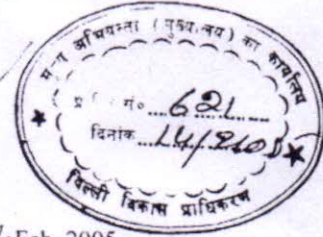


OFFICE OF THE CHIEF ENGINEER (DESIGN)
DELHI DEVELOPMENT AUTHORITY
CENTRAL DESIGN ORGANIZATION



No: CE (D) T/C (1) 2671/COC/DDA/97

Dated: 14 Feb., 2005

Sub: Circular No. 24/CDO issued vide No. CE(D)/T/C/13/84/DDA/37 dated 17.1.2005.

CDO has issued circular no. 24/CDO regarding special conditions for RCC work to be incorporated in the tender documents.

In case computerized plant is not arranged for RCC work by the contractor, ready mix concrete (RMC), shall be obtained from the company approved by the Chief Engineer, as per contents of the said circular.

As per Para 5.11.4.1 (b) & (c) CPWD Specifications 2002, the exact dosage of admixture of a particular brand shall be as recommended by supplier/manufacturer of the admixture, keeping in view the purpose to be performed by the admixture. The maximum dosage of admixture has been restricted under Para 10.3.3 of IS 456-2000. A number of parameters need to be clearly defined for design of ready mix concrete, as per item of work under execution at site. Para 5.8 of CPWD Specifications 2002 deals with design mix/ready mix concrete. Under Para 5.8.8 important parameters such as mixing, mix temperature, supply and placing of ready mix, transportation, pumping methods and equipments, sampling and testing, main constituents, admixtures & requirements of slump, compaction, consistency etc. are defined in detail.

Chief Engineer shall ensure that all the engineers under his control refer appropriately to the relevant paras of IS 456 and revised CPWD specifications 2002 for preparation of NIT for use of Ready Mix Concrete in R.C.C. works.

(R.C. KINGER)
CHIEF ENGINEER (DESIGN)

Copy to:

1. Engineer Member/DDA for kind information.
2. All Chief Engineers/DDA. HO

CHIEF ENGINEER (DESIGN)

ASD
PR open
6/10/05
E-3
14/2
DAD
1(10)2004
16/2/05

1168
15/2/05

OFFICE OF THE CHIEF ENGINEER (DESIGN)
DELHI DEVELOPMENT AUTHORITY
CENTRAL DESIGN ORGANISATION

9:51
18/1/05

No: CE(D)/T/C/13/84/DDA/37

Dated: 17th Jan.,2005

CIRCULAR NO. 24

The following special conditions for R.C.C. work shall be incorporated in the Tender Documents.

1. The cement concrete mix design shall be done either at the site of work or through an approved organization/testing labs.
2. The maximum water cement ratio for a particular concrete grade shall be kept as specified in IS 10262 and shall not exceed the value given in Table 5 IS 456-2000 which are as follows:

M-25	0.50
M-30	0.45
M-35	0.45
M-40	0.40

3. The cement content in any grade of concrete shall not be less than 360 Kg (Port land cement) per cubic meter. Cement shall be preferably of 43 Grade.
4. Workability of concrete shall be as specified in Para 7.0 of IS 456-2000, for all grades of concrete depending on the placing conditions/members.
5. Approved plasticisers/super plasticisers/admixtures conforming to IS 9103 can be used for improving workability and their performance & shall be monitored as per clause 5.5 IS 456-2000 and clause 4.1.3 of CPWD Specifications 2002.
6. No extra payment shall be made for use of plasticisers.
7. Fully computerized Batching plant shall be provided by the contractor at site for preparation of Design mix concrete.

Please circulate
to all EoS &

E/S I
R
18/1

18/1
Pl. get 4 set of this
Circular photo copied
& despatch to all
E.O.S.
18.1.05
DA Sh. Parth

500
20/11/5

- 8. In case computerized plant is not arranged by the contractor, use of Ready Mix Concrete (RMC) obtained from the approved companies based on above conditions shall be permitted.
- 9. Concrete mix shall not be handled twice at the site of work. Either concrete shall be pumped, or through chute or 0.50M³ buckets with crane arrangement for transportation shall be provided by the contractor for placing of concrete.

This issues with the approval of Engineer Member, DDA.

