
USACE / NAVFAC / AFCEA UFGS-16722 (August 2004)

Preparing Activity: NAVFAC Superseding
UFGS-16722N (February 2003)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMLR dated 22 December 2004

Latest change indicated by CHG tags.

SECTION TABLE OF CONTENTS

DIVISION 16 - ELECTRICAL

SECTION 16722

PIER TELEPHONE DISTRIBUTION SYSTEMS

08/04

PART 1 GENERAL

- 1.1 REFERENCES
- 1.2 RELATED REQUIREMENTS
- 1.3 TELEPHONE SERVICE
- 1.4 SUBMITTALS

PART 2 PRODUCTS

- 2.1 MATERIALS AND EQUIPMENT
- 2.2 CONDUIT
- 2.3 TELEPHONE CABLE
- 2.4 CLOSURES AND PAD-MOUNTED CROSS CONNECT TERMINAL CABINETS
- 2.5 FIBERGLASS ENCLOSURE
- 2.6 PIER TELECOMMUNICATION OUTLET ASSEMBLIES
 - 2.6.1 Doors
 - 2.6.2 Pier Telephone Receptacles
 - 2.6.3 Nameplates
 - 2.6.4 Cable Tags
 - 2.6.5 Ventilators
- 2.7 PAD-MOUNTED CROSS CONNECT TERMINAL CABINETS

PART 3 EXECUTION

- 3.1 INSTALLATION
 - 3.1.1 Contractor Damage
- 3.2 FIELD QUALITY CONTROL
 - 3.2.1 Acceptance Tests

-- End of Section Table of Contents --

USACE / NAVFAC / AFCEA UFGS-16722 (August 2004)

Preparing Activity: NAVFAC Superseding
UFGS-16722N (February 2003)

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated 22 December 2004

Latest change indicated by CHG tags.

SECTION 16722

PIER TELEPHONE DISTRIBUTION SYSTEMS 08/04

NOTE: This guide specification covers the requirements for pier telephone distribution work.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

Use of electronic communication is encouraged.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.

NOTE: This guide specification does not cover all possible methods or requirements for providing facilities nor does it cover telephone handsets or switching equipment. This guide specification should be used in conjunction with Section 16711 TELECOMMUNICATIONS OUTSIDE PLANT, Section 16145 480 V PIER POWER OUTLET ASSEMBLIES, Section 16303N UNDERGROUND ELECTRICAL WORK, (use for LANTNAVFACENGCOM Projects in lieu of 16302N) and Section 16302N UNDERGROUND TRANSMISSION AND DISTRIBUTION. Before preparing plans and specifications for a specific project, consult Unified Facilities Criteria (UFC) 4-150-02 Design: Dockside Utilities for ships' demand and telecommunication systems requirements.

NOTE: This section contains the following sketches

and are available in metric (SI) and U.S. Customary (IP) system dimensions. Sketch titles and style numbers are unchanged for both types. The metric values indicated are a conversion of the IP system dimensions.

Do not include list of sketches, or sketches themselves, in project specifications. If special features are required for a project, do not modify sketches, but indicate these changes on notes in schedule. The "TL" style numbers and dates should remain on the drawing details.

NOTE: Index Date: November 1990

List of Sketches

Sketch Number	Title
TL-1	Typical Pier - Plan
TL-2	Pier Telecommunication Outlet Assembly - Elevation and Section
TL-3	Pier Telecommunication Outlet Assembly - Plan and Section
TL-4	Telephone Connector Detail and Notes

NOTE: Do not include index in project specification.

NOTE: INSTRUCTIONS TO VIEW/PRINT GRAPHICS

FROM CCB DISKS OR WEBSITE:

1. Put in Disk A and go to CCB Program, or go to www.ccb.org and sign in.
2. Choose Browse CCB Libraries.
3. Choose Specifications Library.
4. Choose NAVFAC Specifications.
5. Choose NAVFAC Specifications graphics.
6. Choose Navy Graphics Table of Contents and then go to the specified Guide Spec and click on the needed graphic/table.

NOTE: The following information shall be shown on the project drawings:

1. Where specification identifies type, size, color, finish, or other definitive information to be "as indicated" the engineer shall show the information on the drawings.
2. Location of pier telecommunication outlet assemblies, manholes, handholes, ducts, and cables.
3. Types of wire and cable; number and sizes of conductors and conduits.

