or more shall be inspected by the Quality Control Cell.

All the Ex. Engineers (Civil) are therefore, requested to send the progress report in respect of works costing more than 7 lakhs and more to Chief Engineer (QC) with a copy to concerned EE(QC). Such bimonthly progress reports shall be received in Quality Control Cell by 10th of the relevant month. The position of works as on 1.2.94 may be sent immediately in the first instance.

Deepak Narayan 9/2/94
(DEEPAK NARAYAN)
Chief Engineer (QC)

Copy to :-

1. Vice-Chairman, DDA
2. E.M., DDA
3. All Chief Engineers/SEs/EEs

OFFICE OF THE CHIEF ENGINEER

QUALITY CONTROL CELL

D.D.A. VIKAS SADAN: NEW DELHI.

No. CE(3)94/QC/DDA/4915 Dated 23 Feb., 1994.

CIRCULAR NO. 127

Subject: Quality Control (Electrical) Circular

A list of commonly observed defects in the various works of Internal Electrical Installation during quality control inspections is enclosed herewith. It is requested that this list may be circulated amongst all the Assistant Engineers and Junior Engineers so that these commonly occuring defects are avoided in future and proper quality of works ensured.

Deepak Narayan 23/2/94

(Deepak Narayan)
Chief Engineer.
QCC/DDA

Encls: As stated above.

Copy to:-

1. V.C./D.D.A.
2. E.M./D.D.A.
3. C.E.(Elect.)
4. S.E.(Elect.)1,2,3 SE/QCC, for information.
5. All EE (Elect.) EE(Elect) Planning, EE (Elect.) QCC,DDA. for information. Extra copies for AEs and JEs are enclosed. All EEs are requested to keep the above points in view while inspecting the works.

LIST OF COMMON DEFECTS OBSERVED DURING QUALITY CONTROL INSPECTIONS

1. The outlets for light point and fan point are not found provided symmetrically and even level of switch boxes are not found uniform at appropriate levels.

2. The circular junction boxes are often found broken in the walls either due to making back entry or during cleaning of cement mortar.

3. Fish-wires are not drawn in the conduit before plastering.

4. chases for fixing conduit in walls are not made of adequate depth which results in insufficient cover of cement morter on the conduit.

5. The fan boxes are not painted before white-wash.

6. The power outlet box is provided in the kitchen before casting of working platform which results into variation of height from the slab and the height is not as per specifications.

7. Adequate size of conduit is not provided keeping in view the numebr of wires to be drawn as per specifications.

8. Colour-coding of wires is not followed.

9. Sleeving/Taping of bus-bars and "Wire-ends" is not done properly.

10. Circuit-marking on sub-distribution board is not done although installations are energized.

11. Clearance of "Bus-Bars " between "Phase to Phase" & "Phase to Earth" is not maintained as per specifications.

12. Danger notice plates are not found provided even when the installation is energized.

Cntd... 2

13. The 14 SWG GI earth wires provided for earthing the energy meters are normally found rusted.

14. Discrepancies are found in item of schedule of work and the relevant drawings attached in the agreement.

15. All materials in use should be ISI mark if manufactured . In cases where ISI marked material are not manufactured, non ISI marked materials can be accepted on getting the same tested in conformity with the relevant specifications.

DELHI DEVELOPMENT AUTHORITY
QUALITY CONTROL CELL

No. CE(3)QC/DDA/90/577 Dated : 2.3.94

CIRCULAR NO. 128

Sub : PROVISION OF FAN-BOXES IN TERRACE-SLABS.

At present fan-boxes are being provided at all fan-locations except in terrace slabs where fan-hooks are being used. The fan-hooks in the slab do not give an aesthetic-look.

It has, therefore, been decided that from now onward fan-boxes may be provided in terrace slabs in place of fan-hooks for all on-going and future projects.

EE(Civil) may ensure proper compaction of concrete over and around the fan-boxes to prevent any seepage from that point.

This supercedes circular No. 111 issued by CE(Q.C.C.) earlier vide no. CE(3)QC/DDA/90/2289, dt. 25.10.90.

Sd/-
DEEPAK NARAYAN
CHIEF ENGINEER,
QUALITY CONTROL CELL:DDA

———— × ————

DELHI DEVELOPMENT AUTHORITY
QUALITY CONTROL CELL

No. CE(3)/QC/DDA/1253 Dated 2-6-1994

CIRCULAR NO. 129

Sub : TESTING OF CEMENT CONE. CUBES

For testing of cement concrete cubes in Quality Control Lab., sent by the various Divisions of DDA, bothe contractor's representatives and concerned field staff at least of the level of Junior Engineer are expected to be present.

It may be ensured that contractor's representative and the representative of DDA, both are present during testing of concrete cubes. by any chance, if any of the representatives is not present, for reason whatsoever, the test shall be carried out on the specified date as the same is mondatory to be carried out after prescribed curing time.

Sd/-
(DEEPAK NARAYAN)
CHIEF ENGINEER (QC)

DELHI DEVELOPMENT AUTHORITY
(QUALITY CONTROL CELL)

No. CE(3)/QC/DDA/1253 Dated : 2/6/94

CIRCULAR NO. 129

For testing of cement concrete cubes in Quality Control Lab., sent by the various Divisions of D.D.A., both Contractor's representative and concerned field staff at least of the level of Junior Engineer are expected to be present.

It may be ensured that contractor's representative and the representative of DDA, both are present during testing of concrete cubes. By any chance, if any of the representatives is not present, for reason whatsoever, the test shall be carried out on the specified date as the same is mandatory to be carried out after prescribed curing time.

(DEEPAK NARAYAN)
Chief Engineer (QC)

Copy to :

1. All CE's
2. All S.Es
3. All E.Es
4. S.E. (QC)
5. EE (QC) I
6. EE (Lab)
7. AE (Lab)

OFFICE OF THE CHIEF ENGINEER
QUALITY CONTROL CELL
DDA: VIKAS SADAN

NO. F CE(3) 94/QC/DDA/1204 dt. 24-05-94

CIRCULAR NO. 130

Subject: MAINTAINING DEFECT REGISTER AT SITE FOR RECTIFICATION OF DEFECTS COMPREHENSIVELY IN INDIVIDUAL FLATS/COMMERCIAL BUILDINGS ETC:

During inspections of various sites it has been specifically observed that appropriate attention is not being paid by the field engineers and contractors to identify and rectify the defects in construction. There is practically very little monitoring of defects in works at different levels of Engineers entrusted with supervision of works. This situation needs a lot of improvement.

Defect Register should be maintained for two stages of work floorwise.

The defects are to be recorded by the JE/AE incharge in the proper format and in the register duly issued from the divisioonal office at the following stages of work which should be maintained flatwise, separately.

1. Before and after laying RCC roofing of each floor.
2. Finising items i.e. after plastering, painting, flooring etc. should be recorded separately for each item of work for each floor mentioning the defects noticed.

The defects recorded by the JE/AE are to be checked by SE from time to time and the signatures of the construction agency to be obtained in token of proof that the defects recorded in the register are in his knowledge.

The Senior Officers i.e. EEs/SEs are expected to check this register regularly during the inspections and get the defects rectified by proper monitoring. In case the construction agency does not undertake the rectification of the defects, the same should be got rectified, under clause 14 of the agreement, through a separate agency if necessary.

For better monitoring and maintaining record of defects in the register it is suggested that:

1. Numbering of flats from the foundation stage is a must. In case numbering plan is not issued by the architect Wing of DDA, EE should prepare numbering plan of his own for the purpoe of construction work.
2. Sufficient number of pages should be kept for all defects of a particular flat/block.

The format of the defect register is enclosed for reference.

SEs/EEs should ensure that this circular is got delivered to all AEs & JEs for strict compliance and proper monitoring.