(R.C. KINGER)
CHIEF ENGINEER (DESIGN)
C.D.O./DDA

Copy to:

- 1. VC/DDA for kind information.
- 2. Engineer Member/DDA.
- 3. All Chief Engineers/DDA.
- 4. All S.Es(Civil)/DDA

S Director works

[Signature]
CHIEF ENGINEER (DESIGN)
C.D.O./DDA

No EM/1(10)204/Circular/234

Date 19-1-5

- (1) EOI ^{to EM} ~~(to)~~
- (2) EOI to EM
- (3) EOI to EM

[Signature]
EOI to EM

AS 12

74

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)
CENTRAL DESIGN ORGANIZATION

No: CE (CD) TC (13) 84/ DDA/ 72

Dated: / February 2005

1-2-05

CIRCULAR NO. 25

It has been decided by the Competent Authority that concrete grade M35 shall be adopted for all the future pile foundation works, instead of M25. This change has been made to safeguard against aggressive subsoil/ground water conditions, which normally exist and may not get detected during soil investigations.


(R.C. KINGER)
CHIEF ENGINEER (DESIGN)

Copy to:

1. Engineer Member, DDA for information.
2. All Chief Engineers, DDA.


CHIEF ENGINEER (DESIGN)

78

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)

No. CE (D) TC (13) 2005 / 482


Dated: 27-6-05

CIRCULAR No. 26.....

Circulars for general guidelines and reinforcement detailing in RCC members were issued by CDO vide circular 20 (revised 2003) dt.18.2.03 and vide No.F.21/SE(D)II/Misc(Tech)/CDO/03/58 dated 28.7.2004.

It has been observed by CE(QC) that the said details have not been followed during execution/approving structural designs at zonal level. The specific reference had been made to the NOMINAL COVER which should be provided clear to all reinforcement i.e. clear cover to stirrups, col. Ties/secondary reinforcement.

The sketch showing the provision of nominal cover and other details is being re-circulated (copy enclosed). Chief Engineers may please ensure that these details are made available and followed meticulously at site by their subordinate staff.


(R,C, KINGER)
CHIEF ENGINEER(D)

All Chief Engineers/DDA

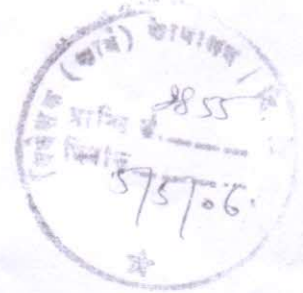
Copy with enclosures to:-

1. E.M., DDA;
2. C.E(QC).


CHIEF ENGINEER(D)
CDO/DDA

/c

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE SUPTDG. ENGINEER (D)II



No:CE(D)TC(13)2005/302

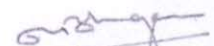
Dated: 3rd May, 2006



CIRCULAR NO. 27

It has been decided by the Competent Authority that in addition to other conditions included in the Structural Drawings for pile foundation works, the following conditions need to be incorporated in the Tender Documents so as to ensure good quality of work :-

1. In case of bored – cast – in situ piles the boring operation shall be done by the rotary or percussion type drilling using DMC or reverse mud circulation method to bring the cuttings out.
2. Concrete grade M-35 shall be used for pile foundation works (refer Circular No. 25/CDO).
3. Provision for ready mix concrete shall be made in accordance with Circular No. 24/CDO and clarifications dated 14.2.2005. Use of weigh-batcher shall not be permitted at all.
4. Temporary liner shall be provided, minimum top 2 m of the pile bore or as per site requirements. Liner shall be withdrawn after concreting by slow rotary action only.
5. **Integrity testing** : All Piles shall be got tested, preferably through Govt. Agency, using low strain integrity testing method. The contractor shall prepare the pile heads for testing of the piles. Test report shall be furnished to Engineer-in-Charge and no extra cost shall be paid to the contractor for the tests. Decision of the Engineer-in-Charge shall be final and binding in this regard.
6. Generally, Portland slag cement shall be used for all the pile foundation works unless required, otherwise, as per table-4 and IS:456-2000. Portland slag cement shall be got tested as per IS:455.



