

IEEE 802.3 Ethernet Working Group TIA TR-42 Liaison to IEEE 802.3


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Introduction to TIA

- **Telecommunications Industry Association**
- **www.tiaonline.org**
- **TR-42: Defines mechanical and transmission requirements for copper twisted-pair, optical fiber, and coaxial cabling and components**
- **Chris DiMinico is outgoing liaison from IEEE 802.3 to TIA TR-42**

Agenda and TIA Meeting Overview

- **Most recent TR-42 Plenary week:
January 25 - 29, 2016 in New Orleans, LA**
- **Review TR-42 subcommittee activities**
 - 11 subcommittees met
- **Update on project development**
-  **This symbol highlights key points of interest**

4 TIA TR-42 Liaison Letters to IEEE 802.3

- 1. Draft 5.1 of TSB-184-A “Guidelines for Supporting Power Delivery Over Balanced Twisted-Pair Cabling” shared and available in the private area**
- 2. Draft 0.6b of TSB-5021 “Guidelines for the Assessment and Mitigation of Installed Cabling to Support 2.5GBASE-T and 5GBASE-T” shared and available in the private area**

4 TIA TR-42 Liaison Letters to IEEE 802.3

- 3. TIA-1005-A-3 “Industrial cabling for one pair Link Segment Type B, 1000BASE-T1 including MICE 2 and MICE 3” will be circulating for committee ballot (draft has not been shared)**
- 4. TR-42 has made significant progress estimating the temperature rise of cable bundles in conduit based on predictive models validated by comparison to measured results**

Cable Heating Liaison

- **Category 6 and 6A cable measurements were used to develop a generic equation describing maximum temperature rise and current capacity for cable bundles of different sizes in both open air and conduit**
- **The equation assumes all pairs are energized**
- **Coefficients for 26AWG, category 5e, category 6, and category 6A are provided**
- **Temperature rise vs bundle size for 600mA, 720mA, and 1000mA (per pair) are provided**

TIA TR-42 Activities

- **TR-42.1 (Commercial Building Cabling):**
 - **ANSI/TIA-5017, “Telecommunications Physical Network Security Standard” approved for publication**
 - **New project: ANSI/TIA-5018 “Structured Cabling Infrastructure Standard to support Distributed Antenna Systems” circulating for default ballot**
 - **New project: ANSI/TIA-1179-A “Healthcare Facility Telecommunications Infrastructure Standard” circulating for industry ballot**


TIA TR-42 Activities

- **TR-42.1 (Commercial Building Cabling), cont.:**
 - **New project: ANSI/TIA-942-B**
“Telecommunications Infrastructure Standard for Data Centers” circulating for committee ballot
- **TR-42.3 (Terms and Symbols):**
 - **New project: TSB-xxxx “Guidelines for Pathways & Spaces Supporting Remote Powering” under consideration**

TIA TR-42 Activities


- **TR-42.5 (Terms and Symbols):**
 - Definitions, acronyms, units of measure, and symbols maintained in a working document
 - New project: ANSI/TIA-440-C, “Fiber Optic Terminology” circulating for industry ballot
- **TR-42.6 (Infrastructure Administration):**
 - New project: ANSI/TIA-606-B-1, “Automated Infrastructure Management Systems” approved for publication
 - New project: ANSI/TIA-606-C, “Administration Standard for Telecommunications Infrastructure” under development

TIA TR-42 Activities

- **TR-42.7 (Copper Cabling):**
 - **New project: ANSI/TIA-1183-1, “Test Fixtures for Balunless Measurements of Balanced Components and Systems to 2 GHz” circulating for industry ballot**
 -  – **New project: TSB-184-A, “Guidelines for Supporting Power Delivery Over Balanced Twisted-Pair Cabling” circulating for committee ballot (draft 5.1 available in the IEEE P802.3bt private area)**