(DEEPAK NARAYAN)
Chief Engineer (QC) Cell.

Copy to:
1. Vice Chairman, DDA.
2. Engineer Member, DDA.
3. All CEs.
3. All SEs/EEs.

DEFECT RECTIFICATION REGISTER

1. NAME OF WORK
2. NAME OF AGENCY
3. EST. COST
4. TENDERED COST
5. PATS OF START
6. STIPUL. DATE OF COMP.

S. No.	Ref to INSP Report			Item of work	Location of Defect	Nature of Defect			DATE OF INSP.				Date of Rectification		Certificates			Remark
	Block No	Flat No	Floor			Defect	Improvement	Deficiency	JE	AE	EE	Cont	JE	Cont	JE	AE	EE	

DELHI DEVELOPMENT AUTHORITY
(QUALITY CONTROL CELL)

No.CE(3)/QC/DDA/1393 Dated: 21/7/94

CIRCULAR No. 71

Sub: Sampling of water for testing for construction purposes.

It is observed that the samples of water being collected and sent to QC (Lab) for testing don't meet the requirements of IS: 3025-1987. In order to make the testing of water samples to ascertain fitness for construction purposes, effective and useful, it is enjoined upon all concerned to ensure that the correct procedure for sampling is followed and full information is provided along with the water sample sent for testing.

All samples collected and sent for testing to QC(lab) must fulfil the following conditions:

I Sampling:

The sample should be collected in leakproof glass or plastic containers which should be thoroughly cleaned before use for sampling and sealed before sending.

II Sampling Information:

1. Place of sampling indicating source of water and location of tap, open well or bore well etc.
2. Time and date of sampling.
3. Approximate depth of well/bore well in case the sample is from a well/bore well.
4. Name and designation of the sampling staff/Officer.
5. Purpose of sampling.

III. Quantity:

A minimum of 750 ml. of water must be sent for testing of water for construction purposes.

Deepak Narayan 30/6/94

(DEEPAK NARAYAN)
Chief Engineer (QC)

Copy to:

1. Vice Chairman, D.D.A.
2. E.M., D.D.A.
3. All zonal Chief Engineers/D.D.A.
4. All S.E.'s/D.D.A. i/c SE (QC).
5. All E.E.'s/D.D.A. i/c EE's (QC).

DELHI DEVELOPMENT AUTHORITY
QUALITY CONTROL CELL

NO. F.CE (3) QC/DDA/1734-43 DATED 26/8/94

C I R C U L A R NO 132

SUB :- Use of red sand stone/white sand stone in Commercial Building in DDA.

Red sand stone and white sand stone in flooring and cladding is used quite extensively these days in the works in DDA.

It has been decided that only rough dressed chiselled sand stone shall be used in flooring in paving in areas open to sky and in, cladding in normal cases. Fine dressed stone flooring may continue to be provided in verandahs, steps etc. where absolutely necessary.

In exceptional cases where Chief Architect considers provision of fine dressed white sand stone/red sand stone essential as per architectural concept, it may be sepcifically brought to the notice of the Screening Committee and approval obtained therefrom.

This issues with the approval of V.C.

29/8/94

(DEEPAK NARAYAN)
Chief Engineer (QC).

Copy to :-

1. E.M. DDA
2. Chief Architect, DDA
3. Commissioner (Planning)
4. All Chief Engineers.
5. S.E. (QC).

DELHI DEVELOPMENT AUTHORIY

QUALITY CONTROL CELL

NO. CE (3) QC/DDA/1776 Dated 7/9/94

C I R C U L A R 133

Sub:- Testing of materials in quality control laboratory at Asian Games Village Complex, New Delhi.

It has been observed that the number of samples of building materials being sent for testing by the field staff to the Quality Control Laboratory has considerably reduced during last few months. As such the facility of in house testing available free of cost is not being fully utilized. All Executive Engineers may kindly ensure that in addition to getting the materials tested in the Laboratories set up by the various Zones, at least 25% of the tests be got done in the Quality Control Laboratory of DDA, for tests for which facilities exist in this Laboratory. Special attention may kindly be given to ensure that atleast 25% of the concrete cubes are sent to QC lab for testing by the field staff.

Deepak Narayan 7/9/94

(Deepak Narayan)

Chief Engineer (QC)

Copy to:-

1. V.C.
2. E.M.
3. All Chief Engineer
4. All S. Es.
5. All E. Es.

DELHI DEVELOPMENT AUTHORITY
OFFICE OF CHIEF ENGINEER(QUALITY CONTROL)

CIRCULAR NO. 134

Subject:- Improving quality of R.C.C. - Collection of concrete cube samples and slump test by field Executive Engineers/Supdg. Engineers.

While inspecting the RCC works, it has come to the notice of the undersigned that concrete cubes at various sites are not being properly taken, there is lack of control of water cement ratio and at certain sites even the tamping rods for filling concrete cubes have not been found.

It is considered necessary that the field Executive Engineers/Supdg. Engineers may at least once during the month get the concrete cubes filled in their presence and also check the concrete slump during inspections so that the quality of concrete could be improved. It may also be ensured that proper testing equipment is available at site for concrete cubes and slump test and that these are regularly done in an appropriate manner.

In addition SEs may also inspect the shuttering work frequently which has been found sub-standard during the inspections of Quality Control Cell at several sites. In addition there has also been lack of supervision by AEs/EEs of concrete works. Adequate supervision may be ensured in addition to mandatory inspections and approval of concrete shuttering at sites by EEs/AEs.

Proper non-leaking joints in shuttering and adequate compaction of concrete should also be ensured. Use of plate vibrator and kraft paper at shuttering joints should be encouraged.

At present information regarding the concreting programme in respect of dates of casting of RCC beams slabs flooring etc. is not being given to EEs of Q.C. Wing, inspite of necessary instructions issued by E.M. and undersigned. It is once again requested that special efforts should be made to continue with concreting on the date of inspection by Q.C. Wing officers. Concreting programme should also be intimated in advance to EEs of Q.C.Wing either in writing or telephonically to enable this office to take larger number of Concrete cubes samples, slump etc. for improving quality of concrete in D.D.A.

All SEs may kindly inform the undersigned of the number of concrete cubes filled up in the presence of LEs/SEs [illegible] in the various Circles during the period Jan.-March, 1995 to know about the extent of higher level supervision of concrete works. Subsequently this figure may be intimated quarterly beyond April, 1995.

Deepak Narayan 8/2/95

(DEEPAK NARAYAN)
CHIEF ENGINEER (C.C.)

Copy forwarded to:-

1. V.C.
2. E.M.
3. All Chief Engineers, who may kindly ensure following of above instructions at site.
4. All Supdg. Engineers, for necessary action
5. All Executive Engineers for necessary action.

DELHI DEVELOPMENT AUTHORITY
(QUALITY CONTROL CELL)

NO.CE(QC)/DDA/ Dated:-

C I R C U L A R NO. 135.

Subject: USE OF ISI MARKED TERRAZO TILES.

It is for the information of all concerned that I.S.I. marked terrazo tiles are available in the market and it should be ensured that such ISI marked terrazo tiles alone are used in DDA works.

Deepak Narayan 21/2/85

(DEEPAK NARAYAN)
CHIEF ENGINEER(L.C.)

Copy to:-

1. V.C.
2. EM
3. All CEs
4. All SEs
5. All EEs

DELHI DEVELOPMENT AUTHORITY

(QUALITY CONTROL CELL)

NO. CE(QC)/DDA/3/336 Dated : 22.2.1995

CIRCULAR NO. 135

Subject : USE OF ISI MARKED TERRAZZO TILES

It is for the information of all concerned that I.S.I. marked terrazzo tiles are available in the market and it should be ensured that such ISI marked terrazzo tiles alone are used in DDA works.

