

Appendix K: Tilt-up and precast concrete panel checklist example*

Project:	Site supervisor:
Sub-contractor:	Sub-contractor site supervisor:
Engineering company:	Engineer:
Date: DD / MM / YEAR	Panel number/s:

It is the sub-contractor’s responsibility to have all sections ticked off and actioned as the item is completed. This checklist is to be completed **each day** when tilt-up or precast panels are being installed.

The completed forms and all other completed items must be given to:

Name:	Role:
-------	-------

Identify who is responsible for each item. The responsible party initials this section, or submits documentation, as evidence that each item has been inspected or actioned.

DESCRIPTION	ACCEPTANCE CRITERIA - Include approved drawings, relevant standards, engineer’s instructions, client specifications and manufacturer’s instructions. - Attach any item-specific checklists to this form.	INSPECTED BY/ACTIONED BY:		
		Name/role	Name/role	Name/role
Drawings required	Drawings certified by a competent person exist for the following: <ul style="list-style-type: none"> - panel design: location of lifting anchors and bracing points, steel content, panel weight, panel dimensions, panel number, location of strongbacks (where applicable), concrete strength, rigging arrangement required to suit lifting anchors - erection and temporary bracing drawings: types of braces required (primary, knee, lateral, end), brace angles, levelling pads - deadman (or floor slab) design: dimensions/depth, soil type, bearing capacity, terrain (wind) category, concrete strength, anchors required - permanent supporting structure - panel layout and erection sequence. 			

* Adapted with permission from Laing O’Rourke. Copyright © Laing O’Rourke 2011. All rights reserved.

DESCRIPTION	ACCEPTANCE CRITERIA	INSPECTED BY/ACTIONED BY:		
		Name/role	Name/role	Name/role
Sub-contractors' documentation	<p>The following documentation has been provided before work begins:</p> <ul style="list-style-type: none"> - Tilt-up/precast panel Erection Contractor's Job Safety Analysis (JSA). - Crane/Rigging Contractor's Lift Plan/JSA showing: <ul style="list-style-type: none"> - crane set-up locations - location of obstacles, hazards and existing structures in proximity to the crane (especially temporary braces) - rigging procedures and equipment - spotters' duties - method of communication between operator and dogman/rigger - references to erection sequence - release of panels after braces installed - other: 			
Other documentation	<p>Other documentation providing evidence of the following:</p> <ul style="list-style-type: none"> - concrete strength tests (minimum MPa when cured) - casting dates - anchor specifications for braces (panel and floor/ deadman) - brace type and specifications - lifting anchor and clutch design - pre-pour inspection of panels by competent person in accordance with design specifications. 			
Qualifications	Crane operator and dogmen/riggers have appropriate training and qualifications.			
Pre-erection checks	<ul style="list-style-type: none"> - Concrete panels have achieved the correct strength for lifting as specified in the shop drawings. (Verification has been obtained from the builder or supplier.) - Deadmen and/or floor slab have achieved required concrete strength as specified in drawings. - Panels have been identified and marked with casting date and panel numbers. - Spreader bar and/or rigging configuration used meets load requirements for type of panel. - All lifting slings have working load limit (WLL) and current inspection tags displayed. - Lifting anchors and clutches are compatible. - Ground conditions adequate for supporting crane (level and compacted surface, outriggers used <ul style="list-style-type: none"> - slewing cranes only, no penetrations or pits in proximity). - Site access is adequate. - Proximity of power lines considered and appropriate action taken. - Exclusion zone has been barricaded and sign-posted to keep non-essential people away during erection and rigging. - Exclusion zones installed to mitigate risk to workers. - Wind conditions are suitable for lifting. 			

DESCRIPTION	ACCEPTANCE CRITERIA	INSPECTED BY/ACTIONED BY:		
		Name/role	Name/role	Name/role
Panel lifting and erection	<ul style="list-style-type: none"> - Include approved drawings, relevant standards, engineer’s instructions, client specifications and manufacturer’s instructions. - Attach any item-specific checklists to this form. 			
Temporary bracing for panels and supporting structure	<ul style="list-style-type: none"> - Back-up chains fitted when using a clamp arrangement to lift elements. - Lift plan prevents side lifting or ‘suicide lifting’ (lifting in such a way that if the rigging fails, the panel will strike the crane and/or operator). Note: This should be addressed at the building design stage to ensure that the crane has the capacity to lift the panel. - Bond breakers used (no jacking or shock loading when lifting to break panel from stack). - Levelling pads installed and set at correct height and location as per design. - Locating (dowel) pins and levelling shims installed as specified in design drawings. 			
Permanent structure capable of supporting panels prior to removing temporary support system	<ul style="list-style-type: none"> - Temporary bracing for the panels is in accordance with relevant drawings and specifications. - Temporary bracing for the structure is in accordance with relevant drawings and specifications (knee, lateral and end braces and strongbacks installed where specified by designer). - Anchors used for fixing braces to the slab or deadman are an approved type. - Minimum of two braces per panel or as otherwise specified in drawings. - Only specified or calculated number of braces fitted to each deadman (where applicable). - No mix and match braces (all braces must be of same type unless otherwise specified by a competent person). - Brace angle does not exceed 5° from perpendicular and is approximately 50-60° from horizontal (or as otherwise specified in drawings). - Batch marked with manufacturer’s name and type, WLL and maximum extension. - Panels released from crane only after temporary bracing has been properly installed. - Exclusion zones have been barricaded and sign-posted to keep vehicles and plant away from temporary braces and supporting structures. - People, equipment and braces are kept clear/or at a safe distance when lifting, slewing and travelling with panels. 			

DESCRIPTION	ACCEPTANCE CRITERIA	INSPECTED BY/ACTIONED BY:		
		Name/role	Name/role	Name/role
	<ul style="list-style-type: none"> - Include approved drawings, relevant standards, engineer's instructions, client specifications and manufacturer's instructions. - Attach any item-specific checklists to this form. 			
Ongoing monitoring of panels and support systems	<ul style="list-style-type: none"> - Regular inspections of panels, support systems, and temporary isolation barriers (eg safety inspections, health and safety committee observations, reviewing control measures to eliminate or minimise risk). - Re-inspection at intervals and after weather events. 			
Grouting	<ul style="list-style-type: none"> - Grouting undertaken using specified product and within required timeframe. 			
Training, communication and worker engagement[†]	<ul style="list-style-type: none"> - Workers are adequately trained to work with tilt-up and precast concrete panels. - Toolbox talk carried out with all relevant workers each day before work starts. 			
Specify any additional requirements	<ul style="list-style-type: none"> - There are also other ways in place to engage with workers, share information, and support their participation in health and safety. - Workers identify health and safety risks and help to manage them. - Workers know how and when to report health and safety concerns. 			

[†] See also 'Worker engagement, participation and representation' in Section 2 of these guidelines.