

Issue 29 • Quarter 4, 2020

Standards Quarterly Update:

What you need to know now for the future of your network

Welcome to the 29th edition of the *Standards Advisor*. This report is issued quarterly and provides updates on the standards relevant to the structured cabling industry, and the impact they have on your network design, planning and operations.

This summary represents standards meetings held during the fourth quarter of 2020 and reports on activities from all aspects of the cabling industry. These activities range from the applications standards (IEEE 802.3 and 802.11 and T11—Fiber Channel) to the cabling standards (ANSI/TIA, ISO/IEC, CENELEC). It also covers new developments in the world of multi-source agreements (MSAs).

TIA TR-42 meeting: October, 2020, Virtual meeting

Executive Summary

The following standards were approved for ballot, re-ballot, or default ballot:

- ANSI/TIA-568.5 Balanced Single Twisted-Pair Telecommunications Cabling and Components Standard
- ANSI/TIA-5071 draft standard for field testing of single pair cabling systems
- ANSI/TIA-568.0-E-1 generic cabling amendment to include single pair
- ANSI/TIA-758-C, outside plant
- ANSI/TIA-862-C, intelligent buildings cabling revision
- ANSI/TIA-942-B-1, edge data centers
- ANSI/TIA-1005-B, industrial
- ANSI/TIA-PN-568.3-E, Optical Fiber Cabling Component Standard
- ANSI/TIA-PN-526.14-D, Optical Power Loss Measurement of Installed Multimode Fiber Cable Plant
- ANSI/TIA-PN-455-3-C, Procedure to Measure Temperature Cycling Effects on Optical Fiber Units, Optical Cable, and Other Passive Fiber Components
- ANSI/TIA-PN-604-10 (FOCIS 10), Fiber Optic Connector Intermateability Standard - Type LC
- ANSI/TIA-PN-455-178, adoption of IEC-60793-1-32 Optical Fibres – Part 1-32: Measurement Methods and Test Procedures – Coating Stripability

The following standards were re-affirmed or approved for publication:

- ANSI/TIA-568.2-D-2 the normative version of TSB-184-A
- TIA-455-78, adoption of IEC 60793-1-40 Optical Fibres - Part 1-40: Measurement Methods and Test Procedures – Attenuation
- TIA-455-62, adoption of IEC-60793-1-47 Optical Fibres – Part 1-47: Measurement Methods and Test Procedures – Macrobending Loss
- TIA-455-80, adoption of IEC-60793-1-44 Optical Fibres – Part 1-44: Measurement Methods and Test Procedures – Cut-off Wavelength
- TIA-455-175, adoption of IEC-60793-1-42 Optical Fibres – Part 1-42: Measurement Methods and Test Procedures – Chromatic Dispersion
- TIA-455-176, adoption of IEC-60793-1-20 Optical Fibres – Part 1-20: Measurement Methods and Test Procedures – Fibre Geometry
- TIA-455-177, adoption of IEC-60793-1-43 Optical Fibres – Part 1-43: Measurement Methods and Test Procedures – Numerical Aperture
- TIA-455-67, adoption of IEC-60793-1-51 Optical Fibres – Part 1-51: Measurement Methods and Test Procedures- Dry Heat
- TIA-455-74, adoption of IEC-60793-1-53 Optical Fibres – Part 1-53: Measurement Methods and Test Procedures- Water Immersion
- TIA-455-160, adoption of IEC-60793-1-50 Optical Fibres – Part 1-50: Measurement Methods and Test Procedures- Damp Heat (Steady State)
- TIA-455-122, adoption of IEC 60793-1-48: Measurement Methods and Test Procedures-Polarization Mode Dispersion

1. TR-42.1 Commercial Building Cabling

- ANSI/TIA-568.0-E-1 amendment comments on the mock ballot to include single pair were resolved and a committee ballot authorized.
- TIA-TSB-162-B, Wireless Access Points for Ballot comments were resolved and publication authorized
- ANSI/TIA-758-C (OSP) was not addressed. The task group has not completed its work.
- ANSI/TIA-862-C, revision mock ballot comments to include single pair were resolved and a committee ballot authorized.
- There was a review of addendum 1 of ANSI/TIA-942-B-1, edge data centers. A draft of Annex F from CommScope was added. A PAR was approved and a mock ballot was authorized
- ANSI/TIA-4966, education standard revision comments were resolved for and a 2nd industry ballot was authorized.
- A proposal to define and recognize hybrid cables that include both fiber elements for signal transmission and copper elements for power delivery was forwarded to the definitions subcommittee 42.5.