(R.C. KINGER)

CHIEF ENGINEER (DESIGN)

Copy to:

1. Engineer Member, DDA for information.
2. Chief Engineer (H/G)/DDA for necessary action.

Handwritten notes and signatures: AQ 415, CC/107, D/G (10/1), R. Prasad, 27/5/06



CHIEF ENGINEER (DESIGN)

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)
CENTRAL DESIGN ORGANIZATION

No:CE(D)TC)13)2005/CDO/372

Dated:31.5.06

CIRCULAR No.28

Sub: Basic Soil Parameters for Soil Investigation for Construction of Buildings in DDA.

Regarding Soil Investigation works, due attention is not being given by the field Engineers, thereby causing large delays in taking up of new projects. This circular is a reminder to the circulars already issued by CDO, in this connection.

Enclosed is the Preliminary Basic Data required for Soil Investigation. From the perusal of the Data it may be seen that broad aspects of Soil Parameters have been identified to be investigated. However, all Field Engineers are free to conduct any other relevant Test deemed necessary or the extent of the depth of Exploration if deemed essential during the Investigation.

The Type Design of the Foundation shall be decided on the basis of the Recommendations received from the Soil Consultant after scrutinizing relevant Soil Data. The scope of the work must include that the Consultant may have to interact with CDO for finalisation of soil report.

All Engineers are free at their level to add any other information according to the site conditions so that, appropriate Investigations are conducted in the manner stipulated in the relevant IS Code.

Chief Engineers/Superintending Engineers are requested to ensure that field staff follows these instructions meticulously for the soil investigation works.


(R.C. KINGER)
CHIEF ENGINEER (DESIGN)

Copy to:

1. EM/DDA for information please.
2. All Chief Engineers/DDA.
3. All Suptdg. Engineers/DDA.
4. EE(D)I to EE(D)VI/CDO.


CHIEF ENGINEER (DESIGN)

**PRELIMINARY BASIC DATA REQUIRED FOR SOIL
INVESTIGATION FOR BUILDINGS**

1. **INVESTIGATIONS** :-

IN-SITU TESTS :

i) **DCP TESTS** :

DCP tests shall be conducted according to IS Code 4968 Pt.II and other related provisions in various codes. The size of the cone shall be strictly in accordance with the provisions of the IS code. DCP tests is mandatory for cohesive soil and can be treated optional for soil where Rocks, Boulders, Gravels etc. are apparently seen.

ii) **SPT TEST** :

The number of Bore Holes shall be decided on Block to Block basis. Block length shall be assumed between the Expansion Joint which is generally not more than 45 m. At least two Bore Holes shall be provided in each Block.

a) The number of Bore Holes may be increased/decreased depending upon topography/strata identified at the site. Bore hole in the open area within the block (if any) shall be avoided unless deemed necessary.

b) Depth of Exploration for structures where columns are closely spaced (Residential Buildings) shall be as per IS:1892.

i) **Isolated spread footings/Raft Foundations.**

Bore holes to be investigated below foundation level one and a half times the width of the block.

ii) **Piles / Well Foundation**

Depth of Exploration one and a half times the width of the structure below toe of pile.

c) Sub-soil water level shall be identified for each bore hole.

2. **SAMPLING** :

i) **UDS (Undisturbed Soil Sample)** :

UDS shall be collected at every change in the strata and or at intervals not exceeding 1.5 m within the continuous strata as prescribed in IS Code.

ii) **Plate load Test** :

The Plate load Test shall be conducted as per relevant IS Code wherever deemed necessary.

iii) **Chemical Test :**

The Chemical Test of the Soil and Sub-soil water shall be got conducted to identify the presence of injurious chemicals if any, deemed harmful for the Pile/Raft. Chlorides and SO₃ shall be tested for soils and water as per clause 5.4 and 8.2.2.4 of IS 456 : 2000.

iv) **Any other Test :**

Field Engineers are free to undertake / conduct any other relevant test deemed necessary considering the Topography and or the Soil Strata according to the site condition.

3. **LABORATORY TESTS :**

i) All relevant Laboratory Test as are stated in relevant IS code shall be done to work out values in respect of :

a) C, ϕ , Void Ratio, Liquid Limit, Plastic Limit, Sp.Gr., Dry Density, Sat. Density, Bulk Density, Natural Moisture Content and Soil classification etc.

b) In case of Clay Soil, parameters with Ce (compression Index), m_v coeff. Of volume change, Unconfined Compressive Strength etc. shall be worked out and calculations attached with the report.

