

ORIGINATION FORM

Date: May 17, 2012

Originator: Chester Henson

Contact Information: chester.henson@dot.state.fl.us

Specification Title: Highway Lighting Materials

Specification Section, Article, or Subarticle Number: Section 992-1.2, 992-1.4, 992-1.9.6, 992-3.3 and 992-3.4.4.

Why does the existing language need to be changed? Department is allowing any OSHA recognized National Recognized Testing Laboratory.

Summary of the changes: Added NRTL to all listed devices.

Are these changes applicable to all Department jobs? Yes

Will these changes result in an increase or decrease in project costs? No substantial change in cost.

With who have you discussed these changes? Traffic Operations, Structures, Construction and Specifications

What other offices will be impacted by these changes? None

Are changes needed to the PPM, Design Standards, SDG, CPAM or other manual? No

Is a Design Bulletin, Construction Memo, or Estimates Bulletin needed? No

Contact the State Specifications Office for assistance in completing this form.
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ANANTH PRASAD, P.E.
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M E M O R A N D U M

DATE: May 29, 2012

TO: Specification Review Distribution List

FROM: Trey Tillander, State Specifications Engineer

SUBJECT: Proposed Specification: **9920102 Highway Lighting Materials.**

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

This change was proposed by Chester Henson of the State Roadway Design Office to update the language to current Department practice.

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 SP965TT or trey.tillander@dot.state.fl.us. Comments received after **June 27, 2012**, may not be considered. Your input is encouraged.

TT/dt
Attachment

HIGHWAY LIGHTING MATERIALS.**(REV 5-17-12)**

SUBARTICLE 992-1.2 (of the Supplemental Specifications) is deleted and the following substituted:

992-1.2 Luminaires: Luminaires shall comply with UL 1598 and be listed and labeled for installation in wet locations by *an OSHA recognized* “Nationally Recognized Testing Laboratory” *(NRTL)* ~~acceptable to the Department.~~

SUBARTICLE 992-1.4 (of the Supplemental Specifications) is deleted and the following substituted:

992-1.4 Conduit: Conduit shall be used in accordance with the National Electrical Code and as specified in the plans. All conduit shall be UL *or NRTL* listed and meet the following material requirements:

992-1.4.1 Rigid Metal Conduit: Rigid steel conduit shall meet the requirements of UL 6. The steel conduit shall be hot-dip galvanized with a minimum coating of 1.24 oz/ft² on both the inside and outside of the conduit. The weight of the zinc coating shall be determined using ASTM A 90.

992-1.4.2 Polyvinyl-Chloride: Polyvinyl-chloride conduit shall be high impact, Schedule 40 or Schedule 80 conduit meeting the requirements of UL 651.

992-1.4.3 Rigid Aluminum: Rigid aluminum conduit shall meet the requirements of UL 6A.

992-1.4.4 High Density Polyethylene (HDPE): HDPE conduit shall meet the requirements of UL 651A.

992-1.4.5 Liquid tight Flexible Metal: The conduit shall meet the requirements of UL 360.

SUBARTICLE 992-1.9.6 (of the Supplemental Specifications) is deleted and the following substituted:

992-1.9.6 Surge Protection Device: Surge protective device shall be Type 1, UL *or NRTL* listed to 1449, 3rd Edition. Surge current rating on per phase basis shall equal or exceed 50KA. I-nominal rating shall be 10KA or 20KA. Modes of protection shall include L-G and N-G having UL 1449-3 Voltage Protection Ratings of 2000V or lower.

SUBARTICLE 992-3.3 (of the Supplemental Specifications) is deleted and the following substituted:

992-3.3 Surge Protective Devices: Surge Protective Devices (SPD) shall be Type 1 or Type 2. UL *or NRTL* listed to UL 1449 3rd Edition. Surge current rating on a per phase basis shall be equal or exceed 50KA. I-nominal rating shall be 10KA or 20KA. Modes of protection

shall include L-G and N-G having UL 1449-3 Voltage Protection Ratings (VPR's) of 2000V or lower.

SUBARTICLE 992-3.4.4 (of the Supplemental Specifications) is deleted and the following substituted:

992-3.4.4 Modular Power Cable System: The modular cable system shall consist of cables with weathertight connectors. All portions of the cable system shall be rated up to and including 600 V. The plugs and connectors shall be *UL or NRTL listed to* UL 498 *listed* twist-lock type devices with a NEMA L16-30R configuration for 480V line to neutral systems or for 480V line to line systems. The X designated prong shall be the hot leg for 480V line to neutral systems. The X and Z designated prongs shall be the hot legs for 480V line to line systems. The Z designated prong shall always be treated as a neutral leg. The plugs and connectors shall be equipped with watertight safety shrouds meeting UL 4X enclosure rating. Plugs and connectors when used on cord sets shall be equipped with IP 55 rated waterproof boots.

The power cable shall be a minimum of 10/3 SOOW cable that is wired from distribution cable in the pull box near the base of the pole to the line side of the circuit breaker panel.

The circuit breaker cable shall be an 8 foot length of 10/3 SOOW (minimum) cable that is connected to the load side of the circuit breaker panel and a female receptacle on the other end. This female receptacle shall mate with the male plug on the pole cable, the male flanged receptacle on the luminaire ring and the male plug on the portable step-down transformer.

The pole cable shall be the length of the mounting height of the pole plus 6 feet. The cable shall be a minimum of 10/3 SOOW with a male plug on one end that mates with the female receptacle on the circuit breaker cable. The other end fits under the lugs in the junction box on the luminaire ring. The power cable shall be attached to the luminaire ring with a stainless steel strain relief Kellem's grip capable of withstanding the pull of the weight of the cable. All power cables should be attached to the stainless steel weathertight wiring chamber with weathertight cable connectors