

TYPICAL PROFORMAE

Note:

Typical proformae which have been adopted on some of the work sites are attached to give an idea of the structure of these proformae. These are indicative and may be modified, augmented or supplemented according to the needs of a particular work. The proformae are divided into categories :

Category A: Planning Proformae

Category B: Inspection Proformae

Category C: Surveillance Proformae

Category D: Proformae for Registers and Records

Category E: Proformae for Procedural Guidelines of QA System

TEST FREQUENCY SCHEDULE

Specified Material:

Specification:

IS (Relevant)

Consignment Identification Number	Specified Test	Performance standard	Performing agency	QA Agency	Frequency of Performance	Frequency of Assurance	Frequency of Audit
	<p>a) Chemical Properties</p> <p>b) Physical Properties</p> <p>c) Special Requirement (As Specified)</p>						

DATA SHEET FOR SIEVE ANALYSIS - AGGREGATE

SAMPLE NO.	DATE OF SAMPLING
QUANTITY OF AGGREGATE :	METHOD OF TEST
SOURCE :	DATE OF TESTING
TO BE USED IN STRUCTURE :	SAMPLING & TESTING BY
	WEIGHT OF SAMPLE

IS SIEVE NO.	MASS RETAINED	CUMULATIVE MASS RETAINED	% CUMULATIVE RETAINED	ACCEPTABLE LIMIT

REMARKS

Note :

Plot a Grain Size Distribution Curve

Signed
Date

Signed
Date

For Contractor
Name

For Department
Name

FORMWORK INSPECTION CHECK LIST

LOCATION

DATED:

CONTRACTORS' INSPECTION REQUEST NO

YES NO N.A.

CONTRACTORS' DRG OR SKETCH NO.

1. Formwork design/drawing/sketch approved including de-shuttering arrangements
2. Trial panel approved (if required)
3. Formwork alignment correct
4. Formwork levels correct, including screeds
5. Formwork dimensions correct
6. Formwork member spacing correct
7. Formwork member material quality acceptable
8. Falsework member sizes correct
9. Falsework member spacing correct
10. Falsework member material quality acceptable
11. Gaps between primary & secondary members closed/wedged.
12. Face boarding/Plywood/Metal thickness correct
13. Joints between panels closed (no gaps)
14. Joints between panels flush (no steps/lips)
15. Panel flatness acceptable
16. Gaps between secondary members and face panels closed
17. Tie rod material and sizes correct
18. Tie rod spacing correct
19. Tie rods tight, face cones flush
20. Spacers between shutter surface tightly fitting
21. Box outs, cast-in items, ducts fixed correct, securely. Contd..

22. Prestressing sheathing & vents, alignments & spacing of supports acceptable
23. Empty sheathing secured against floatation
24. Prestressing anchorage positions & fixing acceptable
25. Chamfers/fillets sizes, straightness, fixing acceptable
26. Formwork clean
27. Formwork release oil material approved.
28. Formwork release oil applied correctly.
29. Construction joint preparation satisfactory
30. Contraction/expansion joint preparation satisfactory
31. Safe access constructed
32. Adequate work space provided for labour, equipment
33. Shutter vibrators (if required) location & fixing arrangements approved

Inspected by:	Name	Signed	Date
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(for Contractor)

Approved by:	Name	Signed	Date
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(for Department)

REINFORCEMENT INSPECTION CHECKLIST

LOCATION

DATED:

YES NO N.A.

CONTRACTORS INSPECTION REQUEST NO.

REF DRG NO.

1. Working drawing checked and approved
2. Latest revision being used
3. Bar schedules approved
4. Reinforcing steel material approved
5. Bar bending & cutting satisfactory
6. Corrosion treatment of bars, if required, satisfactory
7. Bar sizes correct
8. Bar spacing correct
9. Bar lap lengths correct
10. Bar laps at correct locations
11. Bar tied as specified
12. Bar assembly rigid and adequately supported (including spacers/chair supports).
13. Cover to bottom bars correct
14. Cover to side bars correct
15. Cover to top bars correct
16. Cover blocks approved including fixing

 Inspected by:
(for Contractor)

Name

Signed

Date

 Approved by:
(for Department)

Name

Signed

Date

INSPECTION CHECK LIST BEFORE APPROVAL TO CONCRETE

LOCATION:

DATED:

CONTRACTORS' INSPECTION REQUEST NO.

