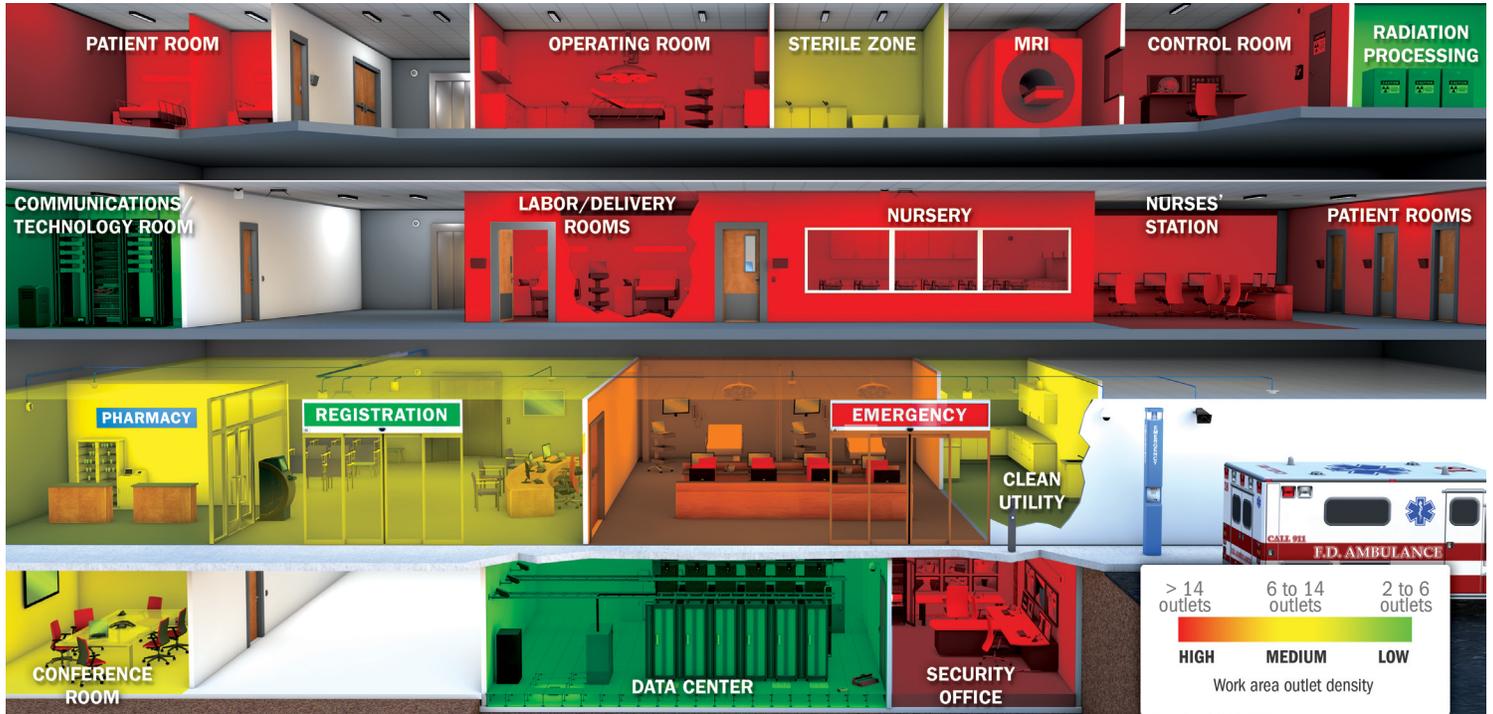


TECHNOLOGY APPLICATION GUIDE

Infrastructure Considerations for Healthcare Environments



WHAT IS ANSI/TIA-1179?

The ANSI/TIA-1179 standard enables the planning and installation of a structured cabling system for healthcare facilities and buildings. Within the healthcare environment, the ANSI/TIA-1179 standard addresses design topologies and cabling performance, pathways and spaces, and field testing instruments and measurements for balanced twisted-pair cabling. By establishing the performance and technical criteria for various cabling system configurations, the standard covers critical cabling infrastructure performance as well as special considerations specific to a hospital, such as space requirements, work area densities and redundancy. The standard also includes definitions and best practices for grounding, administration and cable installation.