2. TR-42.3 Pathways and Space

- Harmonization work on requirements for antenna structures between TR-14 and TR-42.3 is ongoing. A PAR was approved.
- ISO/IEC 18598 AMD 1 for AIM will be adopted by TIA and a PAR was approved.

3. TR-42.5 Telecommunications Infrastructure Terms and Symbols

- The following definitions were reviewed or modified
 - Internet of things: The interconnection via the Internet of communication devices embedded in everyday objects, which enables them to send and receive data.
 - equal level transverse conversion transfer loss: A calculation, expressed in dB, of the difference between measured TCTL and the differential mode insertion loss of the pair.
 - shield: A metallic layer placed around a conductor or group of insulated conductors. This definition was reviewed and not changed.
 - hybrid cable: cable that contains both optical fiber and current carrying members.
 - composite cable: A cable with two or more cable units, of the same or different media.

4. TR42.7 Copper Cabling Systems

- TR42.7 completed comment resolutions for the ballot of ANSI/TIA-568.5, single pair cabling and components standard. Another industry ballot reflecting these changes was authorized
- TR42.7 resolved comments for the ANSI/TIA 5071 draft standard for field testing of single pair cabling systems and authorized a 3rd committee ballot. Channel requirements for the SP-II testers, for the frequency range of 1-600 MHz, need to be agreed
- A task group continues to study the far end grounding issue for TCL. The study will clarify the dependency of a single pair channel on the grounding of the far end. Test samples are needed for round robin testing planned. This TG work is being delayed by the virus
- A task group report on thermal performance of single-pair cables was reviewed. It was agreed to start a project to write a TSB for guidance for the use of single-pair cabling to support power delivery
- ANSI/TIA-568.6 Single-pair multi-drop received no new contributions.
- A report on POE related legislation was reviewed
- In July, ANSI/TIA-568.2-D-2 the normative version of TSB-184-A was approved for publication

5. TIA TR42.9 Industrial Cabling

- TR42.9 resolved committee ballot comments on ANSI/TIA-1005-B, revision of A, and authorized a 2nd committee ballot
- ANSI/TIA-568.7 for balanced single twisted-pair for industrial premises: a task group was formed to work on this project

6. TR-42.11 Optical Fiber Systems

- ANSI/TIA-PN-568.3-E, Revision of ANSI/TIA-568.3-D, Optical Fiber Cabling Component Standard
 - Completed comment resolution of 1st ballot - Draft 2 document with accepted comments will be submitted for 2nd committee ballot.
 - Significant technical changes include:
 - Additional reference of IEC 61280-4-5 for MPO cabling plant testing.
 - Added the color identification green (same green for SM APC) for multimode angled physical contact ferrule connector and adapter.
 - Committee agreed to specify three polarity types for transition cable (aka breakout) – Type-A, Type-B and Type-C. Also agreed conceptually to incorporate a Type-U transition cable pending contribution at the February 2021 meeting.
- ANSI/TIA-PN-526.14-D, Revision of ANSI/TIA-526-14-C, Optical Power Loss Measurement of Installed Multimode Fiber Cable Plant
 - Committee approved to ballot draft document with accepted foreword as an adoption of IEC 61280-4-1 Ed.3 2019. The foreword is to address an amendment of IEC 61280-4-1 to allow BIMMF in test cords and the test cord length is defined to have a length of 2 meters to 10 meters. The amendment is expected to be completed by the next TIA meeting in February 2021.
- New Project
 - Committee approved to submit project request for adoption of IEC 61280-4-5 as a new ANSI/TIA-526 series document to specify MPO cabling plant test procedures.
 - Committee agreed to adopt IEC 61280-4-1 Ed. 3 with the foreword to be determine, which may address the length recommendation of test leads when using BIMMF. Approved for another committee ballot.

