

GENERIC SPECIFICATION

OPTICAL TERMINATION BOX (OUTDOOR)

NWC Network Cable Co., Ltd

Optical Termination Box(outdoor)

(Wall mount type)

General

This specification covers the minimum standards and requirements for the construction, properties, testing and packing of optical termination box (wall mount type) to be used as an interconnection between the central office equipment and the distribution access in the telecommunication network.

Description

Optical termination box (wall mount type) is installed for terminating optical fiber cables and patch cord. Optical termination box (wall mount type) should include the Stainless steel casing, adapter plate, splice tray, and other necessary materials for the termination of optical fiber cable. Therefore it should be designed properly for the fiber splicing and distribution. Separate storage shelf and distribution shelf can be offered if required.

The optical termination box (wall mount type) shall be of corrosion resistance , robust construction and waterproofing; and shall allow both top or bottom entry for access to the splice trays. Specific selection of the entry points shall be made at the time of installation. The optical termination box (wall mount type) shall provide flexiable protection the patch cord bunches going out from the optical termination box (wall mount type) to another equipment and shall be installed on the pole or wall.

Reliability

Through qualification test of this product, we ensure product reliability. Several qualification tests are carried to assure the product's performance and durability while operation.

Optical Termination Box(Outdoor)

General

The main purpose of the optical termination box (wall mount type) is to terminate the OSP cables coming into splicing units with short pigtails and connect those pigtails to fiber distribution frames. Distributed fibers will be connected to the central office equipment by using patch cords to the next central office to form a Fiber Ring.

The optical termination box (wall mount type) shall completely restore the sheath integrity of the cables and provide secure storage for the fiber splices.

The optical termination box (wall mount type) is a splice and distribution shelf.

The optical termination box (wall mount type) shall include all necessary parts to complete the joint. This will comprise all components to protect and store the spliced fiber; and provide sheath continuity. The optical termination box (wall mount type) shall be designed with enough spare capacity for fiber splices. The optical termination box (wall mount type) shall be made from the stainless steel not less than 1.2mm thick or equivalent and painted in good condition.

The design of the optical termination box (wall mount type) shall allow minor deviations from the described installation procedures without any harm to the fibers and the long-term performance of the installation.

The optical termination box (wall mount type) and the connection between shelves shall be designed to maintain minimum bending radius of 60mm.

The dimension specification of optical fiber distribution frames shall be shown in the following Table-1

Table-1

Items	Dimension (W X D x H)	Max. Capacity	Note
Optical Termination Box-12C	290 X 300 X 75 mm	12 ports & splice	Pole/ Wall
Optical Termination Box-24C	290 X 300 X 75 mm	24 ports & splice	Pole/ Wall

Distribution Module

□ Adapter Plate

The adapter plate located in the optical termination box (wall mount type) consists of adapter panels to provide mounting for SC and other adapters. The adapter panel shall be designed for easy routing of the patch cord.

Optical adaptors shall be used for connections and be connected with optical attenuators if needed.

□ Adapter

The adapter designed to be used in the fiber distribution frame shall be able to connect pigtails from the splice tray with patch cord to the central office system or other equipment.

Splice Module

□ Construction of Splice Tray

A splice tray attached on the left side of the optical termination box (wall mount type) shall have the capacity to secure the fiber splices each. A splice tray shall have two separate storage sections. Splice trays shall be stacked up for higher splice capacity and be easily detached again. Fibers shall be completely retained within the splice tray with no possibility of trapping, pinching or other damage to the fibers during installation and arrangement. The splice tray shall include a mechanism to secure the loose tubes or protection tubes, and the retaining mechanism shall be resistant to vibration.

The splice tray can hold loose tube or ribbon fiber splices. A splice tray shall accommodate maximum 24 sleeves for loose tube connection and 12 sleeves for ribbon connection.

□ Optical Characteristics

The design of the splice tray shall ensure that the fiber shall not bent to a radius $\leq 30\text{mm}$.

The splice protector shall restore the mechanical integrity of the fiber and shall not create any residual forces in the fiber.

The splice protector may be a suitable plastic heat shrinkable material with an internal stainless steel rod for tension relief.

Components

□ Cable Clamp

The cable clamp shall be required to secure the outside plant cables to the distribution frame and can clamp the cable diameters from 8mm to 32mm.

□ Ground Kit

A grounding kit shall be provided for grounding cable with metallic sheath and metallic strength member.

□ Mounting Bracket

The mounting bracket should be used to secure the optical termination box (wall mount type) onto the wall or pole

□ Patch cord Shield

The patch cord shield should be offered for protecting and guiding central office system patch cord when using equipment rack only if required.

Test Certification

General

This section specifies the optical termination box (wall mount type) and its material physical, chemical environmental and mechanical requirements and the tests to be applied for the determination of compliance to these requirements.

The materials of the optical termination box (wall mount type) shall be compatible with all cable components and splicing materials.

Workmanship

All components of the frame shall be high quality design, workmanship, and finish.

All components shall be free of pinholes, cracks, sharp edges or other defects which may detract from the service requirements of the frame.

All metal and plastic welds shall be a high standard of workmanship.

Materials

The components of the fiber distribution frame and its accessories shall not contain any hazardous or toxic materials.

All the components shall be stainless steel or metal with equivalent corrosion resistance. The Optical Termination Box (wall mount type) shall have a robust construction.

Tests of Assembled Optical Termination Box (wall mount type)

□ Temperature Cycling

The sample shall be subjected to 10 continuous test cycles. Each test cycle shall be:

Temp cycle: 20→2→50 (Relative Humidity 80%) →

20→2→50 (Relative Humidity 80%) →20℃

Temp variation rate: 1℃/min

Cycle period: 2hr

On completion, neither corrosion nor deformation shall be occurred on the sample.

□ Vibration Test

The cables connected to the sample shall be rigidly clamped 500mm from the distribution frame. The distribution frame shall be vibrated at a frequency of 10~55~10Hz and an amplitude of 0.35mm for a period of 1 hour. The cycle takes 10 minutes and vibrates in a perpendicular way. On completion, neither separation of components nor damage shall be occurred.

Packing and Marking

Packing

The fiber distribution frame shall be packed as a complete kit containing all components necessary for installation.

Each item is to be covered with a protective material to prevent scratching or damage during shipping or storage.

Complete assembly and installation instructions in English shall be provided with each packaged unit.

The final shipping cartons shall be of sufficient strength and durability to protect the contents from handling during storage and shipping by land, sea, or air.

Marking

The details given below shall be distinctively marked in English with a weatherproof material, on at least two sides of the shipping carton.

- ❖ The company to be delivered
- ❖ The product item
- ❖ Country of origin
- ❖ Manufacturer's name and/or trademark
- ❖ Date of manufacture
- ❖ Caution mark

Each fiber distribution frame shall be marked with the company, the month and year of manufacture and the trademark and/or name of manufacturer in legible color.

Spec No.	Optical Termination Box	Optical Termination Box(outdoor) 12C & 24C
Code No.	Fig - 1	
Initial	2008. 12. 21	
Revised		

Unit : mm
Tolerance : 1/100