Sd/-
(DEEPAK NARAYAN)
Chief Engineer (Q.C.)

DELHI DEVELOPMENT AUTHORITY

(QUALITY CONTROL CELL)

NO. CE(QC)/DDA/3/887 Dated : 30.5.1995

CIRCULAR NO. 136

Subject : Fixing of conduits, switch boxes etc. on walls of flats.

It has been observed during site inspection of electrical works that the depth of the chases for fixing of the conduit is not adequate. This results into inadequate covering by cement mortar over the conduit leading to peeling/cracking off of plaster. The curing of cement mortar is also not done adequately on such portions.

It is also seen that the switch boxes being embedded in brick walls are also not fixed properly with and practically no curing is done of repaired cement mortar resulting in insufficient strength.

It is, therefore, enjoined upon all field engineers to ensure that in future all conduits in the walls are fixed at adequate depth. The curing of the cement mortar used for filling up of the chases and fixing of switch boxes should also be done adequately and appropriately.

Sd/-
(DEEPAK NARAYAN)
Chief Engineer (Q.C.)

OFFICE OF CHIEF ENGINEER (Q.C.)
DELHI DEVELOPMENT AUTHORITY

NO. CE(CC)/DDA/3/888 Dated : 30.5.1995

CIRCULAR NO. 137

Subject : Testing of Materials in Q.C. Lab – Repeat Tests.

It has been observed that sometimes the repeat tests of samples of materials which had failed in Quality Control Laboratory at A.G.V.C., Shahpur Jat, New Delhi, were got tested from other Zonal labs of D.D.A.. or outside labs in Delhi. This should be avoided, and testing should be got done from the same lab.

For concrete cubes, specially the tests i.e. 7 days and 28 days test for compressive strength should be got done in the same laboratory.

Sd/-
(DEEPAK NARAYAN)
Chief Engineer (Q.C.)

OFFICE OF THE CHIEF VIGILANCE OFFICER
DELHI DEVELOPMENT AUTHORITY
VIKAS SADAN, NEW DELHI

No. F.26(17) 91-Vig / Dated : 24-1-1994

GENERAL CIRCULAR NO. 1

Sub : REPLY TO THE OBSERVATION MEMOS ISSUED BY THE CTE/Q.C.CELL, DDA.

It has been observed that in spite of instructions issued earlier on this subject by the Chief Engineer (Quality Control) and F.M., DDA, replies to the observation memos/rejoinders issued by the CTE Q.C. Cell are not being sent by the offices concerned within the stipulated period of 45 days. There have been instances where replies have not been received even after three years period. The Vice-Chairman, DDA has taken serious note of it and has directed that CTE Q.C. Cell obserevations must be attended to in a time bound manner, and that the time limit of 45 days should be strictly adhered to.

Sd/-
(P. K. MEHTA)
Chief Vigilance Officer
DDA, Vikas Sadan, New Delhi

Compiled by - DDA Engineers Welfare Council

DELHI DEVELOPMENT AUTHORITY
(QUALITY CONTROL CELL)
****

No.CE(3)QC/DDA/1977 Dated:-22-12-95

CIRCULAR NO.138

Sub : Use of ISI marked items.

It is for the information of all concerned that following ISI marked items are available in the market and it should be ensured that these fittings shall be used in D.D.A. works.

1. Pressed steel door/window frames.

2. CP Brass Bib Cock, CP Brass Angle Valve, CP Brass-concealed stop cock.

Deepak Narayan 22/12/95
(DEEPAK NARAYAN)
CHIEF ENGINEER (Q.C.)
D.D.A

O/C

Copy to:-
1. V.C./DDA for favour of information.
2. E.M./DDA for favour of information.
3. All Chief Engineers, DDA.
4. All Superintending Engineers, DDA.
5. All Executive Engineers, DDA.

(QUALITY CONTROL CELL)

NO. CE (3) QC/DDA/1977 Dated :22.12.95

CIRCULAR NO. 138

Sub : Use of ISI marked Items.

It is for the information of all concerned that following ISI marked items are available in the market and it should be ensured that these fittings shall be used in D.D.A. Works.

1. Pressed Steel door/window frames.
2. CP Brass Bib Cock, CP Brass Angle Valve, CP Brass-Concealed stop cock.

Sd/-
(DEEPAK NARAYAN)
CHIEF ENGINEER (Q.C)
D.D.A

XXXXXXXXXXX

DELHI DEVELOPMENT AUTHORITY
(QUALITY CONTROL CELL)

No. CE (3) QC/95/DDA/2002 Dated 2.1.96

CIRCULAR NO. 139

Subject : Sending of monthly progress reports of horticulture works of works above Rs. 50, 000/-

It has been noticed that the intimation about award of horticulture works and progress report of such works is not being received from horticulture Divisions. Similar information is also not being received from Civil Division, ND- 1 and SWD-5 who have been entrusted with Horticulture works (on Zonal Level)

For more extensive scrutiny of works pertaining to horticulture, it is therefore, enjoined upon all concered that from now onwards the intimation of award of each horticulture works awarded on agreement/ works order/supply order costing more than Rs. 50,000/- shall be sent to concerned EE (QC) with a copy to C.E. (QC), alongwith the progress report of works by 1st week of the month pertaining to previous month. first such report should be sent by first week of January 1996.

The above guidelines be followed strictly.

Sd/-
CHIEF ENGINEER (Q.C)
D.D.A

4. Leaking joints :

Precautions : All pipes to be plugged at the Inspection door bends with gunny sacking and pipes, floor traps and WC pans filled with water to observe and leakage. Water should be poured into the flush pipe with a plastic pipe to observe any leakage at the joints. All joints and pipes to be filled with water and tested before the pipes are covered up.

J. L. PINTO
Addl. Dir. General (Retd.)
C.P.W.D. Govt of India

QUALITY CONTROL MEASURES-2

Sub : WIRE GAUZE

CLAUSE 9.20 OF THE CPWD Specifications stipulates that Wire Gauze shall be of galvanised M. S. wire of IS Gauze designation 85G with wire of diameter 0.56mm or 140G with wire of dia 0.71mm.

I. S. Gauze designation 85G means that the width of the aperture should be 0.85mm while 140G means that the width of the aperture should be 1.4mm. The apertures is the clear opening between wires.

The diameter of the wire should be measured with a Dial type Vernier Calliper. A sample of wire gauze should then be taken and the number of apertutre counted in a length of about 100mm.

Suppose there are 71 apertures in a length of 100mm.

c/c distance of wires = $\frac{100}{71}$ = 1.408 mm

Deduct dia of wire 0.56 mm

Clear width of aperture 0.848 mm say 0.85 mm

The sample conforms to specifications

J. L. PINTO
Add. Director General (Retd)
C.P.W.D
Govt of India
New Delhi

DELHI DEVELOPMENT AUTHORITY

(QUALITY CONTROL CELL)

(3) QC/95/DDA/2064 Dated : 9.1.96

CIRCULAR N0. 140

Subject : Inspection of Electrical works above Rs. 25,000/- pertaining to the iculture Directorate by Quality Control Cell.

With a view to exercise better quality assurance, it has been decided to inspect the electrical being carried out in the horticulture divisions, through contracts/works orders/ supply orders.

It is, therefore, enjoined upon all concerned that from now onwards the intimation of award of electrical work costing more than Rs. 25,000/- shall be sent, to the E.E. (QC) Electrical with a o S.E. (QC), alongwith progress report of the works by first week of the month pertaining to the ous month. First such report should be sent by first week of Feb., 96.

The above guidelines shall be followed strictly, and monitored by SEs (Elect.).

Sd/-

CHIEF ENGINEER (Q.C.)