4. **ASSESSMENT OF SBC :**

The SBC shall be worked out at various levels given as under :-

i) At the anticipated depth of the Foundation for building blocks and below the level of the Lift well, as applicable.

ii) Basement level if proposed in the Plan.

iii) All the calculations in accordance to the relevant provision of IS Codes shall be worked out and attached with the Report. The Net and Gross Safe Bearing Pressure shall be worked out both according to Shear and also according to Settlement Criteria.

iv) **Modulus of Sub-grade Reaction :**

The Horizontal as well as Vertical Modulus of Sub-grade Reaction shall be worked out from the actual Field Tests like Plate Load Test or any other appropriate Test with shape and size corrections.

5. **PRESENTATION OF THE REPORT :**

The report shall include :

- i) Layout Plan showing the Bore holes and Neighbouring Structures. Features like Drains, Ponds if existing within the Plot/adjacent to the Plot shall also be shown in the Plan.
- ii) Appropriate Contour Plan shall be prepared particularly wherever the Ground is undulated.
- iii) Proposed Super Structure Plan shall be imposed on the Site Plan. The location of Bore holes and position of SPT/DCP Test shall be indicated in the Plan.
- iv) A Sketch showing the Elevations of the Ground Levels, Finished Levels, Proposed Plinth Level, proposed Foundation Level shall be attached. All levels shall be referred with respect to relevant GTS Bench Mark.
- v) Grain size distribution graphs shall be invariably attached.
- vi) Bore Log Charts for each Bore hole showing the levels at which the samples were collected in the Format as shown in IS Code 1892 shall be attached.
- vii) Graphical presentation of SPT/DCP values for each Bore holes as prescribed in the relevant IS Code shall be attached.
- viii) Integrated graph showing the SPT Values for each Bore holes to give idea of Soil Profile/Subsoil Water Level to be plotted with common Datum with reference to GTS Mark.

6. **DISCUSSION :**

The Consultant shall evaluate results in the manner deemed fit by him and he shall offer appropriate comments on the results identified and also technically explain the various variation in the results if any. The discussion shall include comments regarding :-

- i) Co-relation between the values of SPT and DCP Tests conducted at different depths.

- ii) Co-relation between Field Value 'N' and the Laboratory Values of Density, Void Ratio, ϕ etc.
- iii) Co-relation between Clay content and the value of C (Cohesion).
- iv) In case of the presence of the Clay content the anticipated effect on Structures shall be specifically discussed and mentioned. Any measures to contain adverse effects if any shall be spelt out.
- v) The anticipated effect if any with reference to salient features like Drain, Pond, filled up Soil, Rock, in the adjoining plot shall be discussed appropriately. The Field Engineers shall also obtain appropriate information of the Safe Bearing Capacity in the adjoining pocket if the same has been built up or is in the process of observation/development.

7. **RECOMMENDATIONS :**

The type of Foundation to be used shall be decided after obtaining clarifications or any other relevant Data deemed necessary at appropriate time in consultation with the consultant. Considering above the consultant shall recommend the Safe, Stable and Economic Types of foundation at the appropriate Depth both for columns in respect of Frame Structure and/or shear walls if provided with reference to the Provisions of relevant IS Codes.

- a) **Raft Foundation :** In case Raft Foundation is recommended the relevant calculations in accordance with the provisions of IS Code shall be attached. Modulus of subgrade reaction as per plate load test with shape and size correction shall be given.
- b) **Pile Foundation :** In case the Pile Foundation is recommended the details as given below shall be part of the report.
 - i) **Type of Piles Bored/Driven**
The type of the pile shall be specified with reference to IS 2911 Pt.1 (Sec.1 to 4).
 - ii) **Capacity of the Pile :**
The Capacity of the Pile shall be worked out according to the relevant IS Codes for compression, uplift, lateral loads. The recommendations shall include Length, Diameter etc. for the piles considering grade of concrete mix as M₃₅.

iii) The resistance to horizontal forces (lateral load carrying capacity) shall be worked out alongwith depth of fixity as per relevant IS Code.

iv) Effect of Negative Skin Friction if any shall be elaborated.

8.