7. TR-42.12 Optical Fiber and Cable

- ANSI/TIA-PN-455-3-C, Revision of TIA-455-3B (FOTP-3), Procedure to Measure Temperature Cycling Effects on Optical Fiber Units, Optical Cable, and Other Passive Fiber Components
 - Recent committee ballot passed with technical comments. Draft with accepted comments approved for another ballot.
- ANSI/TIA-PN-455-111, Adoption of IEC 60793-1-34, Measurement Methods and Test Procedures – Fibre Curl
 - IEC is still in discussion on this document and it has not balloted, at least a year until publication. TIA will continue to monitor the progress.
- ANSI/TIA-PN-455-244, Methods for Measuring the Change in Transmittance of Optical Fibers in Expressed Buffer Tubes When Subjected to Temperature Cycling
 - Document has been published on September 18, 2020. Project is now closed.
- ANSI/TIA-PN-492000-C, Adaption of IEC 60793-2:2019, Optical Fibres –Part 2: Product Specifications – General
 - Committee ballot closed on 12/7/2020. Comment resolution will be held at the February 2021 meeting.
- ANSI/TIA-492AAAF (IEC 60793-2-10:2019 adaption) and ANSI/TIA-492CAAC (IEC 60793-2-50:2018 adaption)
 - Committee passed a motion to update the fiber cross reference designations in both documents, a new project will be initiated in the upcoming weeks.

- TIA-455 document series (IEC adoption) ballot results.
 - Committee resolved comments on the following ballots. All have passed and approved to move to publication:
 - TIA-455-78, adoption of IEC 60793-1-40 Optical Fibres – Part 1-40: Measurement Methods and Test Procedures – Attenuation
 - TIA-455-62, adoption of IEC-60793-1-47 Optical Fibres – Part 1-47: Measurement Methods and Test Procedures – Macrobending Loss
 - TIA-455-80, adoption of IEC-60793-1-44 Optical Fibres – Part 1-44: Measurement Methods and Test Procedures – Cut-off Wavelength
 - TIA-455-175, adoption of IEC-60793-1-42 Optical Fibres – Part 1-42: Measurement Methods and Test Procedures – Chromatic Dispersion
 - TIA-455-176, adoption of IEC-60793-1-20 Optical Fibres – Part 1-20: Measurement Methods and Test Procedures – Fibre Geometry
 - TIA-455-177, adoption of IEC-60793-1-43 Optical Fibres – Part 1-43: Measurement Methods and Test Procedures – Numerical Aperture
 - TIA-455-67, adoption of IEC-60793-1-51 Optical Fibres – Part 1-51: Measurement Methods and Test Procedures – Dry Heat
 - TIA-455-74, adoption of IEC-60793-1-53 Optical Fibres – Part 1-53: Measurement Methods and Test Procedures – Water Immersion
 - TIA-455-160, adoption of IEC-60793-1-50 Optical Fibres – Part 1-50: Measurement Methods and Test Procedures – Damp Heat (Steady State)
 - TIA-455-122, adoption of Adopt IEC 60793-1-48: Measurement Methods and Test Procedures-Polarization Mode Dispersion
 - One ballot failed due to insufficient returned ballots, approved to re-ballot:
- TIA-455-178, adoption of IEC-60793-1-32 Optical Fibres – Part 1-32: Measurement Methods and Test Procedures – Coating Stripability
- ANSI/TIA-PN-598-E, Revision of ANSI/TIA-598-D, Optical Fiber Cable Color Coding
 - There is still plan in place to host a round robin of color measurement devices and Munsell books. Delayed until the next in-person meeting. Straw poll showed that the urgency of revision is low, and does not warrant a virtual round robin per previous meeting discussion.
- USTAG SC86A WG1
 - An USTAG meeting will take place at the February 2021 meeting to discuss items up for review at IEC.

8. TR-42.13 Optical Passive Devices and Metrology

- ANSI/TIA-PN-604-10 (FOCIS 10), Fiber Optic Connector Intermateability Standard - Type LC
 - Committee resolved all comments from the 2nd committee ballot. Document will proceed to Industry ballot.
- New project initiated to adopt IEC 61755-1, -2, -3 series (to be published as TIA 621,622,623 series).
- ANSI/TIA-PN-604-19 (FOCIS 19), Fiber Optic Connector Intermateability Standard - Type SEN Connector (aka. CS connector)
 - In the January 2020 meeting, one participating company disclosed a pending patent application related to the APC variant proposal in which the left and right ferrule end face angle slopes are in opposite directions. No further updates at this meeting. Document publication is pending resolution on this IP disclosure.

The next scheduled meeting of TIA TR-42 will be a virtual meeting to be held February 1-5, 2021.

