CPA Post Tension Slab

Page 1 of 4



POST TENSION SLAB

City of Palo Alto
Building Inspection Division
285 Hamilton Ave.
Inspection Request: 650 329-2496

Revision Date: 1/20/11

General Requirements/Checklist for:

Residential and Commercial

Codes Enforced: 2010 CRC, CBC

Palo Alto Municipal Code (PAMC)

IVR# 211

The information provided in this document is general and intended as a guide only. Each project is unique and additional requirements may be enforced as deemed appropriate.

WARNING

- Failure to complete items below prior to inspection may result in a reinspection fee.
- Gas/Electric utilities will be removed if found to be unsafe at time of inspection.

DEFERRED SUBMITTALS

- When post tension slabs are a deferred submittal, shop drawings and calculations shall be submitted to the city for review, approval and inclusion with project drawings. CBC 108.7
- Prior to submittal, the shop drawings must be reviewed by the project structural engineer and bear their stamp and signature. Approved shop drawings shall be on-site at the time of city inspection. CBC 108.7.2.1

SHOP DRAWINGS SHALL INCLUDE:

- Number of tendons.
- Spacing of tendons.
- · Height of chair or strand above the deck.
- Structural engineer's stamp.

<u>DRAWINGS SHALL INCLUDE THE FOLLOWING INFORMATION ON A FULL PLAN</u> SHEET:

- Provide details for both ends (stressing end and dead end).
- Provide closure strip detail and number of days to remain open.
- Number of tendons to be bundled (maximum=5).
- Height of chair or strand above the deck.
- Note on plans: Stamp on slab "DANGER POST TENSION SLAB, DO NOT CUT CONCRETE".

REQUIRED SPECIAL INSPECTION AND TESTING

Work requiring special inspection	Required certification for
per CBC Table 1704.4 3 # 1, 8	special inspector
• Periodic: Reinforcing steel, including prestressing tendons, and placement.	ICC Prestress Concrete/Reinforced Concrete
• Continuous: Concrete sampling and testing.	ICC Prestress Concrete/Reinforced Concrete
Continuous: Application of prestressing forces	ICC Prestress Concrete/Reinforced Concrete
• Continuous: Grouting of bonded prestressing tendons.	ICC Prestress Concrete/Reinforced Concrete

CPA Post Tension Slab

Page 2 of 4

SPECIAL INSPECTION GENERAL REQUIREMENTS

	Special Inspection Documentation Special inspection agencies and inspectors must be pre-approved by City of Palo Alto prior to inspection. All documents of special inspections, field reports, surveys shall be addressed to the City of Palo Alto with job address and permit number for inclusion in city records. CBC 108.4.3.1 All pad certification information shall be provided to include elevation, location and compaction of soil including re-compaction of plumbing trenches.
✓□	Special Inspector identification See above table for required ICC certifications.
V	CPA INSPECTION
• 🗸 🗆 🗆	See "foundation" Inspection checklist for all General requirements. Documentation (Common Inspection failure is missing documentation) Verify Demo permit is signed off. When in flood zone, Verify "Public Works" sign off on BFE prior to pour. Verify all underground pluming has been inspected and signed off. Approved plans, shop drawings and permit shall be on-site at the time of city CPA Inspection. Provide CPA Inspector with the following documentation: Copy of Special Inspectors ICC certification card and photo id. Special Inspection reinforcing steel and tendons field report. Surveyor letter. See Survey Letter Requirements below. Waterproofing letter from manufacturer's field representative. Engineer's observation letter, if required. Soils certification/report for pad.
☑	Setbacks Verify property line markers/setbacks, (property lines shall be set and lines strung)
☑	Grounding electrode Verify correct installation of ground, (2) 20' # 4 bars OR 20' 4 AWG bare copper wire.
	Form work and pad Deck and footings shall be clean and free of debris. Verify formwork for shape, location and dimension of concrete being formed. Wood Stakes: Measures shall be taken to allow all wood stakes and form lumber to be removed. Wood forms not removed shall be drilled and treated with copper green.