GENERAL:

i) The nature and the Classification of the Cement to be used in the raft/Pile/Pile Caps/Grade Beams consistent with Soil Parameters shall be recommended.

ii) C_u and C_c shall be evaluated at the initial stage in case of loose SP Soils, where water table is high, so as to check the possibility of liquefaction, if any.

iii) Engineer incharge shall ensure that Soil Investigation report is forwarded to CDO by the Chief Engineer (Zone) along with recommendations and Soil data, as required in the Design proforma. Details such as SBC, type of foundation adopted in the adjacent areas and maximum level of water table expected to rise during life time of the structure etc. shall be given.

iv) Contents of the Soil Investigation report shall be authenticated by the field staff.

The Consultant with the prior approval of Engineer-incharge shall be free to conduct any other Field/Laboratory Test to determine and to include any other relevant vital information in his report to justify the Type of Foundation being recommended considering various existing Provisions of IS Code.


(R.C. KINGLER)
CHIEF ENGINEER (DESIGN)

REQUISITION FOR DESIGN WORK
PROFORMA CUM CHECK LIST

1. Name of Work
2. Name of Circle
3. Present position of Work:
 - i) AA & ES Reference No.
 - ii) Technical sanction (Indicate special structural provisions made in the T.S.)
 - iii) Availability of land
4. Name of Division
5. Soil Investigation Report (Attach an authenticated copy)
 - i) Whether subsoil, water level indicated
 - ii) Whether water table likely to rise during the life of the building? If yes, indicate the level.
 - iii) Whether the bore holes are connected to a common bench mark, if not, this may be done.
 - iv) All bore holes data to be represented in one sheet with reference to a common datum indicating soil parameters C, ϕ , N values. (attach such a representation with soil report.
 - v) Has the recommended bearing capacity of the soil been supported with calculations?
 - vi) Whether recommended bearing capacity is available for foundation width 0.9M to 2.4M.

- vii) Has the consultant recommended any special type of foundation?
 - a) If the raft foundation is recommended the modulus of subgrade reaction is to be given with size & shape corrections.
 - b) If the pile foundation is recommended the type of pile and the load carrying capacities for different pile length and diameter are to be given with reference to compression, uplift lateral load alongwith depth of fixity.

Calculations on the basis of the Table of IS-2911(Part-III) and also on the basis of soil parameter as per relevant IS Code.

- 6. 1) Indicate the safe bearing capacity adopted in the adjoining pockets and type of buildings constructed.
- 7. i) Attach a layout plan clearly indicating the depth of earth filling that would ultimately be done at the location of each and every block with respect of finished/formed ground levels.

ii) Minimum and maximum depths from plinth to foundation for each block likely during execution.
- 8. Three sets of Architectural working drawings and the layout.
- 9. Attach a layout plan of the total area super imposing the location of the bore-holes investigated.
- 10. Indicate any special feature of the site such as Open wells, ponds, ditches, abandoned sewers, Septic tanks, natural water sources etc.
- 11. Comments on the recommendations made by the Soil Consultants.

-127-

DELHI DEVELOPMENT AUTHORITY
OFFICE OF THE CHIEF ENGINEER (DESIGN)
14TH FLOOR, VIKAS MINAR, NEW DELHI

No. F11(8)Gen.Misc./EE(D)IV/2008 146

DT: 18-09-08

CIRCULAR NO: 29

Sub: Use of Fe-500 steel in place of Fe 415 steel.

A number of references have been received from various divisions/circles requesting for permission to use Fe 500 grade steel instead of Fe 415 grade steel alongwith corresponding reduction in area of steel to be incorporated. The relevant para of NBC-2005 (Note-I/Table-22/Part 6/NBC) is as under:

"For high yield strength deformed bars of Grade Fe 500, the permissible stress in direct tension and flexural tension shall be 0.55 fy. The permissible stress for shear and compression reinforcement shall be as for Grade Fe 415."

In view of above, the matter has been examined in CDO and decision of the Competent Authority is as under:


- i) In case of non-availability of the Fe 415 grade steel, Fe 500 grade steel may be used, in the interest of work, subject to the following conditions:
 - a) There shall be no change in the dia. and spacing of re-inforcement bars as provided for Fe 415 Grade steel in the structural drawing.
 - b) No financial benefit can be given to the agency for not procuring Fe 415 grade steel.
- ii) Future tender documents may incorporate these conditions.