D.D.A.

XXXXXXXXXX

DELHI DEVELOPMENT AUTHORITY

(QUALITY CONTROL CELL)

CE (3) QC/95/DDA/2065 Dated : 9.1.96

CIRCULAR NO. 141

It has been noticed that some of the Executive Engineers while sending replies to the concerned ecutive Engineer (QC) in respect of Observation Memos/Counter Observation Memo's do not lorse copies to the Chief Engineer (QC)

It is, therefore, enjoined upon all concerned that the copy of the reply in respect of Observation mo/Counter observation memo shall be invariably endorsed and sent to CHIEF ENGINEER (QC).

Sd/-

(DEEPAK NARAYAN)

CHIEF ENGINEER (QC)

DELHI DEVELOPMENT AUTHORITY
(QUALITY CONTROL CELL)

No. CE(3)/QC/95/DDA/2665 Dated : 09-1-96

CIRCULAR NO. 141

It has been noticed that some of the Executive Engineers while sending replies to the concerned Executive Engineer(QC) in respect of Observation Memo's/ Counter Observation Memo's do not endorse copies to the Chief Engineer(QC).

It is, therefore, enjoined upon all concerned that the copy of the reply in respect of Observation Memo/Counter Observation Memo shall be invariably endorsed and sent to Chief Engineer(QC).

Deepak Narayan 8/1/96
(DEEPAK NARAYAN)
CHIEF ENGINEER(QC)

Copy forwarded to:-

1. V.C., DDA.
2. E.M., DDA.
3. All Chief Engineers, DDA.
4. All SEs/DDA and Director(Hort.)(North) and (South),DDA.
5. All EEs, DD(HORT.), Jt. Director(HORT.), DDA.

OFFICE OF THE CHIEF ENGINEER (QC)
QUALITY CONTROL CELL
DELHI DEVELOPMENT AUTHORITY
VIKAS SADAN : NEW DELHI-23.

No. CE (3) QC/95/DDA/2158 Dated :22.1.96

CIRCULAR NO.142

Subject : Common defects deficiencies in Electrical works.

Following defects are being commonly observed in electrical works during Quality Control inspections.

A. DEFECTS IN WORKS.

1. During the casting of R.C.C. slabs the PVC/M.S. conduits are not being tied up properly with reinforcement with binding wire, giving rise to possibility of dislocation of conduit Joints and consequent chockages later on.
2. PVC cementing compound is not properly and adequately applied for PVC conduit joints.
3. Knock-outs are observed to be of different sizes in the switch boxes as compared to the size of terminating conduits.
4. Depth of wall chase is not adequate to embed down conduits properly. Even the clamps are not provided at specified distances for holding conduits.

B. DEFICIENCIES IN AGREEMENTS

1. Double page numbering exist in the agreements in certain cases.
2. Blank spaces in the agreement ate not authenticated.
3. Instruction to the EE, i.e. PWD From 6 is made part of the agreements.
4. Rates of items are not mentioned in words in the agreements.
5. Units for various items are not mentioned and in some cases wrong units are mentioned in the agreement.
6. Out of both clauses 10Cand 10 CC, the inapplicable clause is not deleted in the agreement.
7. It has been noticed that representative of contractor or JE of the site staff are not present at the time of roof casting to ensure proper laying of conduits in roof.

All concerned are requested to ensure that the above points are taken care of and are not repeated in future.

Circular No. 127 issued vide No. CE (3) 94/ QC/DDA/ 1495 dt. 23-2-1994 regarding defects in works and Circular No. 136 issued vide No. CE(QC)/DDA 3 597 dt. 30-3-1995 shall continue to be followed.

Sd/-
(DEEPAK NARAYAN)
CHIEF ENGINEER (Q.C.)

Dated : 27.12.96

DELHI DEVELOPMENT AUTHORITY

(QUALITY CONTROL CELL)

NO. CE (QC)2/DDA/3/1440

CIRCULAR 143

Subject : Revised practice for sending Q.C. cubes 'Samples to Q.C. Lab for testing.

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C.P.W.D. specifications 1996 Vol. I to VI have become applicable to DDA works with effect from 1.4.96 as per EM's Circular No. 489 dated 3.4.96

The revised specifications as above, inter-alia also contain a modified acceptance criteria for C.C. cube test results at 7 days and 28 days.

A brief comparative statement of the essential features of the said provision as contained respectively in 1977 and 1996 version of C.P.W.D. specifications is enclosed herewith.

While, all the future works in DDA shall be based on the said revised C.P.W.D. specifications 1996, it is likely that this specification has already been adopted for some of the works currently going on .

Further, it has also been experienced that the current practice of numbering a particular set of the cubes sent to lab, simply as C-1, C-2, C-3 etc. is not sufficient in as much as the some do not indicate the progressive S. No. of any particular set of the cubes under consideration.

It is, therefore, necessary that each set of C.C. Cubes pertaining to specific work is accorded a progressive number of the set and 1, 2, 3 where '15' denotes progressive number of the set and 1,2,3 indicate individual number on the cubes pertaining to set No. 15.

Accordingly, it is decided that hence onward, a slightly modified procedure shall be followed for collection at C.C. Cubes samples and sending the same to Quality control Lab for testing.

1. Following details shall be inscribed on each of the C.C. Cubes sent to Lab. for testing.
   (i) Progressive set no. /individual sample no. viz. 15/1,15/2, 15/3 as dealt above.
   (ii) Mix of the concrete.
   (iii) Date of sampling.
   (iv) Initial of the person collecting the samples.
2. Progressive set no. /individual sample number as mentioned above as work as the initials of the official collecting the samples letter against its column no. 16 i.e. Mark on specimen.
3. The C.P.W.D. specifications as applicable (1977 or 1996) shall be indicated against the "Remarks" column in the requisition.

The above procedure shall be followed scrupulously by all field staff including Quality Control Units while sending cube samples to Quality Control Lab for testing.

Sd/-
(DEEPAK NARAYAN)
CHIEF ENGINEER (Q.C.)
D.D.A.

As per C.P.W.D. specifications 1977 Vol. I.

Para 5.4.10.3 - 7 days test

The average strength to be accepted provided the difference between maximum and minimum strength >15 % of average strength.

If the difference >15% of average strength, 28 days test shall be required unless the, minimum strength > specified strength.

Para 5.4.10 -28 days test

The acceptance criteria shall be as follows

It the average strength ≥ specified, the concrete shall be accepted at full rate.

If the average strength < 75% of specified, defective portion of the work to be rejected, the relevant work and structurally connected work dismentled and reduce at risk and cost of contractor.

The average strength shall be worked out by excluding the cubes which give individual strength > 90% above or below the average of three cubes

As per C.P.W.D. specifications 1996 Vol. II

Para 5.4.10.3 - 7 days test

Sampling :- The average strength to be accepted provided the variation in strength of individual specimen > (±) 15 % of the average strength & the difference between maximum & minimum > 30% of average. If the difference is > 30% of average, 28 days test shall be carried out.

If the average strength = specified or more upto 15% strength shall be taken as in order.

In case, the average strength < specified or > specified by 15%, 28 days test shall be carried out.

5.4.10.4 - 28 days test

(a) The average strength to be accepted provided the strength of any individual cube ≯ 70% & > 130% of the specified strength

(b) If the average strength > 130% of specified strength, Engineer-in-Charge, if he so desires, may investigate the matter. However, if strength of any individual cube > 130% of specified strength, it will be restricted to 130% only for computation of strength.

(c) If the actual average strength of accepted sample > specified strength upto 30% strength of concrete shall be considered in order and accepted at full rate.

