



Florida Department of Transportation

RICK SCOTT
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

ANANTH PRASAD, P.E.
SECRETARY

May 11, 2011

Monica Gourdine
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 416
Proposed Specification: 4160601 Installing Adhesive Bond Anchors and Dowels for
Structural Applications – Testing of Anchors or Dowels.

Dear Ms. Gourdine:

We are submitting, for your approval, two copies of the above referenced Supplemental Specification.

These changes were proposed by Steve Plotkin of the State Construction Office to require at least one test per day.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965RP or rudy.powell@dot.state.fl.us.

If you have any questions relating to this specification change, please call Rudy Powell, State Specifications Engineer at 414-4280.

Sincerely,

Rudy Powell, Jr., P.E.
State Specifications Engineer

RP/cah

Attachment

cc: Gregory Jones, Chief Civil Litigation
Florida Transportation Builders' Assoc.
State Construction Engineer

**INSTALLING ADHESIVE-BOND ANCHORS AND DOWELS FOR
STRUCTURAL APPLICATIONS –TESTING OF ANCHORS OR DOWELS.
(REV 2-24-11)**

SUBARTICLE 416-6.1 (Pages 441-442) is deleted and the following substituted:

416-6.1 Field Testing: Provide an Independent Testing Agency to perform field testing of the installed anchors and dowels under the direction of a Professional Engineer registered in the State of Florida. Submit test reports for each LOT signed and sealed by the Professional Engineer. Perform restrained static tension tests to prevent damage to the surrounding concrete. A restrained test is defined as a test conducted in accordance with ASTM E 488 except that the test equipment support clearance requirements of ASTM E 488 do not apply. The reaction base shall be approximately equal to the drilled hole diameter for the anchor to preclude concrete or masonry failure, but allow bond failure. Displacement measurement for field testing is not required. Test individual anchors and dowels by proof loading in tension to 85% of the Specified Bond Strength in Section 937, based on the nominal anchor or dowel diameter and embedment depth, but not more than 90% of the yield strength of the anchor or dowel, unless otherwise shown in the Contract Documents.

Divide the anchors and dowels into LOTs for testing and acceptance. Each LOT must contain a maximum of 100 anchors or dowels, of the same diameter, embedment length and Adhesive Bonding Material System *installed on the same day*. Randomly select four of the anchors and dowels in each LOT for testing, except if there are three or less in the LOT, in which case, test all anchors, unless otherwise directed by the Engineer. If three consecutive LOTs have no failing tests, sample the next three LOTs at a 2% rate and if these LOTs have no failing tests, sample at a rate of 1% for the remaining LOTs unless there is a failure; however, regardless of LOT size ~~or sampling frequency~~, sample at least one dowel per LOT, ~~per day~~. For every failed field test, perform two additional field tests on adjacent untested anchors or dowels within the LOT. Continue additional field tests until no more test failures occur, or all anchors and dowels within the LOT are tested. For the next LOT after a failed LOT, the sampling rate must be 4% but not less than one dowel per LOT and conform to the sampling rate procedure above including rate reductions as appropriate.

**INSTALLING ADHESIVE-BOND ANCHORS AND DOWELS FOR
STRUCTURAL APPLICATIONS –TESTING OF ANCHORS OR DOWELS.
(REV 2-24-11)**

SUBARTICLE 416-6.1 (Pages 441-442) is deleted and the following substituted:

416-6.1 Field Testing: Provide an Independent Testing Agency to perform field testing of the installed anchors and dowels under the direction of a Professional Engineer registered in the State of Florida. Submit test reports for each LOT signed and sealed by the Professional Engineer. Perform restrained static tension tests to prevent damage to the surrounding concrete. A restrained test is defined as a test conducted in accordance with ASTM E 488 except that the test equipment support clearance requirements of ASTM E 488 do not apply. The reaction base shall be approximately equal to the drilled hole diameter for the anchor to preclude concrete or masonry failure, but allow bond failure. Displacement measurement for field testing is not required. Test individual anchors and dowels by proof loading in tension to 85% of the Specified Bond Strength in Section 937, based on the nominal anchor or dowel diameter and embedment depth, but not more than 90% of the yield strength of the anchor or dowel, unless otherwise shown in the Contract Documents.

Divide the anchors and dowels into LOTs for testing and acceptance. Each LOT must contain a maximum of 100 anchors or dowels, of the same diameter, embedment length and Adhesive Bonding Material System installed on the same day. Randomly select four of the anchors and dowels in each LOT for testing, except if there are three or less in the LOT, in which case, test all anchors, unless otherwise directed by the Engineer. If three consecutive LOTs have no failing tests, sample the next three LOTs at a 2% rate and if these LOTs have no failing tests, sample at a rate of 1% for the remaining LOTs unless there is a failure; however, regardless of LOT size, sample at least one dowel per LOT. For every failed field test, perform two additional field tests on adjacent untested anchors or dowels within the LOT. Continue additional field tests until no more test failures occur, or all anchors and dowels within the LOT are tested. For the next LOT after a failed LOT, the sampling rate must be 4% but not less than one dowel per LOT and conform to the sampling rate procedure above including rate reductions as appropriate.