AGENDA

15th MEETING OF WIRES, CABLES, WAVEGUIDES AND ACCESSORIES SECTIONAL COMMITTEE (LITD 06)

Venue: Hybrid Meeting
Date: 04 July 2024
Time: 1100 hrs
Chairperson: Shri Arun Agarwal, DoT
Member Secretary: Ms Alismita Khag (LITD, BIS)

Venue:

Chintan (Bronze Room), Manak Bhawan, BIS HQ,

9, BSZ Marg New Delhi-110002

Virtual:

https://bismanak.webex.com/bismanak/j.php?MTID=m2344cf0450035851b965540dbf9b442f
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ITEM 0: WELCOME ADDRESS

0.1 Welcome by Member Secretary

0.2 Opening Remarks by the Chairperson

ITEM 1: FORMAL CONFIRMATION OF THE MINUTES OF LAST MEETING

1.1 The minutes of the 14th meeting of the committee held on 17 November 2023 were circulated. No comments have been received on the minutes.

The committee may confirm the minutes.

ITEM 2: SCOPE AND COMPOSITION OF LITD 32

2.1 **Scope:** To prepare Indian Standards on LF and RF wires and cables (having metallic conductors) and waveguides and accessories, intended for use in electronics and telecommunication equipment and in devices employing similar techniques.

The committee may note.

2.2 Liaison:

IEC/TC 46 Cables, wires, waveguides, R.F. connectors R.F. and Microwave passive components and accessories (*Observer Member*)
IEC/SC 46A Coaxial Cables (*Observer Member*)
IEC/SC 46C Wires and symmetric cables (*Observer Member*)
IEC/SC 46F R.F. and microwave passive components (*Observer Member*)

The committee may note.

2.3 The composition of "Wires, Cables, Waveguides and Accessories Sectional Committee LITD 06" is given in **Annexure -1.**

The committee may note and review its composition.

2.4 As per the decision taken during the last meeting of LITD 06 Sectional Committee, the following organisations were approached for nomination. However, no response have been received:

- Electronics Component Standardization Organisation (LCSO)/ Electronics & Radar Development Establishment (LRDE), DRDO
- DTH Association of India

Committee may review and decide.

ITEM 3: Draft Indian Standards in Wide Circulation

3.1 The following Draft Standards were circulated for comments to all members:

Sl. No.	**Document No./ Title**	**Title**	**Last Date for Comments**
1.	LITD/06/25572 IS/IEC 61196 : PART 1 : SEC 108: 2005 (Identical To: IS/IEC 61196-1-108: 2011)	Coaxial communication cables Part 1-108: Electrical test methods Test for characteristic impedance phase and group delay electrical length and propagation velocity	10 August 2024
2.	LITD/06/25558 IS/IEC 61196 : PART 1 : SEC 100: 2005 (Identical To: IEC 61196-1-100:2022)	Coaxial Communication Cables Part 1: Electrical Test Methods Section 100: General Requirements First Revision	07 July 2024
3.	LITD/06/25556 IS 1885 : Part 56: 1981 (Identical To: IEC 60050-726:1982)	Electrotechnical Vocabulary Part 726: Transmission Lines and Waveguides (First Revision)	10 August 2024
4.	LITD/06/23350 (Identical To: IEC 62807-3-10:2023)	Hybrid communication cables Part 3-10: Outdoor hybrid cables Family specification for FTTA hybrid communication cables	20 July 2024