<u>CPA Post Tension Slab</u> Page 3 of 4

\checkmark	Slab Plumbing
	Testing piping system: Drain, waste, and vent (DWV) system shall be tested with no less than 10' of head water above the system for 15 minuets OR 5 psi air test for 15 minuets. <i>CPC 712.2</i> . Verify that under-slab/under-ground plumbing has been approved.
	Maintain ¾" min. concrete coverage over plumbing pipes and pipe wrap in foundation. All piping shall be protected against direct contact with concrete. Piping shall be wrapped with snap-on insulation such as imco-lock or armaflex a minimum of 1"
	thick or properly sleeved. <i>CPC 313.2</i> Concrete shall not bear directly on plumbing lines. Concrete shall extend 6" minimum below plumbing pipes.
	Fire rated walls Plastic pipe in foundation stem wall of fire rated separation/attached garage side shall be protected by intumescent barrio and metal plate. Metal plate shall be attached to forms prior to inspection. OR use cast iron pipe. See illustration in "Foundation" inspection checklist.
	Embedment's and anchor bolts Verify correct embedment for all anchors, (Wet setting is not allowed.) Verify support bars; 2 #4 bars at each anchor.
	Chair/ Supports Verify tendon height from deck. Verify tendons are adequately supported along their lengths. (support bars per plans) Chairs shall be secured to deck (stapled) to avoid dislocation during placing concrete.
☑	Damaged tendons Tears in tendon sheathing shall be greased and taped.
	Tendon layout Verify number of tendons in a bundle, if required. No more than 4 bars shall be bundled together unless permitted on plans. Tendon profile shall be smooth in elevation and not show excessive wobble. No more than 4 tendons shall be bundled together (or 5 if so permitted on plans. (exception: tendons bundled in beams) Provide hair pins at curvature when cover is more than 3/4" Tendons at curvature shall be separated by a maximum of 2".
	Tendons at curvature shall be separated by a maximum of 2" Where tendon length exceeds 250', a construction joint shall be provided.

CPA Post Tension Slab Page 4 of 4

\checkmark	Stressing ends
•	The most common cause of breakage is improperly installed stressing anchors. Stressing anchor device shall be placed mid-depth of slab, unless noted otherwise on
ш	plans.
	Common cause of breakage: Anchorage device/pocket former must be properly secured to edge of form.
	Tendon shall extend 12" beyond concrete form.
	Provide (2) #4 backup bars. Bars shall be offset.
	When tendons are banded (closer than 12"o.c), provide #3 hairpins with (2) #4 backup bars inside the hairpins in each corner.
$\overline{\checkmark}$	Dead ends
	Common cause of breakage: Tendons must be fully secured at the dead ends to prevent slip during stressing.
	Verify 12" staggering of dead end anchorage devices.
	No hairpins are required unless other wise stated on plans.
	Provide min. (2) #4 backup bars.
$\overline{\mathbf{V}}$	Closure strip
	Must be a minimum of 3'
	Reinforcement from the two sides of the closure strip shall not cross the closure.
	Verify closure strip is provided with shear keys unless not indicated on plans.
\checkmark	Penetrations
	Verify trim bars around penetrations (plumbing, electrical) per engineered details.
	Verify minimum separation from cables to plumbing and electrical penetrations. Verify added steel reinforcement at penetrations, inside corners, and at building
_	perimeter per engineered details/drawings

SURVEY LETTER REQUIREMENTS Rev. 12/01/08

A survey of the lot may be required by the Building Official to verify that the structure is located in accordance with the approved plans.

- Letter or copy of letter shall be available on site for all inspections.
- Letter shall state house/building or detached garage or both if applicable.
- Letter shall be addressed to City of Palo Alto or cc'd to the City of Palo Alto.
- Letter shall include surveyor's stamp, date, and job address and permit number.
- Surveyor shall state method of staking or provide map showing property lines/corner hubs along with letter stating that <u>setbacks and forms</u> are per plan.
- Letter stating only that setbacks and forms are ok, will not be accepted.
- Hubs shall remain until daylight plane, roof and exterior sheeting has been signed off.