

Sample of Inspection and Test Plan (ITP)

Project: _____

Scope of Work: Installation of External Precast Walls

Appendix A

S/No	Activity	Responsibility	Inspection Method	Requirement Reference	Acceptance Criteria	Stage/Frequency	Records
1	SUBMISSION						
1.1	Submit shop drawings and associated calculations, method statements, material samples for approval	MC/ADO	Review	Specifications	Conform to specifications	Prior to start work	Approved submissions
1.2	Submit design mix of concrete and constituent materials for approval	MC/ADO	Review	Specifications	Conform to specifications	Prior to start work	Approved submissions
2	INCOMING MATERIALS INSPECTION						
2.1	Carry out inspection of precast wall panels (good condition, lifting points, connections)	MC/ADO	Visual	Section 4	Conform to specifications	Each delivery	Delivery docket
2.2	Carry out inspection of grouting materials and prepacked skimming mortar (confirm type and quantity)	MC/ADO	Visual	Section 3 and 4	As per approved samples	Each delivery	Delivery docket
3	PRE-ERECTION						
3.1	Setting out	MC/ADO	Visual	Drawings	Conform to drawings	For each location	Checklist
3.2	Temporary supports	MC	Visual	Specifications/ Method statement	Conform to specifications/ method statement	For each location	Checklist
3.3	Joints and connections (surface condition, starter bars, shim plate level, waterproofing strip, etc)	MC	Visual/Measure	Specifications/ Method statement	Conform to specifications/ method statement	For each location	Checklist
4	INSTALLATION						
4.1	Connection details/ interface requirements/ joint seals (including waterproofing treatment eg. backer rod, sealant, waterproofing strip, grouting)	MC/ADO	Visual	Specifications/ Method statement	Conform to specifications/ method statement	For each location	Checklist
4.2	Installed panel verticality, level and alignment	MC/ADO	Visual/Measure	Specifications	Conform to specifications	For each location	Checklist
4.3	Wet joints exposed surface	MC	Visual	Section 5	Conform to specifications	For each location	Checklist

Prepared by _____ Date _____

Verified by _____ Date _____

Approved by _____ Date _____

LEGEND

MC – Main contractor/ Installer

ADO – Architect/ Designer/ Owner

Sample of Inspection and Test Plan (cont'd)

Project: _____

Scope of Work: Installation of External Precast Walls

S/No	Activity	Responsibility	Inspection Method	Requirement Reference	Acceptance Criteria	Stage/Frequency	Records
5 PREPARATION FOR SKIMMING							
5.1	Hand over precast works to finishing works, including clearance from other trades	MC	Visual	Section 5	Conform to specifications	For each location	Checklist
5.2	Check preparation of substrate to receive finishing, including M&E services	MC/ADO	Visual	Section 5	Conform to specifications/ method statement	For each location	Checklist
6 APPLICATION OF SKIM COAT							
6.1	Skimming mortar mixing	MC/ADO	Visual	Section 5	Conform to specifications/ method statement	In process	Checklist
6.2	Check application of skim coat (finished surface for evenness, squareness and plumb). All rectification works should be completed before painting works.	MC/ADO	Visual	Section 5	Conform to specifications/ method statement	For each location	Checklist
7 FINAL INSPECTION							
7.1	Check for any cracks on finished surface	MC/ADO	Visual	Specifications	Conform to specifications	Per location	Checklist
7.2	Carry out watertightness test on - External wall panels - Joints between external wall and window frame	MC/ADO	Visual	Section 6	- No dampness - No leakage	As per required	Test records

Prepared by _____ Date _____

Verified by _____ Date _____

Approved by _____ Date _____

LEGEND MC – Main contractor/ Installer ADO – Architect/ Designer/ Owner



Sample of Inspection and Test Plan (ITP)

