

# ORINATION FORM

## Proposed Revisions to the Specifications

(Please provide all information - incomplete forms will be returned)

Date:

Office:

Originator:

Specification Section:

Telephone:

Article/Subarticle:

email:

**\*\*Will the proposed revision require changes to:**

Publication	Yes	No	Office Staff Contacted and date contacted
Standard Plans Index			
Traffic Engineering Manual			
FDOT Design Manual			
Construction Project Administration Manual			
Basis of Estimate/Pay Items			
Structures Design Guidelines			
Approved Product List			
Materials Manual			

**\*\*This section must be completed prior to processing proposed revisions.**

**Will this revision necessitate any of the following:**

**Design Bulletin**

**Construction Bulletin**

**Estimates Bulletin**

**Materials Bulletin**

**Are all references to external publications current?**

**Yes**

**No**

**If not, what references need to be updated? (Please include changes in the redline document.)**

**Why does the existing language need to be changed?**

**Summary of the changes:**

**Are these changes applicable to all Department jobs?**

**Yes**

**No**

**If not, what are the restrictions?**

Contact the State Specifications Office for assistance in completing this form.

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## **M E M O R A N D U M**

**DATE:** November 19, 2020  
**TO:** Specification Review Distribution List  
**FROM:** Daniel Strickland, P.E., State Specifications Engineer  
**SUBJECT:** Proposed Specification: **4500802 Precast Prestressed Concrete Construction**

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

This change was proposed by Thomas Frank from the State Materials Office to adjust allowable stress in CFRP stands and additional editorial changes.

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 online at

<http://fdotewp1.dot.state.fl.us/programmanagement/development/industryreview.aspx> .

Comments received after **December 17, 2020**, may not be considered. Your input is encouraged.

DS/rf

Attachment

**PRECAST PRESTRESSED CONCRETE CONSTRUCTION**  
**(REV 11-4-20)**

SUBARTICLE 450-8.2.1 is deleted and the following substituted:

**450-8.2 Operations:**

**450-8.2.1 General:** The tensioning operations consist of the application of the final force or load required by the Plans and with adjustments for abutment rotation, bed shortening, anchorage header movement, live end seating, dead end seating, splice chuck seating, friction in the jacking system and any other elements as applicable for the type of bed and anchorage used. Also, adjust the force when the temperature differential between the ambient temperature at time of stressing and the expected concrete temperature at time of placement is greater than 25°F. Increase the force at the rate of 1% for each 10°F increment that the ambient temperature at time of stressing is below the expected concrete temperature at time of placing. Decrease the force at the rate of 1% for each 10°F that the ambient temperature at time of stressing is above the expected concrete temperature at the time of placing. Do not allow the stress in the steel prestressing strand to exceed 80% of the specified tensile strength of the strand, after seating. Do not allow the stress in the CFRP prestressing strand to exceed ~~70~~65% of the specified tensile strength of the strand, after seating. During each tensioning operation, for the verification of the live and dead end seating, check the seating of at least 4 strands or a minimum of 10% of the total number of strands, whichever is greater. Maintain a record of the tensioning operation.

Compensation for temperature differential and abutment rotation are not required for self-stressing beds. However, adjust the final load for the effects of bed shortening due to the load from all the strands.

If the placement of concrete is delayed for more than seven calendar days after the completion of the stressing operation, check and adjust the final strand load as necessary before placement of concrete and maintain a record of the stressing operation.

Accomplish tensioning by either single strand tensioning or multiple strand tensioning, and ensure that it is symmetrical about the vertical axis of the product. Tensioning methods, in general, consist of tensioning to the required loads indicated by the jacking system, or tensioning to the required load while monitoring the elongation of the prestressing strand.

Production personnel will perform tensioning operations under supervision of personnel possessing a certificate of completion of PCI Quality Control Personnel Certification Level II, and Section 450 Specification examination, or certified personnel may perform tensioning operations directly.

SUBARTICLE 450-11.6.1 is deleted and the following substituted:

**450-11.6.1 Beam Ends that will not be Permanently Encased in Concrete**  
**Diaphragms:**

1. Remove any corrosion product from all accessible surfaces at the cut end of the strands.

2. Apply two layers of epoxy to the exposed beam ends (including clipped and chamfered surfaces) at the applicable time frame below:

a. For beams without debonded strands, at least ~~3~~<sup>three</sup> calendar days prior to shipping but no later than 50 calendar days after detensioning.

b. For beams with debonded strands, at least 3 calendar days prior to shipping, or between ~~42~~<sup>45</sup> and 50 calendar days after detensioning, whichever occurs first. ~~If the beam requires shipment prior to 42 calendar days, at least three calendar days prior to shipping.~~

3. As an option to item 2b, the epoxy may be applied in two steps as follows:

a. To the upper area of the beam end within 4 inches of the outer stands of the bottom strand group any time after detensioning.

b. To the remaining area that includes the bottom strand group between 42 and 50 calendar days after detensioning. Ensure that the entire beam end is fully coated at least ~~3~~<sup>three</sup> calendar days prior to shipping.

Ensure that the first epoxy layer is cured before applying the second layer.

The finished thickness of the epoxy coating must be a minimum of 1/16 inch and form a vertical flat plane without deviations or localized depressions from recessed strands or other defects.

Ensure that the epoxy coating is cured per the manufacturer's recommendations prior to shipping the products.

Any modifications to the time limits above must be approved by the Engineer.