(d) If the actual average strength < specified strength but ≯70% of the specified strength the concrete may be accepted at reduced rate at the discretion of Engineer-in-Charge

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER(QC)

****

No.CE(QC)/DDA/3/2166. Dated:-15-7-97

Circular No.144

Sub: Structural steel work indoors/windows/ ventilators/composite units.

As observed by Quality Control Cell wing during inspections, the following kinds of defects and deficiencies are still continuing in structural steel work inspite of Circular No.CE(3)/Circular/3413 dated 19.8.88 regarding STEEL DOORS AND WINDOWS.

(i) The frames of doors/windows/ventilators are not flush butt welded nor are factory made in approved workshops. As a result, the quality of welded joints is far short of what has been laid down in para 10.10.2.1 of CPWD specification 1977 Vol.I read with correction slip No.32 dated 12.2.87 and CPWD's Quality Control Circular No.2 of 1993.

(ii) Even in cases of major works, the quality of structural steel is not got tested to ascertain its conformity to the relevant IS Code(latest Code being IS:1977 as mentioned in para 10.1.1.4 of CPWD specification 1996 Vol.III), which is so very essential to guard against use of sub-standard material which can not be figured out by visual inspection.

(iii) The fabricated units are applied a coat of primer without thoroughly removing the rust which normally crops up due to long intervening period between production of the steel sections and fabrication work as also improper storage conditions and weather effects. The inevitable result is that rust re-appears even after the surface has been painted.

(iv) The openings as kept in the window grills for operating the window handles do not quite match to the latter's position and accordingly it becomes a tedious exercise to open and close the windows. Perhaps, following a simple method of approving the sample set of window and grill of each type before allowing fabrication on mass scale, can very easily solve such problems which would otherwise constitute a major irritant for users.

Contd...p/2.....

2. In view of above, it is enjoined upon all the field staff once again to be vigilant on the above aspects of the structural steel work and ensure that the work executed is in conformity with the specification.

3. There is a general feeling that since CPWD specification 1977 Vol.I. (para 10.10.2.1) clearly states that the process of welding adopted may be flash butt welding or another suitable method which gives the desired requirements, it is not necessary to go for flash but welding. This is however a total misconception.

It is well established by observations as also confirmed by B.I.S. that no method of welding other than flash but welding can produce the joints of required performance as laid down in detail under the heading "Requirements of welded joints" in the same para as referred to above.

It is in view of the reasons and facts as above that CPWD Specification 1996 Vol.III para 10.10.2.1 which is relevant to DDA works as well, allows only flash butt welding for fabrication of steel doors, windows, ventilators and composite units frames.

The provision of the specification as above may accordingly be implemented without any let-up.

Deepak Narayan 15/7/97

(Deepak Narayan)
Chief Engineer (WC)
D.D.A.

Copy to:-
1. EM, DDA
2. All CEs/All SEs/All EEs/All AEs/All JEs, DDA.

HK
15797

दिल्ली विकास प्राधिकरण
DELHI DEVELOPMENT AUTHORITY
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दूरभाष : 4617760 (O)
Phone : 3383747 (R)

दीपक नारायण
मुख्य अभियन्ता (कोटि नियन्त्रण)
DEEPAK NARAYAN
Chief Engineer (Quality Control)

No. CE(QC)/DDA/3/2133-2139 Dated: 8/2/97

Subject: Prevention of Seepage and Dampness in buildings

Dear Shri

As you may be already aware, the buildings constructed by us are generally not free from seepage and dampness at roof level, toilets and kitchen and the problem in varying degree continues to evade an effective solution. It is because of due attention not being paid to the specifications as also the additional technical ciruculars and guidelines issued by this Cell/EM at the time of execution of the work. Similarly, the water supply lines and sanitary installations are not tested against leakage.

The seepage and dampness in government buildings have been inviting bitter criticism from not only public/allottees but Press and Parliament too. The VC/DDA also has expressed his concern over the continuance of such defects and deficiencies which seriously affect the quality of living of the occupants.

In view of above, a consolidated guideline has been prepared by this office, a copy of which is enclosed herewith for your perusal and circulating the same to the field staff up to the lowest supervisory level, for implementation.

Receipt of this letter may kindly be acknowledged.

With regards,

Yours sincerely,

Encl: as above.

(Deepak Narayan) 8/97

All Chief Engineers, DDA.

Subject: Prevention of Dampness & Seepage in Buildings.

1. A large number of circulars have been issued by CE(QC) & E.M./DDA suggesting certain specific measures and precautions to be taken during construction to avoid chances of seepage/dampness in buildings at a later date. These instructions are very comprehensive if fully implemented at site.

2. Some of the important instructions for preventing seepage and dampness in roofs are:

-Proper painting of roof top with bitumen

-Compaction of soil in mud phuska at O.M.C.

-proper mixing of Bhusha with soil for mud plaster and its maturing for 7 days

-Gobri leaping to be done only after mud plaster has dried & cracked

-Mud mortar not to rise in joints of Brick tiles for more than 12mm

-Grouting of joints in tiles with cement mortar 1:3 with water proofing compound

-Concrete for khurras to be laid before construction of parapet & mudphuska;

-Tiles to overlap the concrete of khurra by not less than 7.5cm.

-PVC sheet under khurra to be not less than 400 micron.

-Chase for C.C. gola not to be less than 75mm wide & 75mm deep; Expansion joints to be provided in gola at every 3.5/4.5 mtr. and filled with mixture of cement, coarse sand & bitumen; C.C. coping to be provided atop the masonry parapet with slope towards inside.

-Care to be taken that mudphuska & C.C. gola are provided under and around the roof tanks positively before providing supporting arrangements for these tanks.

3. Some important details to be ensured for proper laying of floor traps are:

-The dimension of floor trap to be strictly as per IS Code.

-Floor traps with outlet constructed to be outrightly rejected and removed from site forthwith.
-The depression in RCC slab for fixing floor trap to be adequate.

-The top of floor trap to be not more than 15mm below the finished floor level.

-The F/trap to be encased with C.C. 1:2:4 in the manner as described therein. -Discharging of one F/trap into another to be avoided.

-The pipe from F/trap to the stack to have a slope of not less than 1 in 50.

-Collar joints to be avoided in the pipe from Floor trap to the stack.

-Smoke test to be carried out before covering the Floor trap and pipe connecting to stack.

4. Important measures which are required to prevent seepage from toilet, bath & kitchen are:

-The depressed portion to be treated with 1:3 plaster and bitumen painting.

-In European type WC pan, pipe socket to be fixed properly to project above the floor.

-Indian type WC pan outlet to be properly seated over the trap and joints properly filled up.

-At first, only false laying of pipeline and WC pan to be done with temp. packings and level to be checked and corrected w.r.t. final finished floor level.

-After WC pan is fitted and joined with P/S trap, Cement concrete block 1:2:4 to be put around the joint and depressed portion filled up.

-Each toilet to be checked for the above operations and entry to be made in the site register.

-All waste pipes to discharge separately, connected to a common pipe outside the wall leading to the stack.
-No flooring to be laid till the joint is properly checked and to comply with this, a proper record to be maintained at site.

-Testing of water supply, sanitary and drainage lines, needs special care and implementation. Testing register should be maintained at site.

5. It has, however, been observed that the methodology, instructions and guidelines as

detailed above and in CPWD specification which forms part of the agreement are not being strictly followed by field staff during constructions. As a result, the problems of seepage and dampness continue to exist in varying degree in almost all the buildings being constructed by DDA, thus inviting criticism from allottees as also from the Press and Parliament, at times.