This issues with the approval of Engineer Member, DDA.

(J.M.Joshi)
Chief Engineer (Design)

Copy to:

1. Engineer Member, DDA for information please.
2. All Chief Engineers, DDA with - 20 extra copies.


Chief Engineer (Design)

13

OFFICE OF CHIEF ENGINEER (DESIGN)
CENTRAL DESIGN ORGANISATION, DDA
14TH FLOOR, VIKAS MINAR, NEW DELHI

F.No.CE(D)TC/(13)/2010/DDA/71

DT: 23-02-2010

CIRCULAR NO. 30

Sub: Use of Fly Ash and Fly Ash blended cements in RCC structures.

EM, DDA is pleased to issue the following guidelines for use of flyash and also use of PPC in RCC structures:

1.0 General

- 1.1 IS:456-2000 Code of Practice for plain and Reinforced Concrete (as amended upto date) shall be followed in regard to Concrete Mix Proportion and its production as under:
 - 1.1.1. The concrete mix design shall be done as 'Design Mix Concrete' as prescribed in Clause-9 of IS 456 mentioned above.
 - 1.1.2 Concrete shall be manufactured in accordance with Clause-10 of above mentioned IS:456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.
- 1.2 Minimum M25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structures.
- 1.3 The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of flyash mixed concrete or concrete using flyash blended cements (PPCs) are not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC.
- 1.4 To control higher rate of carbonation in early ages of concrete both in flyash admixed as well as PPC based concrete, water /binder ratio shall be kept as low as possible, which shall be closely monitored during concrete manufacture.

If necessitated due to low water/binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS:9103. The compatibility of chemical admixtures and super plasticizer with each set of OPC, flyash and/or PPC received from different sources shall be ensured by trials.

- 1.5 In environment subjected to aggressive chloride or sulphate attack in particular, use of fly ash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, fly ash substitution/content shall be limited to 18% by weight. Special type of cement with low C_3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water/binder ratio also need to be given due consideration in such environment.
- 1.6 Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot & arid regions, the minimum curing period shall be 14 days or its equivalent.

2.0 Use of Fly ash Admixed cement Concrete (FACC) in RCC structures:

There shall be no bar on use of FACC in RCC structures subject to the following additional conditions:

- 2.1 Flyash shall have its chemical requirements conforming to siliceous pulverized Fuel Ash as per IS: 3812 (Part 1). The physical requirements etc. shall also conform to IS:3812 (Pt.I). The chemical and physical requirement shall be duly certified.
- 2.2 To ensure uniform blending of fly ash with cement in conformity with IS: 456, a specific facility needs to be created at site with complete computerized automated process control to achieve design quality or with similar facility from Ready Mix Concrete (RMC) plants.
- 2.3 The maximum %age of OPC to be replaced by flyash shall be restricted to 25%.
- 2.4 Separate storage for dry fly ash shall be provided. Storage bins or silos shall be weather proof and permit a free flow and efficient discharge of flyash. The filter or dust control system provided in the bins or silos shall be of sufficient size to allow delivery of flyash maintained at specified pressure to prevent undue emission of flyash dust, which may interfere weighing accuracy.



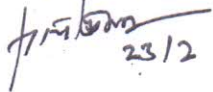
3.0 Use of flyash Blended Cements in Cement Concrete (PPCC) in RCC structures.

- 3.1 The flyash contents in PPC shall not be more than 25% by mass of Portland-Pozzolana cement.
- 3.2 Subject to para 3.1 above and General guidelines detailed out as above, PPC manufactured conforming to IS: 1489 (Pt.1) shall be treated at par with OPC for manufacture of Design Mix concrete for structural use in RCC.

-131-

- 3.3 Till the time, BIS makes it mandatory to print the %age of flyash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be obtained, before allowing use of such cements in works.
- 3.4 While using PPC for structural concrete work, no further admixing of flyash shall be permitted.

It supersedes all the earlier circulars on the subject.


(G.R. Shiromani)
Chief Engineer (Design)


23/2

Copy to:

1. EM, DDA for kind information.
2. All Chief Engineers, Project Manager, (Flyover) for information and necessary information pl.
3. All SEs (Civil) DDA.