



*Florida Department of Transportation*

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December 28, 2018

Khoa Nguyen  
Director, Office of Technical Services  
Federal Highway Administration  
3500 Financial Plaza, Suite 400  
Tallahassee, Florida 32312

Re: State Specifications Office  
Section: **471**  
Proposed Specification: **4710501 Fiber Reinforced Polymer Fender Systems.**

Dear Mr. Nguyen:

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

The changes are proposed by Felix Padilla to match the note with the Title in Section 973, Table 5-1.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to [dan.hurtado@dot.state.fl.us](mailto:dan.hurtado@dot.state.fl.us).

If you have any questions relating to this specification change, please call me at 414-4130.

Sincerely,

Signature on file

Dan Hurtado, P.E.  
State Specifications Engineer

DH/rf  
Attachment

cc: Florida Transportation Builders' Assoc.  
State Construction Engineer

**FIBER REINFORCED POLYMER FENDER SYSTEMS**  
**(REV 11-1-18)**

SUBARTICLE 471-5.1 is deleted and the following substituted:

**471-5 Design Criteria.**

**471-5.1 Wales:** Wales must meet the following minimum design criteria:

1. Be structurally continuous across a minimum of two spans.
2. Recess all attachment hardware.
3. Provide sufficient creep resistance to prevent loosening of attachments over time.
4. Provide adequate stiffness to distribute vessel impact loading so as to achieve the maximum efficiency of the system.
5. For hollow wale sections, provide a minimum bolt pull-through and crushing resistance greater than or equal to the maximum connection reaction force. Pull-through and crushing resistance is defined at the point of first yield and/or the load at which an audible crack occurs.
6. Hollow wale sections must be capable of resisting crushing loads perpendicular to the axis of the member as required for the impact force applied to fender in the analysis used to determine the associated energy absorption capacity of the system. This impact force may be equally distributed between two lines of wales and over a longitudinal distance of five feet.
7. Provide black wales unless otherwise shown in the Plans.
8. Wales must meet the RTSS minimum requirements in Section 973, Table 5-1.

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8. Wales must meet the RTSS minimum requirements in Section 973, Table 5-1.