-In view of above, it is hereby decided that hence onward, the works relating to the internal water supply lines and sanitary installations shall be subject to following additional checks and controls.

i) Plumbing details shall be finalised latest within 2 months of award of the work and shall be approved in writing by the SE before commencement of such works.

ii) Similarly, the layout of the sanitary pipes under floor including floor traps as also the vertical stacks shall be finalised latest within 2 months of award of the work and shall be approved in writing by the S.E. before the related works are taken up.

iii) SCI pipes to be used under floors and in vertical stacks as also the fittings, P/S traps, floor traps etc. which are brought to site by the contractor shall be put to smoke/hydrostatic test to sort out the defective pieces which shall be removed from the site forthwith.

iv) Unless the individual pipes and fittings/traps are found satisfactory after test as above, secured advance shall not be released. Similarly, payment for finished items relating to internal water supply and S/I shall be released only after the lines have been tested against leakage by hydrostatic method as mentioned at para (vi) (a)&(b) below.

v) All the joints in SCI pipes and fittings including those between WC pan out-let and P/S-trap, shall be test checked to the extent of cent percent by J.E. & A.E. individually, and not less than 25% by E.E. and shall be so recorded flat/block wise and datewise in a register to be maintained for the purpose.

vi) No flooring or dado work shall be allowed unless both internal water supply lines and sanitary pipes/traps under floor have been subjected to hydrostatic test as detailed below.

a) The internal water supply lines shall be subjected to specified pressure with hydraulic pump with pressure gauge to ensure that the entire system is water tight.

b) The entire sanitary system shall be subjected to hydrostatic test by plugging all the out-lets from

the first manhole upto the WC pan/floor traps at the top most floor, filling the vertical stacks with water up to top and leaving the same in this condition for at least 7 days to detect if there is any leakage any where in the system and carry out the rectification accordingly.

vii) The test check of the hydrostatic test as above shall be carried out to the extent of cent percent by JE, AE individually and 25% by EE and shall be so recorded flat/block wise and datewise in the Register to be maintained for the purpose. SE shall also carryout random check of hydrostatic test to the extent of not less than 10% and record his observation in the said register.

viii) The flooring as also the dado works in bath, WC & kitchen shall be allowed only after clearance is given in writing by the EE through site order book in the following language, "Certified that hydrostatic test has been carried out for both Internal Water supply lines and sanitary system and the work can be considered as acceptable against leakage. The flooring in Bath, WC & Kitchen of flat/block nos.....can accordingly be taken up as also the dado work to conceal internal plumbing works."

ix) The EE shall also ensure that the plumbing and sanitary works are executed by licenced plumber and in case any serious short-comings are noticed in the quality and workmanship of the work executed, he may exercise his discretion to cancel the licence of the concerned workman with circulation to all the other divisions.

x) Wherever shaft has been provided in the drawing for housing GI lines and SCI pipes, care shall be taken that proper and durable working platform is provided at each floor to provide access facilities for attending to repairs at a future date.

xi) In order to avoid dampness on the other face of the four walls comprising the shaft, it would also be advisable to provide a coping slab at its top with inside projection of about 100mm to avoid chances of rain beats on the internal surface of the shaft.

6. The above instructions shall be followed without any exception and non-compliance of the same may attract serious administrative action against the erring officials.

OFFICE OF CHIEF ENGINEER(QC)CELL
DELHI DEVELOPMENT AUTHORITY

NO:CE(QC)/3/DDA/Circular/2000/444 Dated: 6/7/2000

CIRCULAR NO: 145

As per the existing conditions in the agreements of the work being executed in DDA, the materials bearing ISI Mark have to be used in the work in case the same are available in the market. However, it has been observed during inspections of the works by the Quality Control Cell that in some of the works non ISI Marked steel windows and ventilators are being used inspite of the fact that ISI Mark steel windows are available in the market. A list of the manufacturers holding license to manufacturer ISI Marked steel doors windows and ventilators has been obtained from the BIS and is given hereunder:-

IS 1038: 1983

Title: STEEL DOORS, WINDOWS AND VENTILATORS

S.No.	Name and Address	Manufacturer	License No.
1.	A.R. INDUSTRIES 109, NAVYUG MARKET GHAZIABAD 201 001	SS (Small Scale)	8097586
2.	AVA STEEL INDUSTRIES SUKANTA NAGAR (NEAR JANAKALYAN ASHRAM), POST: RABINDRA SARANI, SILIGURI, SILIGURI, WEST BENGAL, 734 406	SS	5046857
3.	B A ENTERPRISES SOUTH STATION ROAD AGARPARA(SOLPATABAGAN)	SS	2016126
4.	MODERN FABRICATORS 23 J, RADHAMADAV DUTTA GARDEN LANE CALCUTTA 700 010	SS	1339650
5.	MADHU INDUSTRIES L-59, MAVALLI TANK BUND ROAD BANGLORE 560 002	SS	0792160

contd/...2.

SKK

6. METAL WINDOW CORPORATION 29/1, GALI NO.6, NEW ROHTAK ROAD INDUSTRIAL AREA: NEW DELHI-110005	SS	8252875
7. STEEL ENGINEERS 203, KAGIGURU RAVINDRA PATH KANCHARAPARA 24, PARGANAS (WB) 743145	SS	2151334
8. STEELFX INDL. CORPN, 154, LENIN SARANI CALCUTTA 700 013	SS	1478361
9. STEELCO RATU ROAD RANCHI, BIHAR 834 001	SS	5105847

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It must be ensured that only ISI Marked steel windows and ventilators are used at site. In addition to above, the instructions contained in Circular No.121 dt. 12.7.93, issued by this office may also be followed.

CHIEF ENGINEER(QC)CELL
DDA

Copy to:-

1. VC, DDA.
2. EM, DDA.
3. All CEs.
4. Project Managers/Fly Over I & II.
5. Director(MM).
6. All SEs.
7. All EEs.

CHIEF ENGINEER(QC)CELL
DDA.

DELHI DEVELOPMENT AUTHORITY
CHIEF ENGINEER (QC) CELL
VIKAS SADAN : I.N.A. N.DELHI.

No.CE(QC)3/DDA/Circular/2001/859 Dated :- 7/9/01

CIRCULAR NO. 146

In order to ensure uniformity & reliability of the tests required to be got done from the outside laboratories, V.C. DDA has approved the empanelment of the following laboratories for this purpose :-

1. National Test House, Gaziabad.
2. National Council of Cement & Building materials, Ballabgarh.
3. Regional Test Centre, Okhla.
4. Shri Ram Institute for Industrial Research, Delhi.
5. National Test House, Calcutta.

It is, therefore, enjoined upon all the concerned to ensure that henceforth the samples for the tests to be got conducted by any of the units of D.D.A.are sent only to the above approved laboratories and not to any other laboratory.

(MAHESH CHANDRA)
CHIEF ENGINEER (QC)
D.D.A.

Copy to :-

1. O.S.D. to V.C., DDA
2. Engineer Member, D.D.A.
3. All CE's, D.D.A.
4. All SE's, D.D.A.
5. Director (MM)& Project Managers, Fly Over Project I & II, D.D.A.
6. All EE's D.D.A.

Chief Engineer (QC)
D.D.A.

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DELHI DEVELOPMENT AUTHORITY
(QUALITY CONTROL CELL)

No.CE(QC)3/DDA/Circular/2003/77 Dated: 7/3/03

CIRCULAR NO. 147

SUB: **Acceptance of substandard work – Reduction Item Statements.**

Various circulars have been issued on this subject by this cell, but it is observed that defects in the works noticed during progress of work are not pointed out in time by the J.Es/A.Es/E.Es for getting the defective work dismantled and redone.

1. The necessary action for rectification of defects, replacement of sub-standard fittings and fixtures and reconstruction of defective work should be taken immediately as and when noticed by field staff i.e. JE, AE & EE. All details to be listed in defect register and should be monitored by EE and SE regularly and invariably during their site visits.

