

SECTION 03251 - CONCRETE JOINT CONSTRUCTION

PART 1 GENERAL REQUIREMENTS

1.1 SECTION INCLUDES

- A. Construction Joints.
- B. Expansion Joints.
- C. Slab-on-grade Control Joints.
- D. Slab-on-grade Construction Joints.
- E. Slab-on-grade Isolation Joints.
- F. Joint Fillers and Joint Sealants.

1.2 RELATED WORK

- A. Cast-In-Place ConcreteSection 03300

1.3 REFERENCE DOCUMENTS

- A. ASTM D1751 - Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction.
- B. ASTM D1752 - Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.
- C. ASTM C920 - Elastomeric Joint Sealants
- D. ASTM D5249 - Backer Material for Use With Cold and Hot Applied Joint Sealants in Portland Cement Concrete and Asphalt Joints

1.4 QUALITY ASSURANCE

- A. Provide at least one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described for this Section, and who shall be present at all times during progress of the work and shall direct all work performed under this Section.
- B. In the event of damage immediately make all repairs and replacements necessary to the approval of the Inspector and at no additional cost to the Owner.
- C. Sealants whose shelf life has expired shall be removed from the site.

1.5 INSPECTION AND TESTING

- A. Special Inspections will not be required for this project.
- B. All structural inspections will be implemented and performed by the owner.

1.6 SUBMITTALS

- A. Submit manufacturer's certificate of conformance for Materials covered in Part 2 in accordance with Section 01300.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Materials delivered and placed in storage shall be stored off the ground and protected from moisture, dirt, and other contaminants.
- B. Sealants shall be delivered in the manufacturer's original unopened containers.
- C. Joint filler shall be factory-wrapped in moisture proof paper, and shipment made in substantial wooden crates to prevent hydration or damage in transit and while stored prior to installation.

PART 2 PRODUCTS

2.1 JOINT FILLERS

- A. ASTM D1751, 1/2 inch thick, non-extruding, asphalt impregnated fiberboard.

2.2 JOINT SEALANTS

- A. ASTM C920, Type S, Grade NS, Class 25, Polyurethane base, Eucolastic 1 by Euclid Chemical, Sikaflex-1a by SIKA, or approved equal.

2.3 BACKER RODS

- A. ASTM D5249.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Prior to all work of this Section, carefully inspect the installed work of all trades and verify that all such work is complete to the point where this installation may properly commence.

- B. In the event of discrepancy, immediately notify the Engineer. Do not proceed with installation in areas of discrepancy until all such discrepancies have been fully resolved.
- C. By beginning work, contractor accepts conditions and assumes responsibility for correcting unsuitable conditions.

3.2 CONSTRUCTION JOINTS

- A. Provide construction joints as shown in the typical details.
- B. Provide vertical construction joints in the foundation walls midway between column lines or at 30 to 45 foot maximum intervals, but no greater than 15 feet from any corner and not less than 4 feet from any opening. Pour walls in alternate sections between these joints. Allow 48 hours to elapse before pouring adjacent sections.
- C. Location of all construction joints shall be approved by the Engineer.
- D. Continue reinforcement across joints.
- E. Thoroughly clean joint surface and remove laitance. Prior to placing adjoining concrete, dampen, but do not saturate, hardened surface.
- F. Thoroughly consolidate concrete in the vicinity of the joint.

3.3 EXPANSION JOINTS

- A. Provide expansion joints as shown on the typical details where shown on the plans.
- B. No reinforcement or other embedded metal items bonded to concrete shall extend through the expansion joint.

3.4 SLAB-ON-GRADE CONTROL JOINTS

- A. Provide control joints to the profile shown in the typical details at locations shown on the plans.
- B. Reinforcing is not continuous through the control joint.
- C. Saw the joints as soon as concrete has hardened sufficiently to prevent aggregates being dislodged by saw, but no more than 12 hours after pouring. Use a 3/16 inch wet diamond tipped blade.
- D. Restore curing protection immediately after cutting.
- E. Install joint sealant after 90 days to the full depth of the saw cut, without a backer rod, flush to the surface of the floor.

3.5 SLAB-ON-GRADE ISOLATION JOINTS

- A. Provide isolation joints as shown on the typical details at all exterior walls.
- B. No reinforcement or other embedded metal items bonded to concrete shall extend through the isolation joint.
- C. Isolation Joint Filler: Premolded filler strips shall have oiled wood strips secured to the top and shall be accurately positioned and secured against displacement to clean, smooth concrete surfaces.
- D. The wood strips shall be slightly tapered, dressed and of the size required to install filler strips at the desired level below the finished concrete surface, and to form the groove for the joint sealant.
- E. Material used to secure premolded fillers and wood strips to concrete shall not harm the concrete and shall be compatible with the joint sealant or seals.
- F. Do not remove the strips until after the concrete curing period. Thoroughly clean the groove of all laitance, curing compound, foreign materials, and protrusions of hardened concrete. Blow any dust out of the groove with oil free compressed air.

END OF SECTION 03251