5.	LITD/06/25576 IS/IEC 61196 : Part 8 : Sec 1: 2012 (Identical To: IS/IEC 61196-8-1:2023)	Coaxial communication cables Part 8-1: Blank detail specification for semi-flexible cables with fluoropolymer dielectric First Revision	09 July 2024
6.	LITD/06/25574 IS/IEC 61196 : Part 1 : Sec 111: 2005 (Identical To: IS/IEC 61196-1-111: 2014)	Coaxial Communication Cables Part 1: Electrical Test Methods Section 111: Stability of Phase Test Methods (First Revision)	18 August 2024
7.	LITD/06/25559 IS/IEC 61196 : PART 1 : SEC 103: 2005(Identical To: IEC 61196-1-103:2015)	Coaxial Communication Cables Part 1: Electrical Test Methods Section 103: Test for Capacitance of Cable (First Revision)	15 July 2024
8.	LITD/06/25557 IS 14493 : Part 1: 2020 (Identical To: IEC 61156-1:2023)	Multicore and Symmetrical PairQuad Cables for Digital Communications Part 1: Generic Specification Second Revision	08 July 2024
9.	LITD/06/23351 (Identical To: IEC 62807-3:2023)	Hybrid Communication Cables Part 3: Outdoor Hybrid Cables Sectional Specification	18 August 2024
10.	LITD/06/23349 (Identical To: IEC 62807-1:2017)	Hybrid telecommunication cables Part 1: Generic specification	27 July 2024
11.	LITD/06/25575 IS/IEC 61196 : PART 1 : SEC 206: 2005 (Identical To: IS/IEC 61196-1-206:2017)	Coaxial Communication Cables Part 1: Environmental Test Methods Section 206: Climatic Sequence (First Revision)	18 August 2024

Committee may please note.

ITEM 4: REVIEW OF IS 14493-5/ IEC 61156-5 STANDARD

4.1. BIS had received an All India First Application for Grant of License for LAN Cables as per IS 14493 (Part 5):2018/ IEC 61156-5:2012 'Multicore and symmetrical pair / quad cables for digital communications: Part 5 symmetrical pair / quad cables with transmission characteristics up to 1000 MHz - Horizontal floor wiring - Secal specification'. During the processing for the grant of license the following discrepancies were observed:

A. **Clause 6.4.10 'Bending under tension'** of IS 14493/IEC 61156-5 mentions '*The bending performance of the cable* ***is not specified*** *but* ***shall be indicated*** *in the relevant detail specification.*' Cl. 6 of IEC 61156-5 states that the test methods shall be in accordance with IEC 61156-1. Cl. 6.4.10 of IEC 61156-1 'Multicore and Symmetrical pair/quad cables for digital communications Part 1 Generic Specification' mentions that the following parameters, for performing this test, are to be taken from the relevant sectional specification (in this case it is IEC 61156-5):
   - specified load

- weight of mass
- length of test sample
- type of test to be performed: U Bend/ S Bend (and related parameters like speed of movement, max tension etc.)
- Magnitude of voltage and duration of test for performing dielectric strength test after bending test
- Acceptance criteria for test

These parameters are not mentioned in IEC 61156-5 and hence performing the bending test may not be possible. However, Clause 6.4.10 'Bending under tension' of IEC 61156-5:2020 mentions '*The bending performance of the cable* ***is not specified*** *but* ***shall be indicated*** *in the relevant detail specification.*'

The aforementioned discrepancy was circulated to all members of LITD 06 for their comments/ observations however, no reply had been received.

B. **Clause 6.4.8 'Crush test of the cable'** of IS 14493/IEC 61156 does not provide the following information, without which the test cannot be performed:
   - Distance from the test region to the test port
   - Electrical tests and their requirements

C. **Clause 6.4.9 'Cold Impact test of the cable'** of IS 14493-5/IEC 61156-5 mentions that the test is to be performed as per IEC 60811-506. Clause 4.1 of IEC 60811-506:2012 mentions that '*Tests shall be carried out at the temperature specified in the relevant cable standard*'. However, the temperature at which the cold impact test need to be carried out is not specified in IS 14493/ IEC 61156-5.

D. **Clause 6.4.12 'Tensile Performance of the cable'** of IS 14493-1/ IEC 61156-1 refers to IEC 60794-1-21:2020 for the test. Cl. 3.6 of IEC 60794-1-21:2020 mentions that the relevant specification (in this case IS 14493-5/IEC 61156-5) shall include the following:
   - length under tension if different from this method;
   - TL long term load: load applied, limits on fibre strain, and/or change of attenuation;
   - TS short term load: load applied, limits on fibre strain (if required);
   - T after the test: limits on fibre strain and/or change in attenuation.