CENELEC TC86BXA meeting: No meetings were held during Q4, 2020

IEEE 802.3 Ethernet meetings: Plenary—November 9-19 and Interim—October 1, 2020, Virtual meetings

Due to COVID-19, the IEEE 802 November Plenary was held telephonically, and the scheduled IEEE 802.3 Interim meeting was held as a series of telephonic meetings. Task Forces are now meeting by teleconference and most occur on a weekly or by weekly basis. This is expected to continue until at least May 2022.

1. IEEE 802.3cv Maintenance on 4 pair Power over Ethernet (PoE)

- This task force is cleaning up minor issues found in initial testing of the 802.3bt standard for 4 pair PoE. The modifications do not change the functionality and are not expected to present interoperability or compliance issues. The Task Force completed initial Working Group ballot, and an initial recirculation. Comments were resolved to further refine tests.
- In November, the draft proceeded to the final stage of ballot – Standards Association ballot. As of December, the initial ballot is open. Minor changes may still be made, but the expectation is that the specification is stable and the work will be completed in Q2 2021.

Single-twisted-pair copper standards

2. IEEE P802.3da Single Pair Multidrop Segments Enhancement Task Force (formerly Single Pair Multidrop Enhancements Study Group)

- The IEEE-SA Standards Board approved the new project, IEEE P802.3da, and the task force began initial meetings.
- This project is developing extensions to the Clause 147 10BASE-T1S multidrop (10 Mbps shared media) PHY defined in 802.3cg, interoperable with the PHY in 802.3cg. The major objectives the project is working on include the following (for more objectives, see objectives on the IEEE 802.3da site:
 - 1. Adding interoperable multidrop power over Ethernet and reach extensions for multidrop to better accommodate building automation.
 - 2. Extending multidrop networks to support at least 16 nodes and 50m of reach (32 nodes and 70m are desired, but the objective is only 15 nodes and 50m)
 - 3. Defining plug-and-play multidrop powering, and
 - 4. Selecting a single equipment connector.

- Task Force is hearing presentations for adopting baselines to form the initial draft 0.1, which should come out at the beginning of January 2021.
 - The group agreed to adopt the Clause 147 PHY specification and modify from there, with an expectation of interoperability. The following areas are expected to be added:
 - The group is working on refining the specification of the mixing segment, enabling greater reach and an increased number of nodes. Focus to date has been on modeling the loading caused by an attached node.
 - The Task Force has indicated it intends to be communicating its work with TIA TR42.7 so that the two can produce aligned specifications for multidrop single-pair use in commercial building.
- 3. IEEE P802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet Task Force (formerly Beyond 10 Gigabit Automotive Ethernet PHY Study Group)**
- This project is developing new electrical (as opposed to optical) PHY specification for 25Gb/s, 50Gb/s, and 100Gb/s Ethernet, at distances of up to 11m, suitable for automotive use. It is primarily driven by requirements for autonomous vehicle networking, and the project scope includes both symmetric and asymmetric transmission (where one of the directions is at a much lower speed).
 - The project is considering channels with shielded differential pair cabling, without specifying whether it is twisted pair or parallel pair construction. The standard will use multiple pairs to expand from 25Gb/s on a pair to 50 Gb/s on two pairs, and 100 Gb/s on four, all at a distance of up to 11m.
 - The project is currently adopting baseline proposals and evaluating channel characteristics and considering their impact on PHY specifications. The Task force has yet to begin work on baseline proposals to meet the objectives through the end of the year and has yet to adopt a formal timeline.
 - Several contributions have focused on providing cabling with bandwidth to 8 GHz at an insertion loss target of approximately 2.2 dB/m, at automotive temperatures and with margin for aging.
 - PHY contributions have been focusing on PAM-4 transmission, with some discussion of echo cancellation vs. time division duplexing for asymmetric links.
 - While motivated by automotive applications, the standard does not limit the application of the PHY and may find use in short-range high-speed applications on shielded balanced pair cabling which could be used as an alternative to direct-attach twinaxial cables.
- 6. IEEE P802.3ct 100 Gb/s and 400 Gb/s Operation over DWDM Systems Task Force**
- This project was split into P802.3ct for the 100G objective and P802.3cw for the 400G objective.
 - The main objective is:
 - 100 Gb/s operation on a single wavelength capable of at least 80 km over a DWDM system (100GBASE-ZR).
 - DP-DQPSK coherent modulation format will be used for 100GBASE-ZR
 - The Task Force resolved comments from the Standards Association on Draft 3.0.
 - Draft 3.1 will be generated for Standards Association Ballot.
- 7. IEEE P802.3cu 100 Gb/s and 400 Gb/s over SMF at 100 Gb/s per Wavelength Task Force**
- This Task Force has the following objectives:
 - Define a single-wavelength 100 Gb/s PHY for operation over SMF with lengths up to at least 2 km and up to at least 10 km
 - Define a four-wavelength 400 Gb/s PHY for operation over SMF with lengths up to at least 2 km and up to at least 6 km
 - The Task Force has reviewed comments from the Standards Association against Draft 3.1.
 - Draft 3.2 will be generated for Standards Association Ballot.
- 8. IEEE P802.3cw 400 Gb/s Operation over DWDM Systems Task Force**
- This project was split from P802.3ct for the 400G objective.
 - The main objective is:
 - 400 Gb/s operation on a single wavelength capable of at least 80 km over a DWDM system (400GBASE-ZR).
 - DP-16QAM coherent modulation format will be used for 400GBASE-ZR
 - Baseline proposals are being considered.
- 9. IEEE P802.3cz Multi-Gigabit Optical Automotive Ethernet Task Force**
- This project will define the performance characteristics of an automotive link segment and an optical PHY to support 2.5, 5, 10, 25, and 50 Gb/s over 40 m of automotive cabling.
 - Baseline proposals are being considered.
- 10. IEEE P802.3db 100 Gb/s, 200 Gb/s, and 400 Gb/s Short Reach Fiber Task Force**
- This project will define standards for 100, 200, and 400 Gb/s over 50 m multimode fiber and over 100 m multimode fiber.
 - This will allow for Top-of-Rack switch elimination by connecting Middle-of-Row switches directly to servers.
 - This will also provide switch-to-switch connectivity and support the installed base of multimode fiber.
 - Baseline proposals are being considered.

