

Guide to TIA Industry Standards: Infrastructure Committees and Subcommittees

Committee	Title	Responsibility¹
TR-42	User Premises Telecommunications Infrastructure	<i>The TR-42 Engineering Committee, which comprises Subcommittees, develops and maintains telecommunications standards for copper and optical fiber cabling, pathways and spaces, administration, and related systems in commercial, residential, industrial, and other premises.</i>
TR-42.1	Commercial Building Telecommunications Cabling	<i>The TR-42.1 Subcommittee develops and maintains cabling standards for generic customer-owned telecommunications networks. These standards are intended to specify open systems designed to support a wide variety of voice, data, video, and other low voltage, power-limited applications. This Subcommittee develops and maintains telecommunications cabling standards for premises networks such as commercial buildings, data centers, building automation, etc. It specifies cabling system topology, architecture, design, installation, testing and performance requirements.</i>
TR-42.2	Residential Telecommunications Infrastructure	<i>The TR-42.2 Subcommittee develops and maintains telecommunications standards for design, installation, testing and performance requirements of cabling, pathways, and spaces, for single and multi-tenant residential buildings, home offices, and campuses.</i>
TR-42.3	Commercial Building Telecommunications Pathways and Spaces	<i>The TR-42.3 Subcommittee develops and maintains standards for telecommunications pathways and spaces within buildings into which cabling and equipment are placed.</i>
TR-42.3.1	Premises Telecommunications Bonding and Grounding	<i>The TR-42.3.1 Working Group develops and maintains standards for premises telecommunications bonding and grounding systems.</i>
TR-42.4	Customer-owned Outside Plant telecommunications	<i>The TR-42.4 Subcommittee develops and maintains standards for customer-owned outside plant facilities in a campus environment, which includes media (e.g.,</i>

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	Infrastructure	<i>copper, optical fiber, wireless), protection, and physical plant (pathways and spaces).</i>
TR-42.5	Telecommunications Infrastructure Terms and Symbols	<i>The TR-42.5 Subcommittee develops and maintains the master glossary of terms and symbols including acronyms, abbreviations, units of measurement, and uses of templates for all standards developed in TR-42. It is a central point for resolving differences among committees in meaning or usage of telecommunications terms.</i>
TR-42.6	Telecommunications Infrastructure and Equipment Administration	<i>The TR-42.6 Subcommittee develops and maintains standards for telecommunications administration. These standards include requirements for alphanumeric identification, labeling, color coding and record keeping for the telecommunications infrastructure and guidance for administration of equipment assets.</i>
TR-42.7	Telecommunications Copper Cabling Systems	<i>The TR-42.7 Subcommittee develops and maintains telecommunications copper cabling component and system requirements for premises networks. This includes performance specifications, qualification procedures, and test methods for connecting hardware (including modular patch cords) and cable.</i>
TR-42.8	Telecommunications Optical Fiber Cabling Systems	<i>The TR-42.8 Subcommittee develops and maintains telecommunications optical fiber cabling component and system requirements for premises networks.</i>
TR-42.9	Industrial Telecommunications Infrastructure	<i>The TR-42.9 Subcommittee develops and maintains standards for industrial facilities that can contain severe environmental conditions (e.g., extreme temperature, dust, wetness, vibration, EMI/RFI, corrosive chemicals and hazardous gases). This Subcommittee specifies cabling system, topologies, architecture, design, installation, testing and</i>

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		<i>performance requirements.</i>
TR-42.11	Optical Systems	<p><i>The TR-42.11 Engineering Subcommittee on Single-Mode Systems addresses several types of single-mode systems and parameters for both point-to-point and point-to-multipoint transmission. It is responsible for:</i></p> <p><i>Fiber-Optic Test Procedures (FOTPs) for the measurement of:</i></p> <ul style="list-style-type: none"> • <i>Optical amplifier parameters.</i> • <i>Optical path attenuation, reflections, chromatic dispersion, polarization mode dispersion, and non-linear effects</i> • <i>Digital Systems: bit-error ratio, optical eye pattern, extinction ratio, jitter, power penalties.</i> • <i>Analog Systems: carrier-to-noise ratio, composite second-order distortion, composite triple-beat noise, cross modulation.</i> • <i>Network optical performance monitoring</i> <p><i>Design guidelines concerning physical layer photonic aspects of:</i></p> <ul style="list-style-type: none"> • <i>Single-mode fiber optic systems,</i> • <i>Multichannel (multiwavelength/WDM) systems,</i> • <i>All-optical networks</i> •
TR-42.11.2	Multimode Transmission Systems	
TR-42.12	Optical Fibers and	<i>The TR-42.12 Engineering Subcommittee on Digital Multimode Systems addresses</i>

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	Cables	<p><i>multimode aspects of fiber, components, sub-systems, systems and networks. It is responsible for</i></p> <ul style="list-style-type: none"> • <i>Characterization of multimode fiber, components, sub-systems, and systems, particularly from the viewpoint of launching condition effects on loss and bandwidth.</i> • <i>Establishment of physical-layer optical and opto-electronic aspects of digital multimode systems, including on-premise and campus-wide spans.</i> • <i>Development of test methods to support physical-layer media-dependent design, installation, and conformance to established LAN standards.</i>
TR-42.12.3	Single-Mode Fibers and Standards Harmonization	
TR-42.12.4	Color Coding of Fiber Optic Cables	
TR-42.12.5	Products for (Air Assisted) Installation by Blowing	
TR-42.13	Passive Optical Devices and Components	<p><i>The TR-42.13 Engineering Subcommittee on Interconnecting Devices and Related Components is responsible for the development and maintenance of standards for fiber optic interconnecting devices and related components such as connectors, cable assemblies, splices, splice closures and similar types of components. Particular emphasis will be placed on harmonizing the technical content with standards being developed by the IEC for the purpose of</i></p>

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Committee	Title	Responsibility ⁱ
		<i>adoption/back adoption.</i>
TR-42.13.1	Passive Components	
TR-42.13.2	Interconnecting Devices	<i>This WG prepares and maintains performance related standards and associated test methods for fiber optic interconnecting devices such as connectors and splices.</i>
TR-42.13.3	Reliability	<i>This WG prepares and maintains reliability standards and associated test methods for fiber optic interconnecting devices, materials and similar types of passive components.</i>
TR-42.15	Fiber Optic Metrology	<p><i>The TR-42.15 Engineering Subcommittee on Fiber Optic Metrology addresses fiber optic test, measurement and inspection instrumentation functionality and related calibration issues in support of other fiber optic standards groups, test procedures and test methods. This includes, but is not limited to:</i></p> <ul style="list-style-type: none"> • <i>Determine instrument parameters or attributes that require specification.</i> • <i>Propose and approve standards and specifications.</i> • <i>Propose, review and approve test methods and procedures relevant to calibration, usage and maintenance.</i> • <i>Coordinate with other standards bodies, and form joint task groups to resolve test and measurement issues of mutual interest.</i>

ⁱ *Engineering Committee Scope Manual* (online), TIA Online, updated February 28, 2008 <http://www.tiaonline.org/standards/committees/committee.cfm?comm=tr-42>