E. **Clause 6.5.11 'Solvents and Contaminating Fluids'** of IS 14493-1/IEC 61156-1 refers to Cl. 3.6.1 of IEC 62012-1: 2002, which refers to Cl. 9.7 of IEC 61169-1for performing the test. The test procedure for 'solvents and contaminating fluids' is given in Cl. 9.4.11 of IEC 61169-1 and not Cl. 9.7. Moreover, the following parameters are not mentioned in IS 14493-5/IEC 61156-5:
   - Conditioning fluids.
   - Drying temperature, if different from 70 °C.
   - Requirements for insulation resistance and insertion loss

F. **Clause 6.3.2.2 'Differential Delay (delay skew)'** of IS 14493-5/IEC 61196-5 mentions that the maximum delay skew needs to be measured at 20±3 °C. A manufacturer has raised a concern that even if this test is performed at 27 °C, there would be no effect on the result as the delay skew is not dependant on the temperature.

Committee may examine the above issues and decide further.

ITEM 5: INTERNATIONAL STANDARDIZATION ACTIVITIES

5.1 Presently, LITD 06 acts as National Mirror Committee of IEC/ TC 46, IEC/ SC 46A, IEC/ SC 46C, and IEC/SC 46F, we are observer members in all the four committees.

Committee may please note..

ITEM 6: DATE AND PLACE FOR THE NEXT MEETING

ITEM 7: ANY OTHER BUSINESS

ANNEXURE-1
Composition of LITD 06

COMPOSITION			ATTENDANCE			
S.No.	**Organization**	**Member Name**	**12th Meeting**	**13th Meeting**	**14th Meeting**	**Total**
1	Department of Telecommunications, Ministry of Communications and Information Technology, New Delhi	Shri Arun Agarwal (Chairperson)	–	Y	Y	2/2
2.	Bharat Electronics Limited, Bengaluru	Shri Guruprasad C. N.	Y	N	Y	2/3
		Smt. Geetharaj E				
3.	Bharat Sanchar Nigam Limited, New Delhi	Shri Paritosh Kumar Shah	N	N	Y	1/3
		Shri Kapil Rastogi				
4.	Cellular Operators Association of India, New Delhi	Shri Kshem Kapoor	–	N	Y	1/2
5.	Directorate General Doordarshan, Prasar Bharti, New Delhi	Shri N. N. Maurya	–	N	Y	1/2
		Shri Rajendra Kumar				
6.	Directorate General of Quality Assurance, New Delhi	Shri P P Chaurasia	–	N	Y	1/2
		Shri Lokendra Mathur				
7.	Electronic Industries Association of India, New Delhi	Shri Rajoo Goel	–	Y	Y	2/2
		Shri MP Dubey				
8.	Finolex Cables Limited, Pune	Shri P.N. khairnar	Y	Y	Y	3/3
		Shri Bipin Patil				
9.	Ministry Of Electronics & Information Technology, Department of Electronics and Information Technology, New Delhi	Smt. Asha Nangia	Y	N	Y	2/3
		Saurabh Ranjan				
10.	National Test House, Kolkata	Shri Yogesh Singh	N	Y	N	1/3
		Shri Rajanikanth Poluri				
11.	Research Designs and Standards Organization (RDSO), Lucknow	Shri U. K. Verma	—	—	N	0/1
		Smt. Sangeeta Pandey				
12.	Sterlite Technologies Limited, Pune	Smt. Darshana Bhatt	Y	Y	Y	3/3
		Shri Shahid Khan				
		Shri Vaibhav Mada				
13.	Telecom Equipment Manufacturers Association, New Delhi	Shri N. K. Goyal	Y	Y	Y	3/3
		Smt. Manisha Kumari				
14.	Telecommunication Engineering Center, New Delhi	Smt. Neha Upadhyay	Y	Y	Y	3/3
		Shri Rakesh Desai				