4. Special conditions.

PART 1 GENERAL

1.1 REFERENCES

NOTE: Issue (date) of references included in project specifications need not be more current than provided by the latest guide specification. Use of SpecsIntact automated reference checking is recommended for projects based on older guide specifications.

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM A 167 (2004) Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C2 (2002) National Electrical Safety Code

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2005) National Electrical Code

U.S. DEPARTMENT OF DEFENSE (DOD)

MIL-C-28840 (Rev A; Notice 6; Supp 1) Connectors, Electrical, Circular Threaded, High Density, High Shock, Shipboard, Class D

MIL-C-28840/12 (Rev C; Am 1; Notice 1) Connectors, Electrical, Screw Threads, High Density High Shock, Shipboard, Crimp Contacts Receptacle, Mounting Box, Classes D and DS

1.2 RELATED REQUIREMENTS

NOTE: Coordinate with Sections 16302N UNDERGROUND TRANSMISSION AND DISTRIBUTION, 16303N UNDERGROUND ELECTRICAL WORK, (use for LANTNAVFACENGCOM Projects in lieu of 16302N) Section 16301N OVERHEAD TRANSMISSION AND DISTRIBUTION, 16145 480 V PIER POWER OUTLET ASSEMBLIES, and 16711 TELECOMMUNICAITONS OUTSIDE PLANT. If manholes, handholes, and vaults are required for the project, show them on plans and specify them in the appropriate specifications section.

Section 16050N BASIC ELECTRICAL MATERIALS AND METHODS applies to this section with additions and modifications specified herein.

1.3 TELEPHONE SERVICE

NOTE: Indicate where the cable system is to be cross connected to the Naval Station system. If a waterfront cross connection facility is provided, pier cables will be terminated at that facility. This specification envisions that the ship to shore receptacles cable will be isolated from the pier cable at the pier telecommunication outlet assembly and that the pier cable can be isolated from the Naval Station system at a cross connect module ashore between the pier and the mainframe. The mainframe and other telephone equipment are not specified in this section.

Telephone service to the pier shall be terminated at the [mainframe] [or] [waterfront telephone cabinet] of the facility. [Terminate telephone cable at the mainframe.] [Telephone cable shall be terminated within the facility by others. Provide sufficient slack in cable so that each pair can be neatly routed and terminated in the telephone cabinet.]

1.4 SUBMITTALS

NOTE: Submittals must be limited to those necessary for adequate quality control. The importance of an item in the project should be one of the primary factors in determining if a submittal for the item should be required.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy projects.

Submittal items not designated with a "G" are

considered as being for information only for Army
projects and for Contractor Quality Control approval
for Navy projects.

Government approval is required for submittals with a "G" designation;
submittals not having a "G" designation are [for Contractor Quality Control
approval.] [for information only. When used, a designation following the
"G" designation identifies the office that will review the submittal for
the Government.] The following shall be submitted in accordance with
Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Pier telecommunication outlet assemblies; G, [_____]

SD-03 Product Data

Pier telephone receptacles; G, [_____]

SD-06 Test Reports

Acceptance tests; G, [_____]

Submit within 3 working days after the tests for each segment of
construction are completed.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

Provide materials and equipment listed by Underwriters Laboratories (UL) or
approved by Factory Mutual Engineering and Research (FM), when such
equipment is listed by UL or approved by FM.

2.2 CONDUIT

Provide as specified in Section [16711 TELECOMMUNICATIONS OUTSIDE PLANT] [16302N UNDERGROUND TRANSMISSION AND DISTRIBUTION].

2.3 TELEPHONE CABLE

NOTE: If other cable types are required for the
project, such as coaxial or fiber optic, refer to
the appropriate section or insert the cable
descriptions here under the title: "Communications
Cable."

Provide as specified in Section 16711 TELECOMMUNICATIONS OUTSIDE PLANT.

2.4 CLOSURES AND PAD-MOUNTED CROSS CONNECT TERMINAL CABINETS

Provide as specified in Section 16711 TELECOMMUNICATIONS OUTSIDE PLANT.

2.5 FIBERGLASS ENCLOSURE

Provide as specified in Section 16711 TELECOMMUNICATIONS OUTSIDE PLANT.