Optical Fiber Standards

- 4. IEEE P802.3cp 10G, 25G, and 50G bidirectional access optical PHYs Task Force**
- This Task Force is developing standards for bidirectional 10G, 25G, and 50G over 10, 20, and 40 km over a single strand of singlemode fiber.
 - The Task Force reviewed comments from the Working Group against draft 2.2.
 - Draft 3.0 will be generated and reviewed by the Standards Association.
- 5. IEEE P802.3cs Central office consolidation (super PON) Task Force**
- The main objectives of this Study Group are:
 - Support a passive point-to-multipoint ODN with a reach of at least 50 km with at least 1:64 split ratio per wavelength pair
 - Support at least 16 wavelength pairs for point-to-multipoint PON operation

The next scheduled Interim meeting of IEEE 802.3 will be a virtual meeting to be held in January, 2021.

The next scheduled Plenary meeting of IEEE 802.3 will be a virtual meeting to be held in March, 2021.

1. Common Electrical Interface – 224G Development Project (CEI-224G)

- This project will develop a body of knowledge summarized into a white paper that will enable new project launches for specific next generation 224 Gbps clauses.
- PAM4, PAM6, and PAM8 modulation formats are being considered.

2. Co-Packaging Framework Project

- The Co-Packaging Framework IA is an umbrella project that will study the application spaces and relevant technology considerations for co-packaging of communication interfaces with one or more ASICs.
- Project was launched at the November meeting.

The next meeting of OIF Standards will be held in January, 2021, Virtual meeting.

1. FC-PI-7P (256GFC Parallel 4x64GFC)

- FC-PI-7P has been approved by ANSI, publication will follow in upcoming weeks.

2. FC-PI-8 (128GFC Serial)

- The 106.25 Gbps data rate proposal has been withdrawn, T11 committee is moving forward with 112.5 Gbps as the data rate for FC-PI-8.
- Committee reviewed lab experimental results of on-going study on electrical channel insertion loss and pre-FEC BER performance. More experiments are to be conducted to further the study and validate performance feasibility.
- The IEEE 802.3db adoption of 100m MMF objective will drive 128GFC MMF variant development.
- Committee reviewed the 100m OM4 link technical feasibility IEEE 802.3db contribution. Study shows that the 50m link is VCSEL bandwidth limited, and the 100m link is limited by the combination of VCSEL and fiber bandwidth.

