



Florida Department of Transportation

CHARLIE CRIST
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

STEPHANIE KOPELOUSOS
SECRETARY

July 14, 2010

Monica Gourdine
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 993
Proposed Specification: **9930202 Object Markers and Delineators – Flexible Post Delineators.**

Dear Ms. Gourdine:

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

These changes were proposed by Chester Henson of the State Roadway Design Office to move the material requirements from Section 972 to Section 993 to eliminate the need to go to multiple Sections for material requirements.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to ST986RP or rudy.powell@dot.state.fl.us.

If you have any questions relating to this specification change, please call Rudy Powell, State Specifications Engineer at 414-4280.

Sincerely,

Rudy Powell, Jr., P.E.
State Specifications Engineer

RP/cah

Attachment

cc: Gregory Jones, Chief Civil Litigation
Florida Transportation Builders' Assoc.
State Construction Engineer

OBJECT MARKERS AND DELINEATORS**(REV 5-17-10765-8220-10)**

SUBARTICLE 993-2-2 (Page 975) is deleted and the following substituted:

993-2.2 Recycled-Flexible Post Delineators: Meet the requirements of Section 972.

993-2.2.1 Dimensions: *The post shall have a minimum width of 3 inches facing traffic and of such length to generally provide a height of 48 inches above the pavement surface.*

993-2.2.2 Color: *The post shall be opaque white. The yellowness index shall not exceed 12 when tested in accordance with ASTM D 1925 or ASTM E 313. The daylight 45 degree, 0 degree luminous directional reflectance shall be a minimum of -70 when tested in accordance with ASTM E 1347.*

993- 2.2.3 Retroreflective Sheeting: *The reflective sheeting shall be Types -III, IV, V or VII and meet the requirements of Section 994. The reflective sheeting shall have a minimum width of 3 -inches and have a minimum area of 30 square inches².*

~~**993-2.2.4 Heat Resistance:** *The post shall be conditioned a minimum of two hours in an oven at 140°F plus or minus± 30°F. The conditioned post shall be capable of straightening itself within 30 seconds when bent 90 degrees at the midpoint for each of four bends. The test on each post shall be completed within two minutes of removal from the oven.*~~

~~**993-2.2.5 Cold Resistance:** *The post shall be conditioned a minimum of two hours at -5°F plus or minus± 3°F in an environmentally controlled test chamber. The conditioned post shall be capable of straightening itself within 30 seconds when bent 90 degrees at the midpoint for each of four bends. The test on each post shall be completed within two minutes of removal from the environmental chamber.oven.Testing shall be performed in the environmental chamber.*~~

993-2.2.64 Impact Performance: *Posts shall be tested and evaluated according to the National Testing Product Evaluation Program (NTPEP) Project Work Plan for Field Evaluation of Flexible Surface Mounted Delineator Posts. A temperature of 65°F or greater may be used in lieu of the NTPEP temperature requirements. The pPosts, installed according to manufacturer's recommendations, shall be capable of returning to a vertical position plus or minus± 5 degrees with no delaminating, and one post may list no more than 10 degrees. after receiving 10 vehicle impacts when tested according to National Testing Product Evaluation Program (NTPEP). The NTPEP requirement of one half of the hits at 32° F and half at 65°F or greater can be substituted by 10 hits at the 65°F or greater. NTPEP data or independent test lab data shall be submitted for product approval. For acceptance purposes there should be n **No post shall split, crack, break, or separate from base.** broken or missing, and no more than one post may list more than 10 degrees after receiving 10 vehicle impacts.*

OBJECT MARKERS AND DELINEATORS**(REV 7-8-10)**

SUBARTICLE 993-2-2 (Page 975) is deleted and the following substituted:

993-2.2 Flexible Post Delineators:

993-2.2.1 Dimensions: The post shall have a minimum width of 3 inches facing traffic and of such length to generally provide a height of 48 inches above the pavement surface.

993-2.2.2 Color: The post shall be opaque white. The yellowness index shall not exceed 12 when tested in accordance with ASTM D 1925 or ASTM E 313. The daylight 45 degree, 0 degree luminous directional reflectance shall be a minimum of 70 when tested in accordance with ASTM E 1347.

993- 2.2.3 Retroreflective Sheeting: The reflective sheeting shall be Types III, IV, V or VII and meet the requirements of Section 994. The reflective sheeting shall have a minimum width of 3 inches and have a minimum area of 30 square inches.

993-2.2.4 Impact Performance: Posts shall be tested and evaluated according to the National Testing Product Evaluation Program (NTPEP) Project Work Plan for Field Evaluation of Flexible Surface Mounted Delineator Posts. A temperature of 65°F or greater may be used in lieu of the NTPEP temperature requirements. Posts shall be capable of returning to a vertical position plus or minus 5 degrees with no delaminating, and one post may list no more than 10 degrees. No post shall split, crack, break, or separate from base.