YES/NO Check
N.A INITIAL

1. Method statement approved
2. Batching plant mixers in working order
(separate dispenser for admixture, if
required, available)
3. Standby batcher in working order
4. Water, sand, coarse aggregate,
cement, admixture approved.
5. Water, sand, coarse aggregate,
admixture, cement stock sufficient.
6. Concrete conveying arrangement (including
transit mixers) available in
working condition and of sufficient
capacity
7. Formwork approved
8. Reinforcement approved
9. Prestressing sheathing approved
10. Concreting equipment in working order
11. Standby crane, vibrators present
12. Tremie in working order (for under
water work)
13. Concrete gang present, including
carpenter, steel fixer, mechanics
and electricians
14. Access provided
15. Safety arrangements adequate
16. Lighting provided
17. Communications between various points
provided

18. Arrangements for arranging suspension/
stoppage of concrete provided

19. Curing arrangements made

20. Laboratory notified

Inspected by:
(for Contractor)

Name

Signed

Date

Approved by:
(for Department)

Name

Signed

Date

PROFORMA FOR CONCRETE DELIVERY AND POUR RECORD

1. CONCRETE BATCHING DELIVERY TICKET NO.

Location of Pour :	Date
Concrete Grade :	Mix. Temp.
W/C Ratio	Slump
Cement Contents	No. of Cubes Taken
Max. Aggregate size	
Admixutre (Type & Dosage)	
Batching Started, Hrs. :	Batching Finished, Hrs.
Quantity Batched, Cu.m. :	
TRUCK ARRIVED ON SITE	Truck No.
Slump Test Result (S)	Hrs.
Discharge Started	Mm at Hrs
Placement Completed :	Hrs
No. of Sitecubes Taken :	Hrs
Place Where Cubes Taken	Hrs
Placement Temperature of Concrete :	
Ambient Temp.	
Weather Condition :	

Inspected by: (for Contractor)	Name	Signed	Date
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Approved by: (for Department)	Name	Signed	Date
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POST CONCRETING INSPECTION

Note: Post concreting inspection shall be carried at various stages such as after stripping of side shuttering, each stage of prestressing, decentering and/or as per designers stipulation.

Location :

Date of pour :

Stage of Inspection :

Date of Inspection :

Specified Class :

S or NS

	Observation	Type of Remark S or NS*	
1	Position/Dimensions of the member	Alignment Levels Dimensions	S or NS S or NS S or NS
2.	Surface Defects (honey combing/ sand streaks/air bubbles/cold joints)	No defects Minor defects Major defects	(Note type and extent of defect)
3.	Class of Finish	S or NS	
4.	Cracks	No cracks Cracks Nature of cracks	Date first observed
5.	Any other Defect		
6.	Non conformance report no.	Report No./ Not Applicable	

Remarks :

In case of NS report in item (1) to (5), it should be examined by competent authority before approval or non approval. If required, a separate non-conformance report (including sketches, photographs etc.) shall be prepared for further action.

*S - Satisfactory, NS = Not satisfactory

Inspected by: (for Contractor)	Name	Signed	Date
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Inspected by: (for Department)	Name	Signed	Date
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Approval/ Non Approval by: (for Department)	Name	Signed	Date
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MATERIAL QUALITY SURVEILLANCE FORM

CONTRACTOR			CONTRACT NO.	
MANUFACTURER	SUPPLIER	SOURCE	PURCHASE ORDER	INSPECTING AGENCY
INSPECTED AT	INSPECTION CERTIFICATE	DELIVERY CHALLAN	DISTINGUISHING MARK	DATE OF MFR./ SUPPLY
SHIPPING, STORAGE & OTHER REMARKS		(Satisfactory/ No Satisfactory)	DATE OF MFR./ SUPPLY	

TEST RECORD

S.No.	Test	Method of Test	Acceptance Limits & Units	Obtained Value	Remarks
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(Appropriate Tests)

Remarks :

Inspected by: (for QA Team) Name Signed Date

In Presence of: (for Contractor) Name Signed Date

PRODUCTS QUALITY SURVEILLANCE FORM

NAME OF PRODUCT :

Contractor Contract to

Manufacturer/Supplier/Source Purchase Order Inspecting Agency

Inspection Certificate Delivery Challan Distinguishing Mark Date of Manufacture/Supply

Drawing Nos. Tender Specification Clause

Shipping, Storage & Other Remarks

S. No.	Test	Method of Test	Acceptance Range	Obtained Value	Remarks

Inspected by: Name Signed Date
 (for QA Team)

In Presence of: Name Signed Date
 (for Contractor)

SURVEILLANCE FORM FOR PRE-CONCRETING OPERATIONS

CONTRACTOR

CONTRACT NO.