TIA TR-42 Activities

- **TR-42.7 (Copper Cabling), cont.:**


-  – **New project: ANSI/TIA-568-C.2-1, “Balanced Twisted-Pair Telecommunications Cabling and Components Standard, Addendum 1: Specifications for 100Ω Category 8 Cabling” circulating for industry ballot (draft 3.2 available in the IEEE P802.3bq private area)**
 - **2-connector, 30-meter channels**
 - **2-connector, 24-meter permanent links**
 - **Direct attach recognized**
 - **1 MHz - 2 GHz frequency bandwidth**

TIA TR-42 Activities

- **TR-42.7 (Copper Cabling), cont.:**

-  – **Class II channel performance criteria/limits documented**
- **The Class II task group is working to capture the category 8.2/class II transmission and electrical performance for cables, connectors, channel, permanent link, and patch cords as they exist in ISO '11801-1 now and present it to TR-42.7 for further guidance**

TIA TR-42 Activities



- **TR-42.7 (Copper Cabling), cont.:**
 - **New project: ANSI/TIA-1152-A, “Requirements for Field Test Instruments” circulating for committee ballot**
 -  – **New project: TSB-5021, “Guidelines for the use of Installed Cabling to Support 2.5GBASE-T and 5GBASE-T” circulating for committee ballot (draft 0.6b available in the IEEE P802.3bz private area)**

TIA TR-42 Activities

- **TR-42.7 (Copper Cabling), cont.:**
 - **New project: ANSI/TIA-568.2-D, “Balanced Twisted-Pair Telecommunications Cabling and Components Standard” opened (development to begin after ANSI/TIA-568-C.2-1 is approved for publication)**
 - **New project: ANSI/TIA-568.4-D, “Broadband Coaxial Cabling and Components Standard” opened (development to begin after ANSI/TIA-568-C.2-1 is approved for publication)**

TIA TR-42 Activities

- **TR-42.9 (Industrial Infrastructure):**

-  – **New project: ANSI/TIA-1005-A-3, “Industrial cabling for one pair Link Segment Type B, 1000BASE-T1 including MICE 2 and MICE 3” circulating for committee ballot**
-  – **New project: ANSI/TIA-1005-A-x, “Performance requirements for four-pair industrial cables and cabling supporting 1000BASE-T for MICE2 and MICE3 environments” under development**

TIA TR-42 Activities

- **TR-42.10 (Sustainable Information Communications Technology)**
 - **New project: TSB-xxxx, “Standard Process for Sustainable Information Communications Technology Manufacturers” under development**

TIA TR-42 Activities

- **TR-42.11 (Optical Fiber Systems):**



- **New project: ANSI/TIA-568.3-D: "Optical Fiber Cabling and Components Standard" circulating for default ballot**
- **New project: TSB-5040: "Understanding Duplex and Single Row Fiber Polarity" under development**

TIA TR-42 Activities

- **TR-42.12 (Optical Fibers and Cables):**

- **New project: ANSI/TIA-598-D-1, “Optical Fiber Color Coding in Cable, Addendum for Additional Colors” circulating for industry ballot**



- **New project: TIA-492AAAE, “Detail Specification for 50- μ m Core Diameter/125- μ m Cladding Diameter Class 1a Graded-Index Multimode Optical Fibers with Laser-Optimized Bandwidth Characteristics Specified for Wavelength Division Multiplexing” circulating for committee ballot**

- **10+ documents circulating for reaffirmation or committee ballot**

TIA TR-42 Activities

- **TR-42.13 (Passive Optical Devices and Metrology)**
 - **New project: ANSI/TIA-455-171-B, "FOTP-171 IEC 61300-3-4 Attenuation by Substitution Measurement for Short Length Multimode Graded Index and Single-Mode Optical Fiber Cable Assemblies" rescinded and IEC Standard adopted**
- **TR-42.16 (Grounding and Bonding):**
 - **New project: Multi-Tenant Occupancies under discussion**

Upcoming TIA Meetings

TR-42.7 Interim Meeting

April 5 - 6, 2016

Sacramento, CA

TR-42 Plenary Meetings

June 13 - 17, 2016

Tigard, OR

www.tiaonline.org

Thank you

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