



Florida Department of Transportation

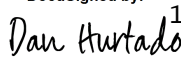
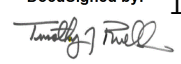
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KEVIN J. THIBAUT, P.E.
SECRETARY

January 13, 2022

MATERIALS BULLETIN NO. 22-01
DCE MEMORANDUM NO. 22-02
(FHWA Approved: 1/12/2022)

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 1/13/2022 | 9:48 AM EST
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 1/13/2022 | 9:57 AM EST

TO: DISTRICT MATERIALS AND RESEARCH ENGINEERS
 DISTRICT CONSTRUCTION ENGINEERS

FROM: Timothy Ruelke P.E., Director, Office of Materials
 Dan L. Hurtado P.E., Director, Office of Construction

COPIES: Will Watts, Scott Arnold, Ananth Prasad (FTBA), Mark Clasgens (FHWA),
 David Wagner, Jose Armenteros

SUBJECT: USE OF PRESTRESSING STRAND FROM MORE THAN ONE SOURCE
 IN A SINGLE PRESTRESSED ELEMENT

Because of the impacts to the availability of steel prestressing strand, the Department has evaluated historical data and performed statistical analysis on the physical properties of steel strand from different manufacturers. In response, the Department will temporarily waive the requirement of Standard Specification, Section 450-3.1 which prohibits the use of steel strand from more than one source in any individual prestressed element. This change is facilitated through the implementation of the attached revisions to Articles 450-2.5, and 450-3.1 of the Standard Specifications for Road and Bridge Construction.

Document and account for the variability of physical properties and source placement within the element for each individual strand source, ensuring the final force is applied to each strand per the Contract Documents. Maintain symmetry within the strand pattern for each strand source. These changes do not apply to draped strand tensioning.

This memorandum serves as a blanket approval to process a \$0.00 contract change to incorporate the above referenced revision and should be attached to the Work Order or Supplemental Agreement.

Should you have any questions please contact David Wagner, State Construction Office at (850) 414-5268, or Jose Armenteros, State Materials Office at (352) 955-6666.

TR/ja

SECTION 450
PRECAST PRESTRESSED CONCRETE CONSTRUCTION
(REV 12-22-21)

SUBARTICLE 450-2.5 IS DELETED AND THE FOLLOWING SUBSTITUTED:

450-2.5 Documentation: Ensure that a system of records is maintained in each plant which will provide all information regarding the certification and testing of prestressing steel, FRP prestressing strands, reinforcing steel, FRP reinforcing, concrete materials and concrete, curing materials, embedded items, tensioning, concrete proportioning, pre-placement, placement, post-placement inspections, curing, and disposition of products. Include in the record keeping all the deficiencies found as a result of the inspection and testing. Keep certified test reports for all materials incorporated into the production of precast prestressed concrete products.

Ensure that the record of tensioning operations is maintained and reflects the identification of the bed, type of fabricated products, the complete Financial Project Identification Number, jack identification number, date prestressing strands were stressed, temperature at the time of stressing, and signature of the qualified tensioning machine operator.

If steel strands from more than one source are used in any individual prestressed element, document and account for the variability of physical properties and source placement within the element for each individual strand source, ensuring the final force is applied to each strand per the Contract Documents. Maintain symmetry within the strand pattern for each strand source.

Ensure the proposed method and format for documenting required information is included in the Producer QC Plan.

Maintain records until all the precast prestressed products for a project have been fabricated then submit required records to the Engineer. Ensure records are available at all times for the Engineer s inspection.

SUBARTICLE 450-3.1 IS DELETED AND THE FOLLOWING SUBSTITUTED:

450-3 Materials.

450-3.1 General: Meet the following requirements:

Concrete	Section 346
Steel Strands****	Section 933
Carbon Fiber Reinforcing Polymer (CFRP) Strands*	Section 933
Steel Prestressing Bars	Section 933
Steel Accessories	Section 933
Steel Spirals	Section 931
Reinforcing Steel and Metal Welded Wire Reinforcement	Sections 415 and 931
FRP Reinforcing	Sections 415 and 932
FRP Spirals**	Section 932
Embedded Ducts	Section 960
Membrane Curing compounds***	Section 925
Epoxy Resin Compounds	Section 926
Burlap	Section 925

Curing Blanket..... 400-16
Penetrant sealer***Section 413
MethacrylateSection 413
Epoxy Injection of CracksSection 411

* Do not use strands from more than one source in any individual prestressed element, with the exception of the partially tensioned strands (dormant strands).

** The FRP spirals cannot be used in combination with steel prestressing strand.

*** Use membrane curing compounds and sealers that are compatible with coating or other materials that are applied to concrete surface.

**** Do not use draped strands from more than one source in any individual prestressed element, straight strands may be used from more than one source.

Use inserts in accordance with the recommendations of the manufacturers and within their certified capacities and application qualifications. Do not use aluminum inserts.

Use draped strand devices of sufficient rigidity having adequate support to retain the position of the strand unchanged under the induced load. Do not allow the devices to induce friction to the tendons such that the required jacking force and elongation cannot be attained.