6330201 COMMUNICATION CABLE
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

Ananth Prasad
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Comments: (7/25/22, Internal)
See the comment below:

Should the printing requirement be to use a printing machine with waterproof labels? Thermal printers are probably better suited for labels. Most laser printers are used to print directly to the wire/cable insulation.
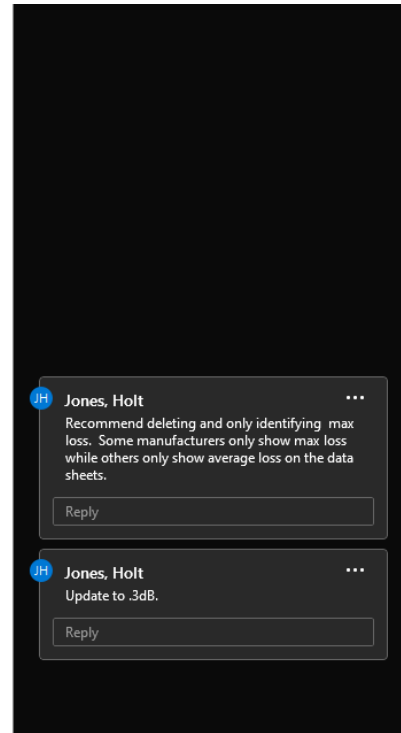

Response: Incorporated functional recommendations as:
"Ensure that splice enclosures are permanently labeled using machine printed, waterproof labels suitable for outside plant applications."
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Bruce Boyd
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Comments: (8/26/22, Industry)

633-2.1.3 Cable Terminations: Use Type LC connectors for all new network installations. Use Type ST, SC, or FC connectors only for connections to existing equipment or as specified in the Plans or by the Engineer. Use UPC pre-terminated cable assemblies, splice on connectors, single fiber pigtails or multi fiber modules, with factory-installed connectors with fusion splicing technique for all new network installations. Use UPC field-installed connectors only for connections or temporary repairs to existing equipment or as specified by the Engineer. Ensure that all connectors include a ceramic ferrule and provide a strain relief mechanism when installed on a single fiber cable that contains strength elements. Ensure that ST and FC connectors include a metallic body. Ensure that all connectors provide a minimum 11 pound pullout strength. Ensure that the optical fiber within the body of all connectors is mechanically isolated from cable tension, bending, and twisting. ¶

Ensure that all connectors are compliant with the TIA/EIA-604 standards, as applicable, and are tested according to the Telcordia/Bellcore GR-326-CORE standard. When tested according to the TIA and EIA's Fiber Optic Test Procedure (FOTP)-171 (TIA/EIA-455-171B) at the manufacturer, ensure that the connectors have an average insertion loss, as reflected on the manufacturer data sheet, of less than or equal to 0.15 decibel and a maximum loss of less than or equal to 0.320 decibel for pre-terminated cable assemblies with factory-installed connectors and a maximum loss of less than or equal to 0.50 decibel for field-installed temporary connectors. Test the connectors as detailed in FOTP-107 (TIA -455-107A) to reflectance values of less than or equal to minus 4550 decibels. ¶

> **Jones, Holt** ...
> Recommend deleting and only identifying max loss. Some manufacturers only show max loss while others only show average loss on the data sheets.
> Reply

> **Jones, Holt** ...
> Update to .3dB.
> Reply

Response: Incorporated edits in 633-2.1.3 as suggested.
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Barbara Strickland
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Comments: (8/30/22, Industry)

District Three has reviewed the subject Industry Review and have the following to offer at this time. Comments have been submitted by Russell Allen in Traffic Ops. Should you have any questions, please contact Matt Webb at 850-330-1381 or matt.webb@dot.state.fl.us.

See attachment. Comments have been highlighted and are made throughout the specification PDF.

> Consider adding "in the Plans" or by....

SUBARTICLE 633-2.1.3 is deleted and the following substituted:

633-2.1.3 Cable Terminations: Use Type LC connectors for all new network installations. Use Type ST, SC, or FC connectors only for connections to existing equipm as specified in the Plans or by the Engineer. Use ultra physical contact (UPC) pre-termina cable assemblies with factory-installed connectors for all new network installations. Use U field-installed connectors only for connections or temporary repairs to existing equipment specified by the Engineer. Ensure that all connectors include a ceramic ferrule and provide strain relief mechanism when installed on a single fiber cable that contains strength eleme Ensure that ST and FC connectors include a metallic body. Ensure that all connectors prov minimum 11 pound pullout strength. Ensure that the optical fiber within the body of all connectors is mechanically isolated from cable tension, bending, and twisting.

Install cable tags within 1 foot of each splice and/or termination point indicating the cable type, fiber count, and each fiber optic cable origination and termi points. Ensure that the cable tags are machine printed, waterproof, are permanent labe for outside plant applications and are affixed to all fiber optic cables. Ensure that lette permanent ink and displays the phrase "FDOT FIBER OPTIC CABLE".

Consider adding. "Fiber Optic" cables....

To ensure every stra fiber is terminated, consider rephrasing following sentence tc "Ensure every fiber o strand within all fiber cable drops" termina field cabinets...

SUBARTICLE 633-3.1.6 is deleted and the following substituted:

633-3.1.6 Cable Termination Installation: Ensure that cables, buffer tubes, or and strands are neatly routed, secured, and terminated in a patch panel. Ensure all fiber drops terminating in field cabinets are terminated in a connector panel using LC connectors unless otherwise shown in the Plans. Ensure all cable termination points include documentation regarding the identification, route, and function of each fiber installed at that location. Ensure that a copy of this information is placed alongside the installed equipment (for instance, in a document pouch or drawer within a field cabinet).

633-3.1.7 Patch Panel Installation: Ensure that patch panels are neatly installed and secured in a weather-proof enclosure. Ensure all patch panel connectors are clearly and permanently labeled using machine printed, waterproof labels suitable for outside plant applications. Ensure all installed patch panels include documentation regarding the identification, route, and function of each patch panel connector at that location. Ensure that a copy of this information is placed alongside the installed equipment.

For consistency on requirements for placement of information include the sentence "(for instance, in a document pouch or drawer within a field cabinet)"

Response: Incorporated edits per suggestions as follows:
Used phrase: "as specified in the Plans or by the Engineer" for consistency.
Clarified cable type as suggested (e.g., fiber optic).
Clarified termination installation as suggested.
Clarified preferred placement locations for field documentation as suggested.
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Comments: (8/31/22, Industry)

633-3.1.1 Cable Identification – add the word 'and' between waterproof and permanent

Install cable tags within 1 foot of each splice and/or termination point indicating the cable type, fiber count, and each fiber optic cable origination and termination points. Ensure that the cable tags are machine printed, waterproof, are permanent labels suitable for outside plant applications and are affixed to all fiber optic cables. Ensure that lettering is in permanent ink and displays the phrase "FDOT FIBER OPTIC CABLE".

Add a comma after the word waterproof and add the word 'permanent' before the word labels

Response: Incorporated recommended edit.

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