ELEMENTS OF
STRUCTURE

IDENTIFICATION NO

LOCATION

SURVEILLANCE OBSERVATIONS

WORK DESCRIPTION

-
1. Line, Level and Dimension as per Drg.

 2. Availability of adequate approved material

 3. Placing of Reinforcement (Including supports/spacers etc.)

 4. Form works and Scaffolding as per Drawing

 5. Box outs/embedded parts, if any

 6. Cleaning of forms

 7. Arrangements of Plant and Equipment

 8. Walkway for Pouring and Inspections

 9. Safety Arrangements

 10. Curing Arrangement

Inspected by:
(for QA Team)

Name

Signed

Date

In Presence of:
(for Contractor)

Name

Signed

Date

QUALITY SURVEILLANCE FORM WORKMANSHIP OF CONCRETE

 CONTRACTOR

 CONTRACT NO.

 ELEMENTS OF
STRUCTURE

 IDENTIFICATION NO.

 LOCATION

SURVEILLANCE OBSERVATIONS

The following items should be observed during concrete pour by the OA Surveillance Team.

1. Mixing of Concrete

- Check the concrete class and the respective mix design already approved.
- Check the condition of the aggregates to be used.
- Check the weighing and water dispensing methods adopted during the mixing.
- Check that the mixer machine has been cleaned properly.
- Check that the required mixing time is allowed.

2. Transportation/Conveyance (as Specified, but generally to cover following):

- Check if the equipment is in proper working order.
- Check if the specified methods are being followed.
- Check if the stipulated time limits are observed.
- Check if the non-conforming wet concrete is being rejected and disposed off.

3. Placing of Concrete

Check that :

- The concrete is not segregated during pour. The height of dropping is controlled.
- The concrete is poured in layers.
- The vibrators are being applied systematically to compact uniformly and adequately, avoiding over vibration.
- The concrete is not being pulled or pushed. Pouring is being done close to the final position.
- The cold joints are not allowed to be developed.
- The under water concrete is being poured only by tremies or pipeline.
- The forms are not getting displaced or deformed during the concrete pour and vibrating.
- No cement slurry is getting lost. Suitable number of carpenters are present to watch and repair formwork during the pour, if required.
- The concrete is poured within the allowable time limits from the time of batching.
- The concrete cubes are taken as required.
- The curing arrangements are satisfactory.
- The equipment is in working condition.

- ' The equipment is cleaned properly.
- The quality of wet concrete is as per specifications, (slump, homogenous mix etc.
- Continuous supply of concrete is assured.

Inspected by: (for QA Team)	Name	Signed	Date
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In Presence of: (for Contractor)	Name	Signed	Date
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PARTICULARS OF WORK

Name of Work

Name of Contractor

Address of Contractor

Contract agreement No.

Contract Amount

Applicable Schedule of Rates

Period of Completion

Date of Work Order

Stipulated Date of Completion

Actual Date of Starting of Work

Extensions

(1)

(2).....

INCUMBANCY

Sr. No.	Designation*	Name	Period	
			From	To

* Departmental officers' designations covering all officers having execution responsibilities for the project.

CEMENT REGISTER

1 . Weekly Receipt Issue (For week from..... to.....)

Name of Work :-

Name of Contractor

Closing Balance at the Site of Work from

previous week..... bags.

Date	Quantity Received	Qty. Used Bags/MT	Purpose	Closing balance at the end of day (bags/MT)
	Bags / MT Source			
Total				

For Contractor

For Engineer

Name :

Name :

Signed:

Signed:

Date:

Date :

**CONSUMPTION OF CEMENT ON DIFFERENT ITEMS OF WORKS,
(THEROTICAL AND ACTUAL)**

Name of Work :
Name of Contractor:

(A) Weekly records of items of Works

Sr. No.	Item of Work	Quantity of work done during the week

(B) Abstract for the Week Ending (Indicate Cement Consumption)

Sr. No.	Item of Work	Quantity of work done		Rate of Cement per Unit (bags/MT)	Cement required to be consumed theoretically (bags/MT)	Actual consumed (bags/MT)	Cement
		Quantity	Unit				

For Contractor

Name :

Signed:

Date:

For Engineer

Name :

Signed:

Date :

RECORDS OF CALIBRATION OF EQUIPMENT

Name of Work :

Name of Contractor :

ITEM	DATE CALIBRATED & PERSON CERTIFYING (FOR VENDOR OR CONTRACTOR)	*DATE OF NEXT CALIBRATION	DATE OF INSPECTION & PERSON APPROVING (FOR DEPARTMENT)	RESULT OF INSPECTIONS

* Frequency of calibration for different equipment to be specified in advance.