2. During the course of inspection by Q.C. Cell, it is observed that rectification/replacement of defects/sub-standard fixtures and fittings and reconstruction of sub-standard work as pointed out by the Q.C. Cell at some places and similar defects at other locations are not being attended timely. Reductions/deductions for such defective work should not be resorted to during the progress of work or contract being alive.

3. The power to accept sub-standard work by SE/CE at reduced rates should be used judiciously in accordance with guidelines contained in Section 31 of CPWD Manual Vol.II and should be resorted to only for those items where it is structurally impossible to get the work redone.

4. Q.C. paras' compliance report should contain the details of Quantum of rectification, replacement, reconstruction done and yet to be done. It seems that the marginal recoveries limited to areas inspected by Q.C. Cell is being resorted to. Such practice may encourage agencies not to rectify the defects or replace the sub-standard fittings, fixtures.

5. In future replies of field officers, proposal of acceptance of RIS shall not be accepted by Q.C.C. unless the detailed reasons and circumstances for acceptance of sub-standard work, are received from SEs/CEs.

7/13/13

(R.C. KINGER)
CHIEF ENGINEER (QC)
D.D.A.

Copy to:

1. OSD.to VC/DDA for information of latter.
2. P.S. to E.M. for information of latter.
3. All CEs, DDA.
4. All SEs with 10 spare copies for circulation among their EEs.
5. Director(MM) & PM(Fly Over) Gr. I & II.
6. Director(Hort.) North & South.

7/13/13

CHIEF ENGINEER (QC)

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (QC)

No.CE(QC)/3/DDA/Circulars/2003/83 Dated: the 24 March, 03.

CIRCULAR NO. 148

SUB: Quality Assurance in DDA – Recording of observations on Quality Aspects by Senior Officers.

During inspections by Quality Control Cell, it has been observed that the instructions of E.M. are not being followed by SEs and CEs in general. Regular desired frequency inspections are not conducted by SEs and CEs. In most of the cases the inspections are conducted but no instructions are issued through inspections Register or inspection Notes.

The matter of not inspecting the works with desired frequency is being brought out into the notice of SEs and CEs through O.Ms wherever required but no satisfactory compliance is received from SEs/CEs. After the project is completed a standard reply is received stating that the work was inspected by SE & CE quite frequently but no inspection note was issued.

It is also observed that wherever inspections are conducted instructions mostly relate to accelerate the progress or some points of works programme and do not refer to any defect or quality of work.

It is imperative that the inspecting officers exercise control on quality of work right from the beginning regularly and clear instructions are issued in this regard. It is also necessary that instructions of E.M. are followed strictly and inspections by senior officers conducted at frequencies not less than the minimum frequencies specified in E.M.'s circular Nos. EM1(10)96/6962-70 dated 30.4.96, EM1(10)96/6413-22 dated 17.4.96, EM1(10)/96/7926-30 dated 24.5.96.

The attention is drawn towards V.C./DDA Circular dated 10.7.96 also which stipulates that:-

"All field visits must be entered in Site Book/Inspection Register. Any visit which is not recorded in Site Book/Inspection Register or any inspection for which inspection note has not been issued would not be treated as authentic or genuine."

It is, therefore, enjoined that all CEs/SEs during their inspection record observations on Quality and other important aspects in the Inspection Registers. If for some reasons, the CE is not in a position to do so, he may direct his EE to record his observation in the Inspection Register and sent a copy of those observations to CE by way of confirmation. Alternately the officers may issue inspection notes, copies of which should be pasted in the I.R. It will be the responsibility of the EE to ensure that the observations of the inspecting officer for each and every visit are available in the I.R. either through recorded notes or through pasting inspection notes.

It is also necessary that observations recorded in the I.Rs are reviewed during subsequent inspections to ensure their compliance.

Non-compliance of the above instructions will be reported to E.M./V.C., DDA for suitable action.

24/8/03

(R.C. Kinger)
Chief Engineer(QC)/DDA.

Copy to:

1. OSD to VC, DDA, for information of latter.
2. P.S. to E.M. DDA, for information of latter.
3. All C.Es./DDA.
4. All SEs (with 10 spare copies for circulation among their EEs)
5. Director(Hort.)North, South.
6. Director(MM), PM(Flyover) Gr.I & II.

24/8/03

Chief Engineer(QC)/DDA.

DELHI DEVELOPMENT AUTHORITY
QUALITY CONTROL CELL

EE (QC) (3)/DDA/Circular/2004/ 129 **Dt** 6/10/04

CIRCULAR NO. 149

Sub:- (1) Testing of Water Supply, Sanitary and Drainage pipe installations.
(2) Testing of Water Supply and Sewer lines.

During various inspections of sites, it has been noticed that due importance to the testing of water supply, sanitary& drainage pipe installations as well as water supply & sewer lines is not imparted by the site staff. In general this item is not executed during the execution & invariably left to be done after completion of the whole work. Due to this inspection teams of Quality Control Cell are unable to ascertain and verify or comment for deficiency in joints work. In this context, reference is invited to Circular No 120 Dt.22.6.93 and Circular No.110 Dt.25.6.90 (issued by CE,QC) wherein various details on above cited subject have been circulated for information of concerned officials.

In view of above, it is again reiterated that the checking/testing should be done without waiting for completion of the whole project but along with their construction/laying so that defects if any are detected and attended at appropriate time. Relevant paras highlighting the procedure thereof in the CPWD specifications should be meticulously adhered to. A register keeping details of all such tests of lines (stage wise) conducted in the presence of AE/JE with at least 10% Test Checked by EE, should be maintained by the AEs/JEs. This register should be readily available at site for the Inspection Teams.

(Er.R.C.KINGER)
CHIEF ENGINEER
Q.C.C./ D.D.A.

Copy to:-

1. OSD to VC, DDA for kind information of the latter.
2. PS to EM,DDA for information of the latter.
3. All CEs/DDA
4. All SEs for information and for circulation among their EEs.
5. Director (Hort.) North & South.
6. Director (MM). PM/FOMC, Gr.-I & II.

CE(QC),DDA.

OFFICE OF THE CHIEF ENGINEER
QUALITY CONTROL CELL
VIKAS KUTEER:DDA:NEW DELHI.

No.F.74(1)CE(QC)/E/Cir./2613 Dt:- 11-2-87

C I R C U L A R N O. 5.

During inspection of various electrical works by this Cell, the following discrepencies are being observed repeatedly:-

1. As per para 1.1.4 of the CPWD specifications internal (Part-I), the light ckt has to be brought to the nearest switch box but this specification is not being followed strictly by the field staff.

2. Para 1.4.1.1. of the CPWD specifications internal (Part-I) clearly defines the number of different sizes of PVC insulated Al. conductors, which can be drawn in different sizes of conduit pipes. But this specifications is not being followed strictly by the field staff.

3. Work executed by previous contractors is not described in the agreement. It is, therefore, not understood how the subsequent contractors quote for the residual work. Also the work already executed by the previous contractor is not handed over to the main contractor in a proper manner.

It is, therefore, enjoined upon all the EE's (Elect.), AE's(E) & JE's(E) to ensure that the above defects/irregularities are not repeated.

(J.L.PINTO)
CHIEF ENGINEER(QC).

Copy forwarded to:-

1. PS to VC for information.
2. PS to EM for information.
3. All CE's, D.D.A.
4. All SE's(Electrical), D.D.A.
5. All E.E's(Electrical), D.D.A.
6. All AE's(Electrical), D.D.A.

(J.L.PINTO)
CHIEF ENGINEER(QC).

OFFICE OF THE CHIEF ENGINEER
QUALITY CONTROL CELL
DDA: VIKAS KUTEER: NEW DELHI.

No:-CE/QC/3/Circ/626 Date:- 2/3/84

CIRCULAR NO: 1.