WHY IT'S IMPORTANT

According to the standard, "After the initial installation, adding or changing cabling could result in a net decrease in the quality of care provided, infection control measures or compromising life safety measures." As an IT professional, providing technology services and integrating multiple departments' clinical systems while maintaining compliance with hospital and government policies during implementation is essential to maintaining long-term patient care and satisfaction.

The ANSI/TIA-1179 standard was developed due to the diversity of the application environments within healthcare facilities and different design approaches need to be considered. Healthcare-specific considerations include:

- Wired and wireless infrastructure
- Properly delivering Power over Ethernet (PoE) in hospitals
- Providing enough bandwidth and density to specific clinical areas in the hospital
- Installation considerations (infection control and life safety).

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WHY ANIXTER

Hospitals are making technology investments to help improve outcomes, increase patient satisfaction and provide a safe and secure environment for the community. The focus and budget for these investments often turns to the software, network and servers. Many hospitals don't even realize that their cable plant may not be able to handle the demands of the new healthcare technologies. Not taking into consideration the strength of the cable plant to support these technologies can leave hospitals with cost overruns and quality of service issues following implementation of expensive software and hardware upgrades. Anixter is the only company with technical experts dedicated to helping you select the right solutions. Our 4,000 square foot world-class research and educational center, The Anixter Infrastructure Solutions Lab,SM tests to all current standards (including ANSI/TIA-1179, EIA 568, ISO 11801 and IEEE 802.3) and offers customers the ability to:

- Evaluate a network infrastructure to be sure it will successfully handle bandwidth demands
- Determine optimal cabling solutions to support high-speed data applications
- Test solutions that integrate the logical and physical elements of a building's data, voice, video and automation systems
- Conduct proof of concepts
- Reduce risk through problem solving and informed purchasing decisions.

Specialty Areas	Key Considerations	Work Area Outlet Density	Technology
Radiology	Imaging bandwidth demands - Large data files associated with 3-D imaging applications - High-capacity transport and storage	High	- Category 6A FTP or UTP - OM3, OM4 multimode fiber - 802.11ac wireless - Distributed antenna systems
Pharmacy	Security - Loss prevention - Protection of patient records - Audit trail	Medium	- Paging - Electronic access control - Specialty door locking hardware - Video surveillance - Self-service kiosk - POS
Critical care patient rooms	Patient monitoring - Patient communications systems - Amenities - Cleanliness and quietness - Smart rooms - Integrated systems	High	- Category 6A FTP or UTP - OM3, OM4 multimode fiber - 802.11ac wireless - Zigbee-enabled sensors
Emergency rooms	Safety and security - Protecting patients and medical staff - Communications with first responders - Emergency preparedness	Medium or high	- Electronic access control - Specialty door locking hardware - Video surveillance - Distributed antenna systems - Public safety wireless
Infectious control areas	Safety and health - Reduction of infection risk due to airborne contaminants, viruses and bacteria	Low	- Dust containment carts - Anti-microbial door locking hardware - RFID/RTLS - Thermal imaging cameras
Data center	High-performance structured cabling - 10 Gbps server connections - 40/100 Gbps data center backbone connections - High-density cable management	High	- Category 6A FTP or UTP - OM3, OM4 multimode fiber - Single-mode fiber - Direct attached cabling

Technology Alliance PartnersSM



Anixter's Technology Alliance Partners provide solutions designed to connect the world's most important systems. We help organizations operate more efficiently and securely while maximizing value.

Visit anixter.com/healthcare to download the ANSI/TIA-1179 Standards handbook.

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Legal Statement: anixter.com/legalstatement

Anixter Inc. World Headquarters
 2301 Patriot Boulevard
 Glenview, Illinois 60026
 224.521.8000

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1.800.ANIXTER | anixter.com