- Based on preliminary experimental data, optical link training is not needed to improve link performance. Optimized transmitter drive conditions for longer links (~100m) have little performance impact on shorter links (~1m). Experimental data also shows that 100m OM3 link BER is predominately driven by the VCSEL BW, not the fiber. But VCSEL high peaking is required.
- FC-PI-8 project schedule is driven by IEEE 802.3db D2.0 100m variant (optical) and IEEE 802.3ck (electrical). Target to generate starting point specifications in April 2021 and October 2021 for Electrical and Optical respectively.

The next meeting of INCITS T11 will be held February 2-4, 2021, Virtual meeting.

1. Update of test procedure IEC 61300-3-35 (Visual inspection of fibre optic connectors and fibre-stub transceivers)

- The comments on the draft of the updated IEC 61300-3-35 Ed3 were reviewed. Although the technical comments were resolved in the meeting, some technical contributions are still missing. Decision was made that if technical contributions were received by the next meeting in April 2021, the document would proceed as CDV, otherwise the method with automated scratch detection will be removed and this document would proceed as PAS (Public Available Standard).
- A technical report of the round robin testing on automated scratch detection will be prepared. This report will contain the evaluation results from various laboratories and various test instruments on the same connectors. The outcome was that some laboratories measured many scratches and other measured none! There is a serious problem with repeatability and reproducibility.

2. Updated test procedure IEC 61300-2-10 Crush resistance

- In this update the test procedure added an additional test for the distributed load on top of street cabinets and the load on the doors is added. After resolving the comments on the CDV version the document proceeded as FDIS.

3. IEC TS 63334 Conditions for testing the protection against dust and water ingress of passive optical protective housings and hardened fibre optic connectors (IEC 60529 IP5X, IPX4, IPX5, IPX6)

- This new project will define the acceptance criteria for passive optical housings which are different from the ones for the housing with electronics in IEC 60529 (Intrusion protection). Dust protection is checked by an optical re-connection criterion and water ingress should to be less than 0.1% of inner housing volume. The updated draft version of IEC TS 63334 will proceed as 1 CD draft.

4. **IEC 61753-111-8 Ed2 update for sealed closures category G (Ground level)**
 - The performance standard IEC 61753-111-8 Ed2 (category G closures) was updated to bring it in line with the recent published IEC 61753-1 Ed2 (general and guidance performance standards). Following important changes in the updated closure performance document were accepted:
 - Addition of detailed material requirements for UV-light and mould growth requirements;
 - Addition of immersion in water (1 m for 7 days);
 - Cable retention test adapted to new generation of cables (microduct tubes, microduct cables and small drop cables):
 - 20 * ØCable (mm) for cables with diameter > 7 mm
 - 10 * ØCable (mm) for cables with diameter ≤ 7 mm
 - 10 N for microduct tubes and cables without strength member attachment
 - Cable axial compression test is adapted to the new generation of smaller diameter cables. Compression test procedure shall be according to IEC 61300-2-11. The following axial compression loads were agreed:
 - 10 N for ØCable < 3mm
 - 20 N for 3 mm ≤ ØCable < 6 mm
 - 50 N for 6 mm ≤ ØCable < 10 mm
 - 100 N for 10 mm ≤ ØCable < 20 mm
 - 200 N for ØCable ≥ 20 mm
 - 10 N for microduct tubes and cables without strength member attachment
 - The optical test sample construction was updated to include drop cables in the distribution joint configuration.
 - The document will proceed for a final voting as FDIS.
5. **IEC 61753-111-07 Ed2 and IEC 61753-111-09 Ed2 performance standards for sealed closures**
 - The comments on the 1CD versions of IEC 61753-111-07 Ed2 (category A) and IEC 61753-111-09 Ed2 (category S) for the sealed closures were resolved and decisions were made to proceed as CDV documents since the updates were based on the approved changes made in IEC 61753-111-08.
6. **Request for reliability standards for sealed closures**
 - The Chinese national committee presented a proposal for an IEC 62005-9-x reliability qualification standard for optical fiber protective housings. An NP will circulate afterwards to get approval of the national committees to start the project.
7. **IEC 61753-101-03 Ed2 Fibre management systems for Category OP – Outdoor Protected environment**
 - The comments on the 1CD version of the standard IEC 61753-101-03 were resolved and decision was made to proceed as CDV. The updated document will reflect the updated test and test severity requirements of the recent published IEC 61753-1 Ed2 (general and guidance performance standards). An optical requirement is added for the increase in attenuation when storing splices and fibers in a splice tray.
8. **IEC 61753-131-03 Ed2 Singlemode mechanical fibre splice for category OP – Outdoor Protected environment**
 - The comments on the 1CD version of the revised performance standard IEC 61753-131-03 were resolved and decision was made to proceed as CDV. The updated document is updated to bring it in line with the recent published IEC 61753-1 Ed2 (general and guidance performance standards).
9. **IEC 61755-3-1 Ed2 and IEC 61755-3-2 Ed2 Optical interface, 2,5 mm and 1,25 mm diameter cylindrical full zirconia ferrules (PC and APC)**
 - The documents IEC 61755-3-1 and -3-2 were still circulating for votes and comments at the time of the meeting and therefore no review of the comments was planned.