DAILY PROGRESS REPORT

Name of Work :

Name of Contractor :

Date	Activity Location	Item of Work	Weather Condition	Special Problems/ Difficulties	Remarks	Signature with date	
						Recorded	Checked

For Contractor

Name :

Signed:

Date:

For Engineer

Name :

Signed:

Date :

REGISTER OF INSPECTION NOTES

Name of Work :

Name of Contractor :

Name of inspection Note	No and date under which received	Reviewed by	Signature	No & Date of Compliance submitted	Reviewed by	Signature	Remarks

RECORD OF PRESTRESSING WORKS

- | | |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 Name of Work :</p> <p>2 Name of Contractor :</p> <p>3 Span Length</p> <p>4 Span No</p> <p>5 Name and no of component</p> | <p>6 Date of Casting
(Indicate average cube strength
at 7 days and 28 days as per design)</p> <p>7 Gauge Pressure not to exceed</p> |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|

Date of Pre stressing	No of Cable/ Wire or pairs of wires	Side.....				
		Gauge Reading	Initial Extension in mm	Locking Pressure	Slip Observed in mm	Final Extension in mm
1	2	3(i)	3(ii)	3(iii)	3(iv)	3(v)

Gauge Reading	Side.....				Total Final Extension in mm	Calculated extension in mm for an initial pull per cable/wire/pair of wire
	Initial Extension in mm	Locking Pressure	Slip Observed in mm	Final Extension in mm		
4 (i)	4 (ii)	4 (iii)	4 (iv)	4 (v)	5	6

Theoretical Extension required in mm	Loss or gain in extension in mm	Progressive loss or gain of extension in mm	Slip observed in any , after 10 days	Remarks	Signature		
					AE	EE	Contractor
7	8	9	10	11	12(i)	12 (ii)	12 (iii)

For Contractor
Name :
Signed:
Date:

For Engineer
Name :
Signed:
Date :

GROUTING RECORDS

Name of the Work

Cable* No. '

Name of Contractor :

Date of Grouting

Span No. :

Date of Cable installation :

Type of Cement: OPC/IISOPC

Week & Year of Manufacture
of OPC/IISOPC :

W/C Ratio :

Name & Amount of admixture
used, if any :

Temp:	Mixing Water -----	Grout -----
Time:	Start -----	Finish -----
Equipment:	Grout mixer -----	Grout Pump -----
Cable Duct:	Diameter -----	Length -----
Volume of grout in litres	-----	Regrouting -----
Grouting pressure		
Cement consumption:		Actual
Theoretical	-----	

Pre-Grouting Checks :		
Free of blockage:	inlet: Yes/No	Outlet Yes/No
	Vents: Yes/No	Cable Duct : Yes/No
Leakage observed:	Yes/No	Sealed : Yes/No

If cable duct blocked: Remedial Measures -----

Grouting Observations:

Passage of grout through vents	Yes/No
Passage of grout through outlet	Yes/No
Any equipment failure	
Post grouting checks
Probbing by stiffwire
Remarks
Signatures of officers present during grouting:	

For Contractor

For Engineer

Name :

Name :

Signed:

Signed:

Date:

Date :

PERFORMA FOR RESULT ANALYSIS (CEMENT)

Name of Work :

Name of Contractor :

Type of Cement:

Grade of Cement

Sr. No	Consignment No./ Date	Sample Ref. No./ Date	Result of Chemical Test C3A, etc	Result of Physical Test (Fitness, Strength etc)	Result of Special Test , If Any
			Provide Separate Column for each test		
No of Samples					
Mean					
Standard Deviation					
Range					
Remarks :					

For Contractor

Name :

Signed:

Date:

For Engineer

Name :

Signed:

Date :

PROFORMA FOR RESULT ANALYSIS (CONCRETE)

Concrete Grade :
 Name of Contractor :

Slump Test:
 28 Days Strength:

Notes: For every Grade of concrete, separate analysis proforma should be used, Separate analysis proforma should be used with every change in mix-design.

