

## SAMPLE SPECIFICATIONS

### PART I - PRESTRESSED CONCRETE SLABS

#### 1.00 FABRICATION AND MANUFACTURE:

- A. Precast concrete slabs shall be hollow core slabs with pretensioned, prestressed strands as manufactured by MSP.
- B. Fabrication and Design:
  - 1. Design of precast concrete slabs shall be in accordance with the latest edition of ACI 318.
  - 2. Concrete shall have a minimum compressive strength of 5,000 psi at 28 days.
  - 3. Precast concrete and slabs shall be designed and reinforced for all superimposed dead and live loads as shown on architectural and structural plans.
  - 4. Prestressing strands shall be pretensioned by either a dead weight system or a single strand jacking system. Strands shall be marked for slippage, and if slippage occurs, strand shall be detensioned and restressed. Tension of strand shall be checked to insure accurate results.
  - 5. Prestressing strands will be released when concrete reaches a strength of 3,000 psi or greater as required by design.
  - 6. Precast concrete slabs shall be air or steam cured and shall be clean, smooth, and straight without fins, broken edges or structural defects prior to delivery.
  - 7. Precast concrete slabs shall be designed for the fire rating indicated on structural plans.

### PART 2 – EXECUTION

#### 2.01 INSPECTION

- A. All bearing surfaces including lintels to be installed by others prior to slab erection. Where masonry walls are used as bearing surfaces, the top course shall be (filled) solid.
- B. Weld angles, anchor inserts in bearing surfaces, and supporting structures shall be installed plumb to line and grade by others prior to erection of slabs. Precast concrete slab contractor will verify that structure and anchorage inserts are within allowable tolerances.
- C. No broken, cracked, spalled, warped, or otherwise defective units shall be erected, unless they are judged structurally adequate, and are capable of cosmetic repair with proper patching.
- D. Where masonry walls are used as bearing surfaces, the top course shall be solid filled U-block or other solid, smooth level surface.

#### 2.02 PREPARATION:

- A. General contractor shall coordinate delivery and erection of precast concrete slabs, provide clear site, provide and maintain firm and level access roads to allow crane and trucks to reach work area under their own power.
- B. Care shall be taken to protect the work and material of other trades during installation of slabs.

#### INSTALLATION

- B. Precast concrete slabs shall be installed according to approved shop drawings and details by mechanics experienced in precast concrete slab erection.
- C. Units shall be erected tight and at right angles to bearing surfaces unless shown otherwise. Minimum bearing shall be 2½ inches on steel, 3 inches on concrete and 3 inches on masonry. Align and level precast concrete slabs using shims, bolts, or jacks.
- D. Where weld inserts are shown, precast concrete slab connector shall weld inserts in slabs to bearing surfaces.
- E. Grouting Joints:
  - 1. Clean joints before grouting.

2. Grout for joints shall be 1 part Portland cement, 3 parts sand, and water.
  3. Fill longitudinal keyways between units with grout. This does not include grouting butt joints or joints between plank and other material.
  4. Remove grout that seeped through to ceiling below before grout hardens.
- F. Openings greater than 10 inches square to be saw cut in field. Openings 10 inches or less will be done by trades requiring same. However, if more than two openings occur in any individual slab, approval of the precaster must be obtained prior to making any cuts. (A number of closely spaced small openings could effectively cut all prestressing strands and destroy the structural strength of the slab.)
- G. All openings required in the precast slabs shall be indicated on the structural plans.

ADJUST AND CLEAN:

- A. Plank that is broken, cracked, or chipped shall be repaired or replaced.
- B. After erection and grouting is completed the General Contractor will be responsible for the protection of the slabs.
- C. Remove rubbish and debris resulting from precast concrete slab work from premises upon completion. Protect work of this section from fabrication to installation.