



Florida Department of Transportation

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GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

KEVIN J. THIBAUT, P.E.
SECRETARY

December 29, 2021

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

Re: State Specifications Office
Section: **992**
Proposed Specification: **9920205 Highway Lighting Materials.**

Dear Mr. Nguyen:

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

The changes are proposed by Richard Stepp from the Roadway Design Office to clarify the luminaire cable ground wire color, provide a more practical and effective fuse holder connection and slug material.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via email to daniel.strickland@dot.state.fl.us.

If you have any questions relating to this specification change, please call me at (850) 414-4130.

Sincerely,

Signature on file

Daniel Strickland, P.E.
State Specifications Engineer

DS/ra

Attachment

cc: Florida Transportation Builders' Assoc.
State Construction Engineer

HIGHWAY LIGHTING MATERIALS**(REV 10-13-21)**

SUBARTICLE 992-2.5 is deleted and the following substituted:

992-2.5 Luminaire Cable: Pole and bracket cable shall be multi-conductor Type XHHW-2 XLP TC with three No. 10 AWG, where the ground wire has green-colored insulation.

SUBARTICLE 992-2.6 is deleted and the following substituted:

992-2.6 In Line Fuse Holders: In line fuse holders shall provide a breakaway connection and be UL recognized per Guide IZLT2 and rated for 600V. The wire connections in the fuse holders shall be of the copper or equivalent type setscrew type. Fused connections shall utilize an ATQ or FNQ 10 amp time delay fuse rated for 500V. Fuses shall be UL listed to Standard 248-14. The rating for the fuse holders shall be water resistant or submersible rated.

SUBARTICLE 992-2.8.2 is deleted and the following substituted:

992-2.8 Pole Cable Distribution System:

992-2.8.1 General: These requirements are applicable for all systems rated up to and including 600V. The installed system shall be in compliance with Standard Plans, Index 715-001.

 Systems installed as alternates to the Standard Plans shall be one of the products listed on the APL. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6. Alternate Systems shall meet the following requirements:

A modular color coded cable system consisting of rubber cords with integrally molded watertight submersible connectors, inline fuses, submersible surge arrester and breakaway connectors shall be installed. The cables shall extend from an underground pull box near the base of the pole to the luminaires at the top of the pole. A cable system shall be required at each pole.

The cable system shall consist of the following described components:

1. Distribution Block: The red molded body shall contain a three wire female outlet integrally molded to a 24 inch length of 10/3 SOOW cable with an end molded to the body and the other end shall be spliced in the field to the distribution cable that feeds through the underground pull box near the base of the pole. The block shall be watertight and submersible when the integrally fused plug on the power cable is engaged and fully seated. Dimensions shall be approximately 2 inches by 3 inches by 3 inches. The size is important because of limited space.

2. Surge Arrester Cable: Provide a 12 inch length of 10/2 SOOW cable with a red male plug to match the red female connector cable extending from the fused plug on the power cable. The other end of the surge arrester cable shall be integrally molded to a MOV waterproof surge arrester. The red male plug shall make a submersible connection when mated to the red female connector on the power cable. A separate 12 inch length of

No. 10 THWN green ground wire shall be provided from the surge arrester to attach to the ground system in the pull box.

3. Power Cable: This cable feeds the luminaire cable and the surge arrester cable from the load side of its integrally fused red male plug end. The red fused plug shall contain 10A 500V fuses (13/32 inch by 1-1/2 inch) or equal. ~~A solid copper slug~~ The fuse holder manufacturer's suggested slug (blank or dummy fuse) ~~shall~~ must be installed on the neutral side for line to neutral service. Both lines shall be fused for line to line service. The section that feeds the luminaire cable shall be a 10 foot section of 10/3 SOOW cable with an orange female connector molded to the end extending up into the base of the pole. This female connector shall pass easily through a standard size 1-1/4 inch PVC elbow and make a submersible connection when mated with the orange male plug on the luminaire cable. The section that feeds the surge arrester cable shall be 12 inches in length of 10/2 SOOW cable with a red female connector on the end. The red female connector shall make a submersible connection when mated to the red male plug on the surge arrester cable.

4. Luminaire Cable: This cable is Type XHHW-2 XLP-TC with three No. 10 AWG an orange male molded plug molded to match the orange female end of the power cable. The connector shall require 25 pounds of force to mate or disengage from the female end. When engaged the connection shall be watertight and submersible. The cable strain relief shall extend approximately 2 inches from the connector.

The distribution block and each connector shall be made of thermosetting synthetic polymer which is non-flame supporting and which remains flexible over a temperature range of minus40°F to plus 190°F. Hardness of the molded rubber shall be 65 durometer.

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