Project: _____

Scope of Work: External Cast In-Situ Reinforced Concrete Walls

S/No	Activity	Responsibility	Inspection Method	Requirement Reference	Acceptance Criteria	Stage/Frequency	Records
1 SUBMISSION							
1.1	Submit design mix of concrete and constituent materials for approval	MC/ADO	Review	Specifications	Conform to specifications	Prior to start work	Approved submission
1.2	Submit shop drawings and method statements for approval	MC/ADO	Review	Specifications	Conform to specifications	Prior to start work	Approved submission
2 INCOMING MATERIALS INSPECTION							
2.1	Carry out inspection of rebar	MC/ADO	Visual	Mill Certs	Mill Certs	Each delivery	Delivery docket
2.2	Carry out inspection of grouting materials for form tie holes and joint repair	MC/ADO	Visual	Specifications	As per approved samples	Each delivery	Delivery docket
2.3	Carry out concrete receiving inspection (check slump & concrete cube sampling)	MC	Visual/Measure	Approved design mix	Conform to specifications	Each truck load	Delivery docket
2.4	Carry out inspection of prepacked mortar mixes for finishing works (confirm type and quantity). - For on-site mixing of cement/sand, inspect plastering sand (silt content), cement and admixtures	MC/ADO	Visual/Measure	Section 3 and 4	As per approved samples Silt content of plastering sand ≤ 5% by mass	Each delivery One sample per delivery	Delivery docket and Test records
3 PREPARATION AND CONCRETING							
3.1	Carry out inspection prior to closing formwork	MC/ADO	Visual	Drawings	Conform to drawings	For each casting area	Checklist
3.2	Monitor concrete placement (confirm that vibration, spread, discharge rate complies with specs, monitor delivery interval, waste & cumulative quantity)	MC	Visual	Specifications/Method statement	Conform to specifications/method statement	Every casting	Checklist
4 INSPECTION OF CAST IN-SITU CONCRETE WALL							
4.1	Post-pour inspection (formwork stripping, finished concrete surface, verticality, concrete curing)	MC	Visual	Drawings	Specifications/Method statement	After casting/Every storey	Checklist
4.2	Concrete strength (analysis of cube test results)	MC/ADO	Visual	Drawings	Specifications	After casting/Every storey	Test records
4.3	Seal form tie holes and repair joints/cracks	MC	Visual	Drawings	Method statement	Prior to wall finishing	Checklist
Prepared by _____		Verified by _____		Approved by _____			
Date _____		Date _____		Date _____			
LEGEND							
MC – Main contractor/ Contractor		ADO – Architect/ Designer/ Owner					

Sample of Inspection and Test Plan (cont'd)

Project: _____

Scope of Work: External Cast In-Situ Reinforced Concrete Walls

S/No	Activity	Responsibility	Inspection Method	Requirement Reference	Acceptance Criteria	Stage/Frequency	Records
5	PREPARATION FOR FINISHING WORKS						
5.1	Hand over RC works to finishing works - Check verticality/horizontality of off-form RC surface and decide thickness of plaster/skim coat - Check clearance from other trades	MC/ADO	Visual/ Measure	Section 5	Conform to specifications/drawings	Per location	Checklist
5.2	Check preparation of substrate to receive finishing - If plastering is required, check application of spatterdash coat, setting out and level packs, angle beads, groove line, etc	MC/ADO	Visual	Section 5	Conform to specifications/ method statement	Per location	Checklist

6 FINISHING WORKS (IN-PROCESS INSPECTION)

6.1	Cement mortar mixing	MC/ADO	Visual	Section 5	Conform to specifications/ method statement	In process	Checklist
6.2	Check application of skim coat (or plastering, if required). For plastering, check undercoat (scratched and sufficiently cured), second and final coat. Inspect finished surface for evenness, squareness, plumb and hollowness (for plastered surface). All rectification works should be completed before painting works.	MC/ADO	Visual	Section 5	Conform to specifications/ method statement	Per location	Checklist