After the IEC SC86B meetings, the voting results were published: from the 20 countries that submitted a vote, 11 countries voted negative. 9 European countries voted against the new editions.

[The next meeting of IEC SC86B will be held in April, 2021, Virtual meeting.](#)

IEC SC86C WG1 meeting: October 12-16, 2021, Virtual meeting

Fibre optic communications systems and sub-systems

1. **IEC 61280-4-1 Ed.3, Multimode fibre optic cable plant attenuation measurement**
 - Corrigendum 1 (Annex I.4.1) has been published.
 - The amendment to IEC 61280-4-1 is moving forward and includes the change in test cord length of 2m -5m to 2m – 10m and allows the use of A1-OMxb (BIMMF) in test cords.
 - Draft amendment will go to CD circulation in December 2020.
 - Reviewed proposal to harmonize with SC86B WG6 standards in future revisions of IEC 61280-4-x series on test reference cord/connector attenuation values and applications for field testing.
2. **IEC 61280-4-2 revision based on TIA request**
 - Propose to request revision and extension of SD date to 2022.
3. **IEC 61280-4-3 Ed.3, Passive optical networks – Attenuation and optical return loss measurements**
 - Missing contributions - Annex D PON power meter and Annex E PON configuration.
4. **IEC 61280-4-5 Ed.1**
 - Continuing discussion on uncertainty calculations for OTDR based attenuation measurement, will discuss details with WG1 and 86WG4.
 - Target to circulate in December 2020.
4. **IEC 61280-4-5 Ed.1**
 - Attenuation measurement of MPO terminated fiber optic cabling plant using test equipment with MPO interfaces, has been published.
5. **IEC 61282-16 Part-16 Coherent Systems**
 - Target to have a final version for discussion at the March 2021 meeting.

[The next meeting of IEC SC86C WG1 will be held March 25-27, 2021, Virtual meeting \(Tentative Date\).](#)

The next meeting of IITU-T SG15 is scheduled for June 7-18, 2021, Geneva, Switzerland.

IEC SC48B meeting: September 15-17, 2020, Virtual meeting

- 1. IEC 63171 will be published in the next few months**
 - PT 63171 was disbanded. Several additional variants including IEC 63171-2, 63171-4, and 63171-5 are at CDV stage.
- 2. In the previous meeting a corrigendum to the IEC 60512-99-02 un-mating under load test standard was approved for circulation**
 - This corrigendum aligns the test sequence to be the same as that published in IEC 60512-99-01 while enabling testing up to 2 A per contact needed for IEEE 802.3bt 4PPoE sourcing 90 watts PoE power per channel. It was determined that this work should be part of a 2nd edition to IEC 60512-99-02 which was approved to begin work.
- 3. Changes were proposed to clarify the contact resistance measuring points and the vibration fixturing diagrams that appear in the following documents:**
 - 63171 document family, 60603-7, and 61076-3-122.
- 4. Concerns over test sequences relating to accurate contact resistance measurements were discussed**
 - It was decided to raise the issue in the SC48B with recommendations for resolution.

The next meeting of IEC SC48B is scheduled for March 2021, Virtual meeting.

IEC TC46 SC46C WG7 meeting: November 3 and November 22, 2020, Virtual meeting

IEC TC46 SC46C WG7 is going to begin work on a document that supports HBES (Home and Building Electronic Systems) and BACS (Building Automation and Control Systems). These cables may operate in environments similar to those for T1-A cables. This work will involve cooperation between IEC TC23/WG12 and IEC TC46SC46C WG7.

The decision was made to revise IEC 61156-11 and IEC 61156-12 to include support for T1-C class cables (with a maximum frequency of 1.25 GHz).

The next meeting of IEC TC46 SC46C WG7 is scheduled for March 1, 2021, Virtual meeting.



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