

EXPECTED IMPLEMENTATION JANUARY 2011

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453 EPOXY JOINTING OF PRECAST SEGMENTS – CONTACT TIME (OPEN TIME) AND CONTACT STRENGTH (REV 2-18-10) (FA 4-8-10) (1-11)

SUBSECTION 453-4.5.2 (of the Supplemental Specifications) is deleted and the following substituted:

453-4.5.2 Contact Time (open Time) and Contact Strength: The contact time (open time) of the mixed epoxy-bonding agent shall be:

- Normal-Set Epoxy 60 Minutes, Minimum
- Slow-Set Epoxy 6 Hours, Minimum

The above contact time (open time) will be deemed acceptable if a slant cylinder test specimen, prepared and tested in accordance with the conditions below, sustains the following stress (contact strength) on the slant plane calculated as the axial (vertical) load divided by the area of the slant ellipse:

- Normal-Set Epoxy 1,000 psi at 48 hours after joining
- Slow-Set Epoxy 1,000 psi at 14 days after joining

The cement mortar/concrete material for the slant-cylinder test shall have a compressive strength of at least 4,500 psi at 28 days when tested to ASTM C39. The slant-cylinder test procedure must be in accordance with ASTM C882 with the following modifications:

1. Joining of the sloped surfaces shall be delayed for the following period of time, measured from the time the epoxy was mixed:

- Normal-Set Epoxy 60 Minutes
- Slow-Set Epoxy 6 Hours

2. During the period between mixing of the epoxy and joining of the sloped surfaces, the specimens will be uncovered and maintained at the maximum temperature of the application range for the formulation tested.

3. Assemble the specimens together and cure at the maximum temperature of the formulation range (48 hours for normal set and 14 days for slow set epoxies) prior to testing.

For slow-set epoxy, an additional test specimen shall be made and tested to failure at 24 hours. The formulation of the slow set epoxy is acceptable only if the epoxy-bonding agent exhibits a brittle break.

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