7 FINAL INSPECTION

7.1	Check for any cracks on finished surface	MC/ADO	Visual	Section 5	Conform to specifications	Per location	Checklist
7.2	For plastered surfaces, carry out pull-out test on completed plasterwork and check for hollowness	MC/ADO	Measure	Section 6	Conform to specifications	As per required	Test records
7.3	Carry out watertightness test on - External wall panels - Joints between external wall and window frame	MC/ADO	Visual	Section 6	- No dampness - No leakage	As per required	Test records

Prepared by _____ Date _____

Verified by _____ Date _____

Approved by _____ Date _____

LEGEND MC – Main contractor/ Contractor ADO – Architect/ Designer/ Owner

Sample of Inspection and Test Plan (ITP)

Project: _____

Scope of Work: External Brickwalls

S/No	Activity	Responsibility	Inspection Method	Requirement Reference	Acceptance Criteria	Stage/Frequency	Records
1	SUBMISSION						
1.1	Submit material samples, shop drawings, method statements for approval	MC/ADO	Review	Specifications/drawings	Conform to specifications/drawings	Prior to start work/each sample	Approved submissions
2	INCOMING MATERIALS INSPECTION						
2.1	Carry out inspection of brick, sand & cement for brickwork (confirm grade, type & quantity)	MC	Visual	Section 4	As per approved sample	Each delivery	Delivery docket
2.2	Carry out inspection of jointing materials (bonding bars, lintels, etc) and damp-proof materials	MC	Visual	Section 4	As per approved sample	Each delivery	Delivery docket
2.3	Carry out inspection of prepacked mortar mixes for plastering (confirm type and quantity) - For on-site mixing of cement/sand, inspect plastering sand (silt content), cement and admixtures	MC/ADO	Visual/Measure	Section 3 and 4	As per approved sample Silt content of plastering sand ≤ 5% by mass	Each delivery One sample per delivery	Delivery docket Delivery docket Delivery docket and Test Register
3	PREPARATION AND INSTALLATION						
3.1	Structural clearance and setting out	MC/ADO	Visual	Section 5	Conform to shop drawings	Per unit/ Prior to start work	Checklist
3.2	Cement mortar mixing	MC/ADO	Visual	Section 5	Conform to method statement	In process	Checklist
3.3	Check completed 1st course brickwall	MC/ADO	Visual	Section 5	Conform to shop drawings/ method statement	Per unit	Checklist
3.4	Build remaining brickwalls to 1/2 height and then full height	MC/ADO	Visual	Section 5	Conform to shop drawings/ method statement	Per unit	Checklist
4	INSPECTION OF BRICKWORK						
4.1	Carry out inspection of completed brickwork - proper packing up of all gaps above last course of bricks - Opening for door/window/other services	MC/ADO	Visual	Section 5	Conform to shop drawings	Per unit	Checklist

Prepared by _____
Date _____

Verified by _____
Date _____

Approved by _____
Date _____

LEGEND MC – Main contractor/ Contractor

ADO – Architect/ Designer/ Owner

Sample of Inspection and Test Plan (cont'd)

Project: _____

Scope of Work: External Brickwalls

S/No	Activity	Responsibility	Inspection Method	Requirement Reference	Acceptance Criteria	Stage/Frequency	Records
5 PREPARATION FOR PLASTERING WORK							
5.1	Hand over areas from brickworks to plastering works including clearance from other trades	MC	Visual	Section 5	Conform to specifications/drawings	Per location	Checklist
5.2	Check preparation of brick substrate to receive plastering. Check setting out and level packs, angle beads, metal lath, groove line, movement joints, etc	MC/ADO	Visual	Section 5	Conform to specifications/method statement	Per location	Checklist
6 PLASTERING WORKS (IN-PROCESS INSPECTION)							
6.1	Cement mortar mixing	MC/ADO	Visual	Section 5	Conform to specifications/method statement	In process	Checklist
6.2	Check application of undercoat (scratched and sufficiently cured), second and final coat. Inspect finished surface for evenness, squareness, plumb and hollowness. All rectification works should be completed before painting works.	MC/ADO	Visual	Section 5	Conform to specifications/method statement	Per location	Checklist
7 FINAL INSPECTION							
7.1	Check for any cracks on finished surface	MC/ADO	Visual	Section 5	Conform to specifications	Per location	Checklist
7.2	Carry out pull-out test on completed plasterwork and check for hollowness	MC/ADO	Measure	Section 6	Conform to specifications	As per required	Test records
7.3	Carry out watertightness test on - External wall panels - Joints between external wall and window frame	MC/ADO	Visual	Section 6	- No dampness - No leakage	As per required	Test records