SUB:- QUALITY CONTROL CIRCULARS
(ELECTRICAL TESTING INSTALLATIONS)

It has been observed that the Insulation Resistance, Earth continuity, Earth Electrode Resistance and Polarity tests, as prescribed in C.P.W.D. specifications under chapter-8 Section-I, are not being carried out and recorded in the a register by the Electrical Divisions. Such tests are essential to prevent accidents and to ensure the safety of the occupants.

It is therefore, enjoined on all the Electrical Staff to carry out the above tests meticulously and to record the results in a register before handing over the electrical installations to the allottees. The test results should be recorded by the J.E. and test checked by A.E.(E) and Executive Engineer(Elect.)

(J.L.PINTO)
CHIEF ENGINEER(QC)

Copy to:-

1. All S.Es(Elect.), D.D.A.
2. All E.Es(Elect.), D.D.A.

(J.L.PINTO)
CHIEF ENGINEER(QC).

OFFICE OF THE CHIEF ENGINEER
QUALITY CONTROL CELL
DDA: VIKAS KUTEER: NEW DELHI.

No:- F.74(1)/CE(QC/E/Cir./ 895 Dt:- 4.4.84.

C I R C U L A R NO - 2.

SUB:- QUALITY OF ELECTRICAL WORKS.

Attention is invited to this office Circular No.53 in which the necessity for better supervision of works was stressed. A list of general defects noticed during inspections by this Cell was also circulated.

Though there has been some improvement, many defects are still getting repeated. It is, therefore, enjoined upon all the Officers concerned to take due care and take active measures to control the quality of works strictly as per specifications and to the desired standards of workmanship.

(J.L.PINTO)
CHIEF ENGINEER(QC).

Copy to:-

1. All S.Es(Elect.), D.D.A.
2. All E.Es(Elect.), D.D.A.
3. A.Es(Elect.), D.D.A.
4. E.E.(Q.C.) Elect.
5. A.Es(Elect.) under Hort. Division.

(J.L.PINTO)
CHIEF ENGINEER(Q.C.)

OFFICE OF THE CHIEF ENGINEER
QUALITY CONTROL CELL
DDA: VIKAS KUTEER: NEW DELHI.

No:- F.74(1)/CE(QC)/E/Cir./DDA/896 Dt:- 4.4.84.

C I R C U L A R NO - 3.

SUB:- TESTING OF ELECTRICAL INSTALLATIONS.

The attention of all the field officers is invited to chapter 8, section-I of the CPWD specifications according to which the following four tests are mandatory:-

1. Insulation resistance test.
2. Polarity test of switches.
3. Earth continuity test.
4. Earth electrode resistance test.

During inspections by this cell, it has been observed that while records of the test reports given to the allottees of houses are available, there is no record of these four tests. It, therefore can not be established whether all these tests were actually carried out. This is a very serious matter. It is very essential that the records are maintained at site in proper registers and based on actual results. It is to be ensured that this practice is followed without exception. No bill may be finalised unless these test results signed by the licenced supervisor or engineer of the contractor and J.E. incharge and countersigned by the A.E. incharge are available.

Needless to mention, the test results beyond the acceptable limits are not to be accepted. Defective installations are to be rectified and then only the test report is to be given. In case any test certificate is signed by any officer without going through the records of test results, a serious view will be taken. As this matter is connected with safety aspects, all the S.Es and E.Es are requested to ensure total compliance of these requirements.

There may also be installations where contractors are not involved. In such cases, the appropriate number of required instruments may be procured and tests conducted by the J.E. incharge with the help of authorised workmen and the results recorded in the manner indicated above before these are energised.

28/3

(J.L.PINTO)
CHIEF ENGINEER(QC).

Copy to:-

1. All the S.E.s(Electrical), D.D.A.
2. All the E.Es(Electrical), D.D.A.
3. All A.Es(Elect.), D.D.A.
4. E.E.(Elect.), D.D.A.
5. A.E(Elect.) under Hort. Directorate.

28/3

(J.L.PINTO)
CHIEF ENGINEER(QC).

OFFICE OF THE CHIEF ENGINEER
QUALITY CONTROL CELL
DDA, VIKAS KUTEER; NEW DELHI

NO:74(1)CE/QC/E/Cir/2410 DT: 15-9-84

CIRCULAR NO.4

SUB: TERMINATION OF 28 SWG GI EARTH WIRE

It has been observed that the 8 SWG earth wire being used as an earth continuity conductor and earthing lead is being terminated on the switch board through an aluminium thimble crimped on it. This method of termination obviously does not give proper contact as GI wire cannot be compressed by usual methods. In fact, the GI wire is bound to get dislodged from the thimble at times when pulled. The termination if done through a thimble has to be with solder. An alternative method of providing the termination will be by pressing the coiled end of GI wire between spring washers on a bolt/stud and tightening the same firmly with check nut(s). This latter method also is considered acceptable subject to financial adjustments as per contract conditions. In future works, however the above method of termination to be adopted may be specified clearly in the tender document.

15/9

CHIEF ENGINEER (Q.C.)
DDA,VIKAS KUTEER, N.DELHI.

COPY TO:-

1. The Suptdg. Engineer, Electrical Circle No-I,DDA, Jhandewalan, New Delhi w.r.t. his No. SE(E)-I/5(14) 84/2151, dt. 18.8.84.
2. The Suptdg. Engineer, Electrical Circle No-II,DDA, Jhandewalan, New Delhi.
3. The Supdtg. Engineer, Electrical Circle No.III, DDA, Indoor Stadium, New Delhi.
4to7. The Ex. Engineer (E)/Electrical Division No-I,VI,X, XI,DDA, Indoor Stadium, New Delhi.
8 to 13. The Ex. Engineer (E)/Electrical Divn. No.II,III,IV, V & VIII, Mech. & Workshop Divn., DDA, Jhandewalan, New Delhi.
14. The Executive Engineer(E)/Elect. Divn.No.IX, DDA, Admn. Block. Village Complex, Siri Fort, New Delhi.
15. & 16 The Surveyor of Works (E)-I/II,DDA, Jhandewalan, New Delhi.
17. The Surveyor of Works (E)-III, DDA, Indoor Stadium New Delhi.

15/9

CHIEF ENGINEER(Q.C.)

OFFICE OF THE CHIEF ENGINEER
QUALITY CONTROL CELL
VIKAS KUTEER:DDA:NEW DELHI

No.F.74(1)CE(QC)/E/Cir./2613 Dt:- 11-2-87

C I R C U L A R N O. 5.

During inspection of various electrical works by this Cell, the following discrepencies are being observed repeatedly:-

1. As per para 1.1.4 of the CPWD specifications internal (Part-I), the light ckt has to be brought to the nearest switch box but this specification is not being followed strictly by the field staff.

2. Para 1.4.1.1. of the CPWD specifications internal (Part-I) clearly defines the number of different sizes of PVC insulated Al. conductors, which can be drawn in different sizes of conduit pipes. But this specifications is not being followed strictly by the field staff.

3. Work executed by previous contractors is not described in the agreement. It is, therefore, not understood how the subsequent contractors quote for the residual work. Also the work already executed by the previous contractor is not handed over to the main contractor in a proper manner.

It is, therefore, enjoined upon all the EE's (Elect.), AE's(E) & JE's(E) to ensure that the above defects/irregularities are not repeated.

(J.L.PINTO)
CHIEF ENGINEER(QC).

Copy forwarded to:-

1. PS to VC for information.
2. PS to EM for information.
3. All CE's, D.D.A.
4. All SE's(Electrical), D.D.A.
5. All E.E's(Electrical), D.D.A.
6. All AE's(Electrical), D.D.A.

(J.L.PINTO)
CHIEF ENGINEER(QC).