2.6 PIER TELECOMMUNICATION OUTLET ASSEMBLIES

Assemblies shall include telephone cross connect modules, receptacles, and nameplates. The pier telecommunication outlet assembly shall be a freestanding 9.525 mm 3/8 inch welded stainless steel plate enclosure. Stainless steel shall conform to ASTM A 167. Assemblies shall be provided with lifting eyes. The location and number of pier telecommunication outlet assemblies and telecommunication outlet receptacles shall be as indicated. Equip the telephone section of the outlet assembly with "push on" cross connect modules to connect the telephone cables and ship to shore receptacles as indicated. Metal work shall conform to requirements of Section 05500N METAL FABRICATIONS.

2.6.1 Doors

Provide doors with a door latch mechanism having padlocking provisions. Doors shall be of identical material and construction as pier telecommunication outlet assemblies. Door locking provisions shall result in snug fit of door to frame, with means provided on each door for [padlock] [or] [pental bolt lock] [or] [a combination pental bolt padlock].

2.6.2 Pier Telephone Receptacles

**NOTE: Receptacles and plugs may be supplied as
Government-furnished equipment to the Contractor and
are available from the Federal Supply System.**

The telephone outlet receptacles and matching plugs shall conform to MIL-C-28840 and MIL-C-28840/12. Telephone outlet receptacles shall be part number [MIL-C-28840/12 BF1S1] [and] [MIL-C-28840/12 BD1S1] as indicated. The ship to shore telephone cable receptacles shall be box mounted in the pier telecommunication outlet assemblies as indicated. Provide sufficient support of the box-mounted receptacles to prevent cable strain on terminated contacts within the receptacles. Provide one matching plug assembly (compatible with receptacle) suitable for future connection to flexible cable with each receptacle. Plug assemblies shall be turned over to the Contracting Officer. Provide receptacles with a matching weatherproof cap secured to the receptacle by a stainless steel wire or chain.

2.6.3 Nameplates

**NOTE: Obtain legends and cable designations from
Naval Station Telephone Officer.**

Provide laminated plastic nameplates for the enclosures at the locations indicated with the following legends:

[]
[]
[]
[]

Provide nameplates for individual receptacles referenced to the cable

feeding the receptacle. Nameplate material shall conform to Section 16050N BASIC ELECTRICAL MATERIALS AND METHODS.

2.6.4 Cable Tags

Cable tags shall be stainless steel 41.27 mm 5/8 inches in diameter, 1.588 mm 1/16 inch thick, and circular in shape.

2.6.5 Ventilators

NOTE: Design air transfer ventilators to suit the project location. Show size, number, and location of ventilators on project plans.

Ventilators shall be of size, number, and location to allow proper transfer of air through the enclosure while excluding water. Provide perforated screens of stainless steel backed with suitable internal baffles to prevent entrance of foreign objects.

2.7 PAD-MOUNTED CROSS CONNECT TERMINAL CABINETS

NOTE: Pad-mounted cabinets should be provided ashore near the head of the pier when the next cross connect point is excessively distant. Loading coils, when required, shall be selected to match the local telephone system requirements.

Provide as specified in Section 16711 TELECOMMUNICATIONS OUTSIDE PLANT.

PART 3 EXECUTION

3.1 INSTALLATION

Conform to IEEE C2, NFPA 70, and Section 16711 TELECOMMUNICATIONS OUTSIDE PLANT except as indicated.

3.1.1 Contractor Damage

Promptly repair indicated utility lines or systems damaged during site preparation and construction. Damages to lines or systems not indicated, which are caused by Contractor operations, shall be treated as "Changes" under the terms of the Contract Clauses. When the Contractor is advised in writing of the location of a nonindicated line or system, such notice shall provide that portion of the line or system with "indicated" status in determining liability for damages. In every event, immediately notify the Contracting Officer of damage.

3.2 FIELD QUALITY CONTROL

Notify the Contracting Officer [10] [_____] working days prior to [each] [_____] test. Provide labor, equipment, and incidentals required for testing. Correct defective material and workmanship disclosed as the results of the tests. Perform testing as construction progresses and do not wait until construction is complete before starting field tests.

3.2.1 Acceptance Tests

Where telephone cable is installed under this contract, test for continuity through plug and receptacle assembly and for correct pair location on ship to shore cable compared to pigtail on receptacle.

-- End of Section --