270100-TC
Copper Splicing and Termination for Closets

Part 1 - General

1.1 Work Included

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

1.2 Scope of Work

A. This document describes the products and execution requirements relating to furnishing and installing Telecommunications Cabling. Copper backbone cabling (copper cabling splicing and terminations) is covered under this document.

B. The Communication Equipment Room shall support a minimum of (4) 4-pair Unshielded Twisted Pair (UTP) Copper Cables to each work area outlet unless otherwise noted for specific locations. The cables shall be installed from the Work Area Outlet to the Telecommunications Room (TR) located on the same floor, and routed to the appropriate rack serving that area and terminated as specified in this document.

C. This section includes minimum requirements for the following:
Copper Backbone Cabling System
Station 4 PR UTP Voice Cabling System

D. All cables and related terminations, support and grounding hardware shall be furnished, installed, wired, tested, labeled, and documented by the telecommunications contractor as detailed in this document.

E. Product specifications, general design considerations, and installation guidelines are provided in this document. Quantities of telecommunications outlets, typical installation details, cable routing and outlet types will be provided as an attachment to this document. 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.

1.3 Regulatory References

A. 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)-1999

ISO/IEC

ISO/IEC 11801	Generic Cabling for Customer Premises

B. The most recent versions of all documents 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.

1.4 Backbone Cabling System

The Backbone Cable Subsystem in a building is the part of the premises distribution system that provides connection between equipment rooms, telecommunication rooms, and telecommunications service entrance facilities. A backbone subsystem provides either intra-building connections between floors in multi-story buildings or inter-building connections in campus-like environments.

Part 2 - Telephone System Backbone Cabling

A. Provide, General Cable or listed cables. Each cable shall have unshielded twisted pair 24 AWG solid copper conductors and meet or exceed the electrical specifications for Category 3 cables detailed in the ANSI-EIA/TIA 568B

B. Commercial Building Telecommunications Wiring Standard for premises wiring. The cable shall riser rated.

Part 3 - Telephone System External Cabling

A. External Cable. Provide General Cable or listed cable suitable for direct-burial or conduit applications. The cable shall have 24 AWG solid annealed copper conductors. The sheath shall consist of a 0.008" corrugated aluminum shield, with a 0.006" corrugated steel shield and a black polyethylene jacket. The jacket shall be sequentially printed with a footage marker at regular intervals. A flooding compound shall be applied over the core and to all surfaces of the aluminum and steel shields to resist moisture entry and to inhibit corrosion. Terminate both ends of this cable on approved blocks, 10 pair disconnection modules with hinged label cover blocks bracket fixed to the Telephone Termination Backboard or rack. Match cable CAT rating with cable. Refer to section S9 for approved products.

B. Label each approved Termination Block with all building, room and pair counts.

Part 4 - Telephone System Station Termination(s) (Contact OT Engineer for Option to be used)

A. **Option A**. (Telco VOIP, Rack Mounted) **REQUIRES VARIANCE**

Rack-mounted Termination Patch Panel. Provide a RJ-45 Patch Panel with individual RJ-45 connectors to terminate the telephone backbone cable pairs. All pairs will be terminated on each RJ-45 connector using 568B termination scheme. Each patch panel shall be suitable for rack mounting in an approved rack. Provide Data-Patch Category 6 Patch Panels which utilize ***an insulation-displacement connector (IDC)***, approved style terminations on the back.

B. **Option B**. (Telco VOIP wall Mounted) **OT Preferred method**

Wall mounted Termination Provide an approved Termination block, 8 pair disconnection modules with hinged label cover blocks bracket fixed to the Telephone Termination Backboard or rack. Match cable CAT rating with cable.

Connectors to terminate the telephone backbone cable pairs. All pairs will be terminated on each using 568B termination scheme. Each module shall be suitable for on backboard using approved methods.

Part 5 - Feeder Telephone Cabling

A. Provide telephone feeder cables running from the Main Distribution Frame to wall-mounted Intermediate Distribution Frames (IDFs) in each of the Communications Rooms. Refer to drawing for cable quantities and routing information.

B. Terminate the Main Distribution Frame end of each feeder cable on approved termination blocks fitted to Termination Backboard in the MDF. Terminate all pairs of each feeder cable.

C. Terminate the Intermediate Distribution Frame end of each feeder cable on approved termination block fitted to the wall of each Communications Room. Terminate all pairs of each feeder cable.

D. Label each approved Termination Block with all building, room and pair counts.

Part 6 - A. Telephone System External and Backbone Cabling Testing

A. Test each Telephone System Backbone and External Cable and its associated patch frame connectors. Carry out the following tests on every pair of every telephone system feeder and external cable:

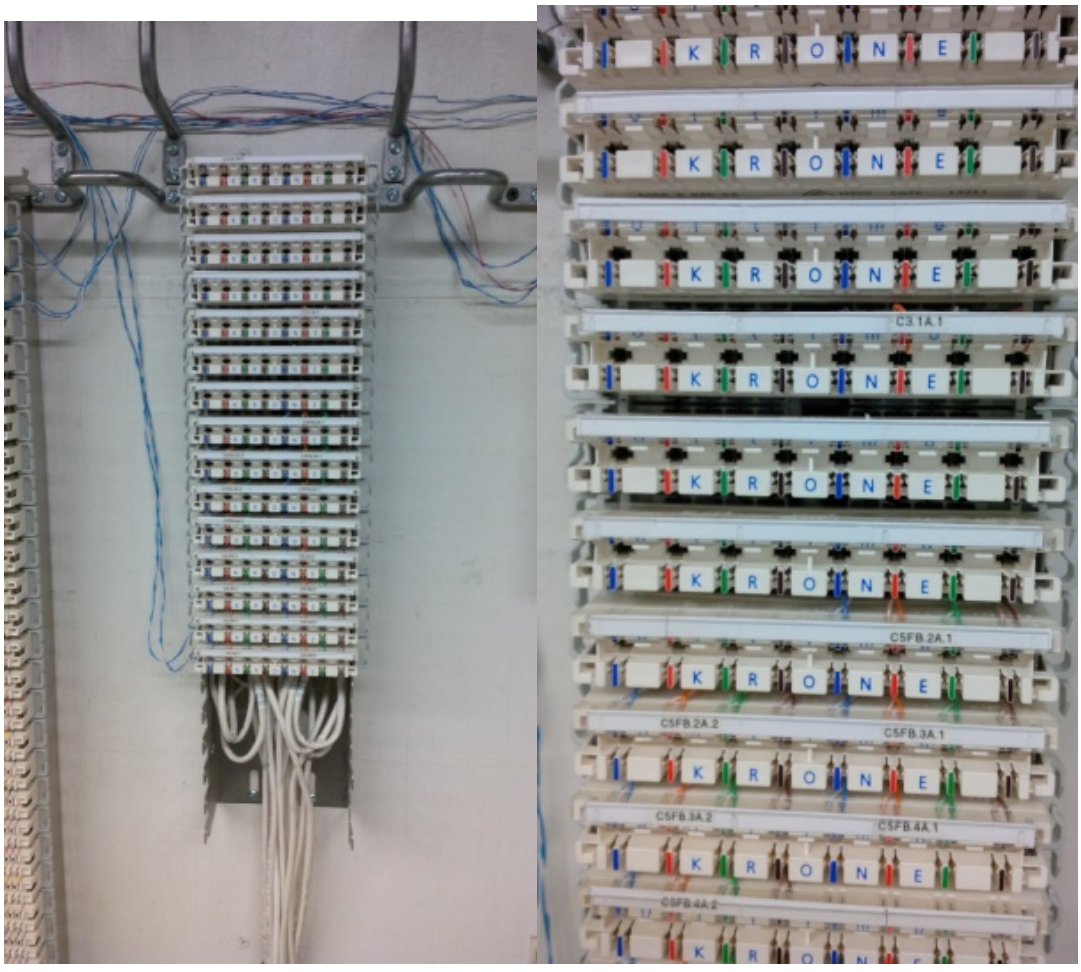
B.

- Conductor Continuity
- Conductor Separation
- Conductor Polarity

Part 7 - Voice Termination Comm. Closet

Voice Termination Closet to Station Jack

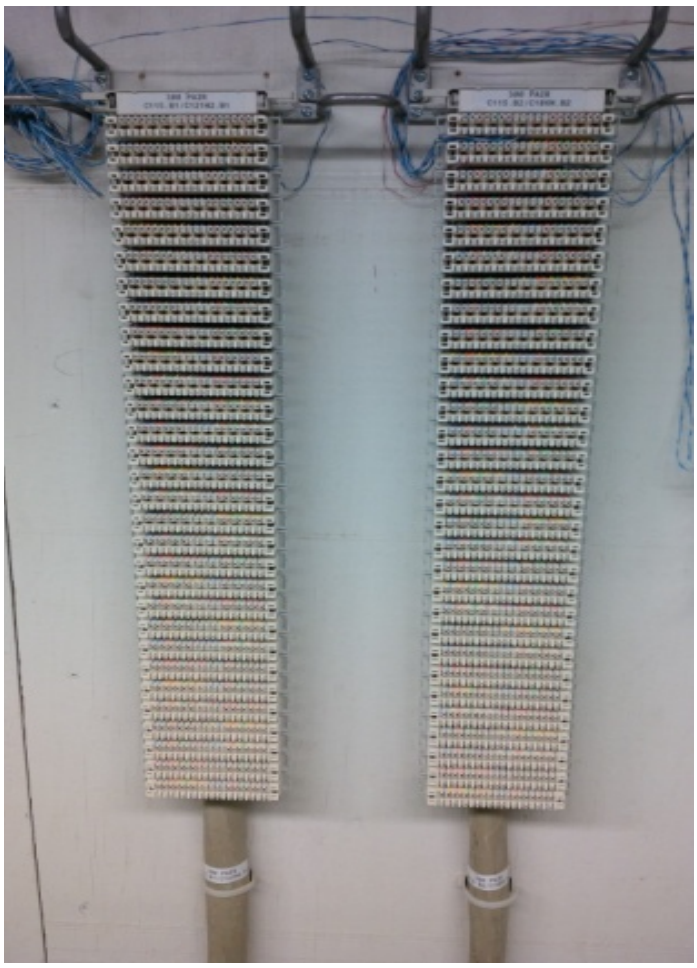
1. All station cables (Voice) shall be CAT 6 White
2. Cable shall feed from bottom up (unless otherwise pre-approved for top down)
3. Station cables will terminate in ADC/Krone Ultima8, 8 pr. Termination block. Refer to section S9 for approved products.
   NOTE: Box of 10 modules, complete kits including mounting bracket are available
4. All blocks will be properly labeled with ACD/Krone labels
5. Proper wire management shall be used



Station wiring on ADC/Krone 8 PR Blocks

Copper Backbone Cabling Closet to MDF (IDF or House Cable)

1. All voice cable shall terminate on ADC/Krone 10 Pr. Termination blocks.
2. At distant end, terminations shall be on same 10 Pr. Termination blocks.
3. Refer to Section S9 for approved products.



Backbone wiring on ADC/Krone 10 PR Blocks