Prepared by _____ Date _____

Verified by _____ Date _____

Approved by _____ Date _____

LEGEND MC – Main contractor/ Contractor ADO – Architect/ Designer/ Owner

Sample Checklist for Construction of External Cast In-Situ Reinforced Concrete Walls

Project: _____

Location: _____

Checklist		Inspection			Remarks
		Date	Result ✓/✗	Signature	
PREPARATION					
Setting out / level					
FORMWORK	Formwork condition				
	Dimension				
	Alignment and plumb				
	Bracing and strutting				
	Service opening, etc				
	Construction joint				
REBAR	No. of rebars				
	Rebar size (diameter)				
	Rebar cover				
	Position and spacing				
	Anchorage / lap length				
	Links / stirrups / starter bars				
	Rebar condition				
M&E SERVICES	Installation				
	Secured properly				
	Bent properly				
	No visual damage				
Check quality of concrete before placing e.g. water-cement ratio, slump test, etc.					
CONCRETING STAGE					
Concrete placing (ensure thorough compaction)					
INSPECTION (FINISHED CONCRETE)					
Dimension					
Alignment / plumb / level					
Exposed surface					
Concrete joints					
Sealing of form tie holes					
PREPARATION FOR FINISHING WORK					
Clearance from RC works (including rectification of RC alignment, brickworks and other related trades)					
Wash surface thoroughly with high pressure water jet					
FINISHING WORKS (IN-PROCESS)					
Application of skim coat					
For plastered RC walls, check: - setting out - application of spatterdash coat - reinforcement lathing (where applicable) - application and thickness of undercoat (compactness and scratched), second and final coat, including proper surface preparation and adequate curing for every coat					



Sample Checklist for Construction of Plastered Brickwalls

Project: _____

Location: _____

Checklist	Inspection			Remarks
	Date	Result ✓/✗	Signature	
PREPARATION				
Condition of brick units (no physical damage)				
RC surface receiving bricks				
Moisten bricks				
Structural clearance and set reference lines				
Mixing of bedding mortar and mixing proportion				
FIRST COURSE				
Type of bricks				
Type of bond				
Wall thickness				
Brick joint width				
First course setting out				
Provision of stiffener				
ERECTION OF BRICKWALL				
Damp-proof course (if any)				
Bonding bars				
Reinforcement lathing				
Joint width				
Lintels				
Laid in two operations in half heights				
Gap between top course of brickwork and beam soffit properly grouted				
INSPECTION OF COMPLETED BRICKWORK				
Surface and edge are plain and vertical				
No cracked and chipped bricks				
Joints properly filled with mortar				
PREPARATION FOR PLASTERING WORK				
Clearance from brickwork and other related trades				
Wash surface by high pressure water jet (loose particles, organic growth etc, removed thoroughly)				
Check: <ul style="list-style-type: none"> - setting out / level pack - cleanliness and dampening of substrate - Angle beads, groove line, etc - reinforcement lathing (where applicable) 				
PLASTERING WORK (IN-PROCESS)				
Plastering mortar (Mixing proportion, use of mechanical mixer, consistency of mix)				
Application and thickness of undercoat (compactness and scratched), second and final coat, including proper surface preparation and adequate curing for every coat				



