

SECTION 650

VEHICULAR TRAFFIC SIGNAL ASSEMBLIES

The requirements of Section 650 are amended and expanded by the following:

- 1) All assemblies used in Leon County **SHALL** employ Light Emitting Diodes (LED) instead of incandescent lighting and shall comply with the State of Florida Certification for Red and Green colors and the yellow color **SHALL** comply with the ITE (Institute of Transportation Engineers) illumination standard set in July 1998 ITE VTSCH Part II when the applied voltage is between 80 VAC and 135 VAC.
- 2) All assemblies **SHALL** provide for a minimum of five (5) years of maximum light output with a warranty of five (5) years.
- 3) Only tunnel visors shall be provided unless otherwise specified on the plan sheet
- 4) The entire signal head assembly (housing, doors and visors) shall be painted black with a reflectance value not exceeding 25 percent as measured by ASTM E-97
- 5) DISCONNECT HANGERS:

Each span-wire mounted traffic signal head shall be provided with a disconnect hanger that will permit the removal of the traffic signal head from the mounting attachment without the use of tools and disconnecting or disturbing the wire leads entering the signal housing. The disconnect hanger shall be supplied with a single hinged door and fabricated of the material as specified in CRT 659-01, Brackets.

Each span-wire mounted internally illuminated and blank-out sign shall be provided with a wire entrance hanger in lieu of the disconnect hanger.

An adapter hub fabricated of the same material as the disconnect hanger shall be provided for mounting the hanger. The adapter hub shall be supplied with tri-stud connections and have the same serrated boss design as the bracket specified.

The disconnect hanger housing shall have a minimum of 300 cubic inches of area

Each signal cable entrance of the disconnect hanger shall be provided with a plastic insulated bushing or other approved device. One plug shall be furnished with each disconnect hanger to seal one of the signal cable entrances.

The top of the disconnect hanger shall have an opening with serrated area to interface with the adjustable hanger.

- 6) PAINTING:

The brackets, disconnect hanger, tri-stud adapter hub and other attachments except for the adjustable hanger arms, mast arm hangers, and span wire clamp shall be infrared oven baked with a high quality paint described as follows:

- * First Coat (Primer) -- Shall meet the performance specifications of Federal Specifications TT-P-636 or the latest revision thereof.
- * Second Coat (Grey Enamel) -- shall be Medium Grey Alkyd Urea Exterior Baking Enamel and shall comply with Federal Specifications TT-E-489b or the latest revision thereof.
- * Third Coat -- shall be Alkyd Urea Black Synthetic Baking Enamel, with minimum gloss reflectance and shall meet the performance requirements of Mil E-5557 Enamel Heat Resisting Blyceryl Phtalate, Type 4, Instrument Black.

7) BACKPLATES:

All signal heads on eastbound and westbound movements shall have backplates.

DESIGN:

The design shall incorporate an adjustable feature so that they may be used with all standard traffic signals including programmed optics.

Full accessibility of disconnect hanger and wiring chambers is required. All parts shall be captive during normal maintenance routines and shall not require the use of tools for access purposes. All parts shall be replaceable in the event of damage without removal or disassembly of the signal.

The backplate shall present an effective wind resistance of not greater than 30% of the effective plane area and shall be designed to minimize signal deflection from wind effects. The fenestration angles shall be such as to present a solid appearance from normal viewing angles.

One-section, three-section, four-section and five-section backplates shall be supplied as called for on the plans. Backplates for one-section heads shall totally surround the head.

8) TUNNEL VISORS:

Only signal indications that can be seen, as a visual conflict shall be provided with a separate tunnel visor; all other signal indications shall be provide with standard cut-away visors.

All visors shall have a minimum downward tilt of 3½ degrees measured from the center of the lens. Visors for twelve-inch signals shall have a length of not less than 9-inches. Visors for eight-inch signals shall have a length of not less than 7-inches. Tunnel visors shall encircle and shield the lens from 300 degrees, plus or minus ten degrees, providing an opening at the bottom of the visor to prevent the accumulation of dirt.

The visor shall be of a similar material and finish as the signal head.

The visor shall be designed to fit tightly against the collar and door and shall not permit any perceptible filtration of light between the door and the visor. Visors shall be mounted

with twist-on slots and stainless steel screws, positioned for either vertical or horizontal mounting of the signal.