

ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

Modify Specification _____416_____.
Section/File number

New Section _____.
Section number

Subject: Testing of Anchors or Dowels – Field Testing

Origination date: July 14, 2005

Originator: Steven Plotkin

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Problem statement: The number of anchor dowels that are required to be pull out tested by the specification, is too high

Information source: Reporting by field engineers.

Background data: The current specification requires 10% of dowels to be pull out tested for every LOT of dowels installed. Since this specification went into effect, thousands of dowels have been tested and only 1 or 2 have failed which constitutes an inconsequential failure rate. For this reason, the consensus of Materials, Design and Construction staff is that this testing rate is excessively high and should be reduced in total and should also be further reduced on site based on testing results as testing progresses. The proposed revision addresses this position.

Recommended

Usage Note: When called for in the plans

Desired implementation date:

Beginning with the July 2006 letting.



Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
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DENVER J. STUTLER, JR.
SECRETARY

MEMORANDUM

DATE: September 1, 2005
TO: Specification Review Distribution List
FROM: Duane F. Brautigam, P.E., State Specifications Engineer
SUBJECT: **Proposed Specifications Change: 4160601 – Testing of Anchors Or Dowels - Field Testing.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change to Testing of Anchors Or Dowels - Field Testing.

This change was proposed by Steve Plotkin of the State Construction Office to decrease the sampling rate from 10 % to 4 % for anchors and dowels, per lot.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at SP965DB or duane.brautigam@dot.state.fl.us. Comments received after September 29, 2005 may not be considered. Your input is encouraged.

DFB/jho

Attachment

COMMENTS:

Submitted by:

Phone #:

TESTING OF ANCHORS OR DOWELS.
(REV 8-25-05)

SUBARTICLE 6.1 (Pages 385-386) are deleted and the following substituted:

416-6.1 Field Testing: Provide a qualified professional Independent Testing Agency to perform field testing of the installed anchors and dowels in accordance with the applicable sections of ASTM E 488 and ASTM E 1512, in the presence of the Engineer. Perform restrained static tension tests to prevent damage to the surrounding concrete. 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.

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. Randomly select ~~10%~~4% of the anchors and dowels in each LOT for testing, with a minimum of ~~five~~one tests per LOT, 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.* 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% and conform to the sampling rate procedure above including rate reductions as appropriate.* Determine failure of the field test in accordance with ASTM E 488. Submit certified test reports from the Independent Testing Agency to the Engineer for each LOT.