

ORIGINATION FORM

THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR

(The person who receives or originates the issue and needs to forward the issue for action.)

Modify Specification 462-11.5.4 & 462-11.5.8.
Section/File number

New Section _____.
Section number

Subject: POST-TENSIONING

Origination date: December 23, 2008

Originators: Tim Ruelke, P.E., District 2 Construction Engineer

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Problem statement: ~~462-11.5.4—The material producer has to certify that the material is a Non-bleed grout. This is a QPL item that is required to be certified as non-bleed grout.~~
462-11.5.8 – The modification of this specification is to clarify that if there is a void in the tendon, it needs to be repaired within 48 hrs by vacuum grouting. Drill holes that are made for inspection purposes need to be filled within 4 hrs.

Information source: ~~462-11.5.4—The QPL which requires this material to be Certified as non-bleed grout.~~
462-11.5.8 – For this item Specification 462-11.4.1 states that the Contractor is to provide vacuum grouting equipment (volumetric measuring type) and experienced operators within 48 hours notice.

Background data: ~~462-11.5.4—Fin#213323-4-52-01; Contract #T2206; It appears to be redundant to field test non-bleed grout that is required by the QPL to be certified non-bleed grout.~~
462-11.5.8 – Fin#213323-4-52-01; Contract #T2206; To clarify that if there is a void in the tendon, it needs to be repaired within 48 hrs by

vacuum grouting. Drill holes that are made for inspection purposes need to be filled within 4 hrs.

Recommended

Usage Note: All Jobs

Estimated fiscal

impact, if implemented: None

Specifications Office: The proposed changes to 462-11.5.4 will not be processed.



Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

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STEPHANIE KOPELOUSOS
SECRETARY

MEMORANDUM

DATE: February 27, 2009

TO: Specification Review Distribution List

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

SUBJECT: Proposed Specification: 4621105 Post-Tensioning

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Christopher Wood to clarify the method and time limitation for repairing voids in tendons and drill holes made for inspection.

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 ST986RP or rudy.powell@dot.state.fl.us. Comments received after April 10, 2009, may not be considered. Your input is encouraged.

RP/dt
Attachment

POST-TENSIONING
(REV 2-19-09)

SUBARTICLE 462-11.5.8 (of the Supplemental Specifications) is deleted and the following substituted:

462-11.5.8 Post-Grouting Operations and Inspection: Do not remove or open inlets and outlets until the grout has cured for 24 to 48 hours. Remove all outlets located at anchorages and high points along the tendon to facilitate inspection and perform inspections within one hour after the removal of the inlet/outlet. Drill and inspect all high points along the tendon as well as the inlets or outlets located at the anchorages. Depending on the geometry of the grout inlets, drilling may be required to penetrate to the inner surface of the trumpet or duct. Use drilling equipment that will automatically shut-off when steel is encountered. Unless grout caps are determined to have voids by sounding, do not drill into the cap. Perform inspections in the presence of the Engineer using endoscopes or probes. *If voids are detected in tendons or anchorages during inspection* ~~Within four hours of completion of the inspections, fill all duct and anchorage~~ voids using the volumetric measuring vacuum grouting process: *within 48 hours.*

Within 4 hours of completion of the inspections, seal and repair all anchorage and inlet/outlet voids that are produced by drilling for inspection purposes as specified in 462-12.2. Remove the inlet/outlet to a minimum depth of 2 inches. Use an injection tube to extend to the bottom of the drilled holes for backfilling with epoxy.

Post grouting inspection of tendons having a length of less than 150 feet may utilize the following statistical frequency for inspection:

1. For the first 20 tendons, inspect all outlets located at anchors and tendon high points by drilling and probing with an endoscope or probe. If one or more of the inspection locations are found to contain a defect (void), continue testing all tendons until 20 consecutive tendons have been inspected and no voids have been found.

2. When no defects are detected as defined in No. 1 above, the frequency of inspection can be reduced to inspect every other tendon (50%). If a defect is located, inspect the last five tendons grouted. Return to step 1 above and renew the cycle of 100% tendon inspection.

If tendon grouting operations were prematurely terminated prior to completely filling the tendon, drill into the duct and explore the voided areas with an endoscope. Probing is not allowed. Determine the location and extent of all voided areas. Install grout inlets as needed and fill the voids using volumetric measuring vacuum grouting equipment.