Sr . No .	Sample Ref. No.	Structural element	Wet concrete properties		Hardened concrete Properties Strength at Age in days		
			Temp	Slump	3 Days	7 Days	28 Days
					Provide separate column for each test		
No.of samples							
Mean							
Standard Deviation							
Range							
Comments							

For contractor
 Name
 Signed Date

For Engineer
 Name
 Signed Date

GUIDELINES FOR NON-CONFORMING WORKS

1. GENERAL

In broad terms, for the Quality Assurance of the finished work it is necessary for the materials and workmanship to conform with the Contract requirements. Ideally, non-conforming work shall be rejected.

The Statement above is true in general terms but special difficulties arise in the case of concrete, where the non-conformance may only be known after 28 days cube results become available, in which period work has progressed further. In some of the situations, acceptance after repair/review for adequacy is feasible. Therefore, separate procedures are laid out for some of the non-conforming situations. In case the item does not meet the requirements after such repair/review, the non-conforming item should be rejected.

2. CONCRETE WORKS

The primary means by which Quality Assurance shall be achieved is by the procedures described in relevant material qualification and workmanship method statements. The non-conforming concrete items shall be further reviewed, as given below :

2.1 Non-conformance Other than Strength or Finish

In the event that any requirement other than strength and standard of finish is not met then the following procedure shall be followed:

1 . The Contractor shall be notified without delay verbally and in writing by the following means:

- a) Return of the Request for Inspection Form signed "not approved" with the reasons for rejection stated
- b) Issue of a Site Instruction or Site Works Order or letter stating the facts and confirming that the works are not approved.

2. Approval to carry out concreting of a similar nature shall be withheld.

3. The Contractor shall be asked for his proposals to rectify the non-compliance which may involve re-submission of materials, new trial mixes, revised method statement.

4. The acceptance or rejection of any unapproved concrete work shall be referred to the Engineer.

5. When satisfied with the measures taken to ensure future compliance the Engineer shall confirm approval to continue concrete for permanent works.

2.2. Non-Conformance with Strength Requirements

1 . The Specification for concrete recognises the statistical possibility of cube failures and thus limits of means, standard deviation, minimum values of strength are specified. The rejection criteria is set out in the agreement.

2. In the event of cube failures outside the provision of the Contract then the non-compliance procedures described in the specification shall be followed :

- a) Approval of concreting of similar works shall be withheld.
- b) All aspects of concreting shall be reviewed.
- c) The cause of failure shall be identified and measures taken to remedy the problem.

3. Various repair/rectification procedures for commonly arising/non-conformance, are specified in contract. The contractor shall furnish his exact proposals for rectification under consideration.
4. The fact of non-conformance and the proposed rectification procedure is conveyed to the engineer/design organisation of owner (or design consultant) for review and opinion about :
 - i) Acceptability of measure proposed by the contractor, if any.
 - ii) Further non-destructive testing, if any,
 - iii) Acceptability in case strength is achieved at a later age (e.g. 90 days)
 - iv) Acceptability at the level of strength achieved for the stress levels in concerned members
 - v) Acceptance of repair/rectification/strengthening measures with modifications, if required, or rejection.
5. Rejection in case the item does not pass modified acceptance limits after repairs.

Non-Conformance with Finish Requirements

1. Where the required finish is non attained then the non-conformance procedure for repair/rectification, as described in the Specification shall be followed.
2. In addition the following procedures shall be followed:
 - a) Approval of similar form work shall be withheld.
 - b) All aspects of formwork shall be reviewed.
 - c) The cause of poor finish shall be identified.
3. Revised specifications/instructions to avoid further recurrence of non-conformance shall be issued.

RECORDS

1. It is mandatory that all instances of work outside the Specification are recorded in writing, and conveyed to the Contractor. This ensures that :
 - a) The Contractor is irrefutably informed.
 - b) A record of non-compliance is built up to give a general guide to the Contractor's performance.
2. The records of repair/rectification, retesting, inspection and acceptance shall be kept as part of 'as-built' documentation.
3. Record of all references to designers for concessions/rectification and approval given by them shall be kept.
4. Record of compliance to the modifications in procedures, testing, etc., if any shall be kept.