

271525-TC

Tenant and Airline Extended DEMARC

Design Intent of this standard

The intent of this standard is to

1. Reduction of abandoning communications facilities, and establishing a more permanent, and reusable facility
2. Provide a cost-effective means and method for tenants and airlines to access both MAA provided, Leased, or outside providers of communications services

Part 2 - General

2.1 Work Included

- A. Provide all labor, materials, tools and equipment required for the complete installation of work called for in the Construction Documents

2.2 Scope of Work

- A. This document describes the products and execution requirements relating to furnishing and installing specialized cabling from a MAA Communications Room to a common point in tenant or airline leased space for access to MAA and external communications services. These specialized cables shall be referred to as an Extended DEMARC.
- B. The Extended DEMARC shall support back to the MAA Communications room shall support a minimum of

1. Option 1. For Tenant Areas (Airlines, TSA etc)

Conduit size shall be a minimum of 4 inch with inter-duct

- a. (1) 50-pair Unshielded Twisted Pair (UTP) CAT 3 Copper
- b. (1) 12 strand Single Mode Fiber cable
- c. (1) 12 strand Multi Mode Fiber cable
- d. (1) RG 11 coaxial cable (refer to S7 270101)
- e. (1) E-page speaker facility (*refer to S4 275118*)
- f. (1) page shunt trip facility (*refer to S4 275118*)

2. Option 2. For Concessions Area

Conduit size shall be two inch

- a. (2) 4-pair Unshielded Twisted Pair (UTP) CAT 6 Copper Cable (1 for Voice and 1 for Data)
 - b. (1) 4 strand Single Mode Fiber cable
 - c. (1) 4 strand Multi Mode Fiber cable
 - d. (1) RG 11 coaxial cable (*refer to S7 270101*)
 - e. (1) E-page speaker facility (*refer to S4 275118*)
 - f. (1) E-page shunt trip facility (*refer to S4 275118*)
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- i. All cables and related terminations, support and grounding hardware shall be furnished, installed, wired, tested, cable and conduit labeled both ends, and documented by the telecommunications contractor as detailed in this document.
 - ii. Product specifications, general design considerations, and installation guidelines are provided in related documents. If the bid documents are in conflict, this specification shall take precedence. The successful vendor shall meet or exceed all requirements for the cable system described in this document.

b. Regulatory References

- i. The following industry standards are the basis for the structured cabling system described in this document.

TIA/EIA

	TIA/EIA-568-B Commercial Building Telecommunications Cabling Standard
TIA/EIA-569-A	Commercial Building Standard for Telecom Pathways and Spaces
TIA/EIA-606	Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
TIA/EIA-607	Commercial Building Grounding/Bonding Requirements

NFPA

NFPA-70

National Electric Code (NEC) latest edition

ISO/IEC

ISO/IEC 11801

Generic Cabling for Customer Premises

- ii. The most recent versions of all documents shall apply to this project. If there is a conflict between applicable documents, the order above shall dictate the order of precedence in resolving the issue unless an enforceable local or national code is in effect.

g. Execution

a. Extended DEMARC Cable Installation

Cable shall be installed in accordance with manufacturer's recommendations and best industry practices.

A pull cord (nylon; 1/8" minimum) shall be co-installed with all cable installed in any conduit.

Cable raceways shall not be filled greater than the TIA/EIA-569-A maximum fill for the raceway type or 40%.

Cables shall be installed in continuous lengths from origin to destination (no splices) except for transition points, or consolidation points.

Where transition points or consolidation points are allowed, they shall be in accessible locations and housed in an enclosure intended and suitable for the purpose.

The cable system minimum bend radius and maximum pulling tension shall not be exceeded that of the most stringent of all facilities installed at one time

Cable shall be installed above fire-sprinkler systems and shall not be attached to the system or any ancillary equipment or hardware.

The cable system and support hardware shall be installed so that it does not obscure any valves, fire alarm conduit, boxes, or other control devices.

The Cable system shall be installed as not to impede with future construction

The Cable System shall not be attached to ceiling grid or lighting fixture wires. Where support for horizontal cable is required, the contractor shall install appropriate carriers to support the cabling.

Any cable damaged or exceeding recommended installation parameters during installation shall be replaced by the contractor prior to final acceptance at no cost to the Owner.

Cables shall be identified by a self-adhesive label in accordance with the System Documentation Section of this specification and ANSI/TIA/EIA-606. The cable label shall be applied to the cable behind the faceplate on a section of cable that can be accessed by removing the cover plate.

Pulling tension on 4-pair UTP cables shall not exceed 25-lbf for a four-pair UTP cable.

b. Horizontal Cable Installation

Cables shall be dressed and terminated in accordance with the recommendations made in the TIA/EIA-568-B standard, manufacturer's recommendations and best industry practices.

Pair untwist at the termination shall not exceed 0.5 inch.

Bend radius of the cable in the termination area shall not exceed 4 times the outside diameter of the cable.

Cables shall be neatly bundled not more than 48 cables per and dressed to their respective panels or blocks. Each panel or block shall be fed by an individual bundle separated and dressed back to the point of cable entrance into the rack or frame.

The cable jacket shall be maintained as close as possible to the termination point.

Each cable shall be clearly labeled on the cable jacket behind the patch panel at a location that can be viewed without removing the bundle support ties. Cables labeled within the bundle, where the label is obscured from view shall not be acceptable.

c. Optical Fiber Termination Hardware

Fiber slack shall be neatly coiled within the fiber splice tray or enclosure. No slack loops shall be allowed external to the fiber panel.

Each cable shall be individually attached to the respective fiber enclosure by mechanical means. The cables strength member shall be securely attached the cable strain relief bracket in the enclosure.

Each fiber cable shall be stripped upon entering the splice tray and the individual fibers routed in the splice tray.

Each cable shall be clearly labeled at the entrance to the splice enclosure. Cables labeled within the bundle shall not be acceptable.

A maximum of 12 strands of fiber shall be spliced in each tray

All spare strands shall be installed into spare splice trays.

d. Testing and Acceptance

i. General

1. All cables and termination hardware shall be 100% tested for defects in installation and to verify cabling system performance under installed conditions per the requirements of ANSI/TIA/EIA-568-B, TSB-67 and TSB-155. All pairs of each installed cable shall be verified prior to system acceptance. Any defect in the cabling system installation including but not limited to cable, connectors, patch panels, and connector blocks shall be repaired or replaced to ensure 100% useable conductors in all cables installed.

2. Refer to section S7 271519-TC