**Construction Standard Specification for Module Implementation 2024**

**Ver.1**

**模块实施施工标准规范  2024  Ver.1**

1. General通则

**(Construction Management)施工管理**

1. Comprehensive work plans must be created before work is carried out to achieve the work objectives in accordance with the test project. This plan includes the following content.开展工作前必须制定全面的工作计划，以达到工作目标。本计划包括以下内容。

- Quality plan质量计划

- Work plan工作计划

[2]. Construction work must be managed according to the construction plan. Construction management report must be submitted before finishing the module. The construction management report includes the following.施工工作必须按照施工计划进行管理。在模块完成之前必须提交施工管理报告。施工管理报告包括以下内容。

- Work details,工作细节

- Construction plan Time and results,施工计划时间和结果，

- Special notes regarding the work.关于工作的特别说明

**(Quality management)质量管理**

[3]. “Quality management report” must be submitted to fulfill the Basic Required Quality. This report must include such as the followings: 为满足基本质量要求，必须提交“质量管理报告”。该报告必须包括以下内容：

- Measurement/test result, 测量/测试结果

**(Record)记录**

1. All work and measurement test results must be recorded and saved.所有工作及测量测试结果均须记

录并保存。

**(Applicable Standards)适用标准**

[5]. The following standards must apply: 必须遵守以下标准：

- ISO/IEC 11801-1, 2, 3, 4, 5, 6

- ISO/IEC 14763-2

- ISO/IEC 14763-3

- Others

**(Environmental Protection)环境保护**

[6]. Wastes must be disposed following the specified waste handling regulations, 垃圾应按照垃圾处理规定处理

[7]. The work area must be kept clean and tidy工作区域必须保持干净整洁

**(Sustainability)可持续性**

[8]. Consider sustainability in the system lifecycle: 考虑系统生命周期的可持续性

- Maintainability must be considered, 必须考虑可维护性

- Sustainability in the work process must be maximized,必须最大限度地提高工作流程的可持续性

**(General)一般事项**

[9]. General matters are as follows: 一般事项如下

- Select necessary and proper tools, materials and equipment for work, based on the design documents (each Figure),根据设计文件（每个图纸）选择必要且适当的工作工具、材料和设备

- The tools and equipment provided must not be modified or altered. 所提供的工具和设备不得修改或改变。

- If the display language of the device can be changed, it can be changed with permission.如果设备的显示语言可以更改，获得许可后可以进行更改。

- Tools and equipment must be maintained before and during use if deemed necessary. 如必要，使用工具和设备前和使用中必须进行维护。

- Cleaning and tidying up must take place within the work time. 清洁和整理必须在工作时间内进行。

**(Common)通用**

[10].The cabling must be done in the appropriate method.  必须采用适当的方法进行布线。

[11].The specified allowable bending radius for each cable must be observed.必须遵守线缆规定的允许弯曲半径。

[12]. Preparations for cabling must be carried out on the curing sheet. In other words, cables that have been extended for cabling cannot be placed on the floor. However, this does not apply to cables with hard sheathing, such as optical cables. 线缆的准备工作必须在固化板上进行。也就是说，布线时已经延长后的线缆不能放置在地板上。但是，这不适用于带有硬护套的线缆，例如光缆。

[13].The cables must be managed in the cabling area, i.e. at the cable ladder or/and in the rack.线缆必须在布线区域进行管理，即在桥架或/和机架内。

1. The ends of cables after cabling must be properly managed. For example, they cannot be left lying on the floor. 布线完成后，必须妥善管理线缆末端。例如，不能将其放在地板。
2. The allowable tension of each cable must be observed during cabling. 布线时必须遵守每根线缆的允许张力。

[16]. During cabling, the cable must not be stressed or twisted.布放线缆时，不得使线缆受力或扭曲。

[17].Materials and/or equipment must not be scratched, damaged or soiled. 材料和/或设备不得被刮伤、损坏或弄脏。

[18].Cable jacket removal must be done to make the jacket ends neat and clean.必须拆除线缆护套，使护套末端整洁。

[19].Cables must not be wired directly on the floor. 不得直接在地板上布线。

[20].Cleaning and tidying up is included in working hours. 清洁和整理工作也包含在工作时间中。

**(Cable Management)线缆管理**

[21].Cables of different types and/or different destination must be managed separately. 不同类型和/或不同目的地的线缆必须分开管理。

[22]. Patch cords must be managed using the management panel.  必须使用理线架来管理跳线。

[23]. Installed cables must be aesthetically excellent as much as possible. 安装的线缆必须尽可能美观。

[24].Cable of the same type must be managed collectively. 同一类型的线缆必须集中管理。

[25].The specified number and quantity of Velcro must be used for cable management.必须使用规定数量和规格的魔术贴进行线缆管理。

[26].The length of the cable is limited to the length required for the cable path, including the necessary extra length for each rack and the specified length of the service loop. Cables that are not required must be cut. The service loop length is 20% of the length of the cable path.  线缆长度仅限于线缆路由所需的长度，包括每个机架所需要的多余长度和指定长度的余长。不需要的线缆必须要剪掉。余长长度为线缆路由长度的  20%。

[27].The service loop in the cable must be managed appropriately at the specified position. 线缆中的余长必须在指定位置进行适当管理。

[28].Cables for inside of a house must be installed either on the front of the workstation or in the flexible tube.房屋内部的线缆必须安装在工位的前面或柔性管道内。

**(Cable Ladder Installation)桥架安装**

[29].Step ladder must be used for cabling on the cable ladder on the upper part of the workstation.工位上部的线缆桥架上布线时，必须使用梯子。

1. Cables must be fixed at the marks indicated on the cable ladder.线缆必须固定在线缆桥架上指定的固定处。

[31].The ends of the cable ladder must protect cables properly.应在线缆桥架的末端妥善保护线缆。

1. The cables installed on the cable ladder must be firmly secured in the designated positions. In particular, the vertical sections must be made more robust.应牢固固定安装在线缆桥架梯指定位置上的线缆。尤其是垂直的部分要更加稳固。

[33].Optical cables must be fixed with fixing bands directly to the cable ladders, etc...光缆应使用扎带直接固定到线缆桥架等...

[34].Copper cables must be fixed with both of Velcro tapes and fixing tapes to the cable ladder, etc.铜缆应使用魔术贴和扎带固定在线缆桥架等。

[35].The cable ladder must be grounded for electrical safety.为了电气安全，线缆桥架必须接地。

**(19-inch Rack Installation)19英寸机架安装**

[36].The cables installed in the 19-inch rack must be securely fixed while protecting the cables.19英寸机架内安装的线缆必须牢固固定，同时做好线缆的保护。

[37]. Extra length of the cable introduced to a 19-inch rack must be managed.进入19英寸机架的线缆的多余长度必须做管理。

[38].The bottom of the 19-inch rack must have a service loop of about one turn.大约一圈的余长必须固定在 19 英寸机架的底部。

[39]. Each cable must be fixed on the back of the panel.各线缆应固定在配线架的背部。

**(Optical Cable Installation)光缆安装**

[40].Optical fibers must comply with the prescribed allowable bending radius.光纤应符合规定的允许弯曲半径。

1. Gel n optical cables must be removed to an extent not affecting installation.应将光缆的油膏清除至不影响安装的程度。

**(xTP Cable Installation)xTP线缆安装**

[42].Shielded twisted pair cables must be terminated using modular jacks, in order to maximize the effect of shielding.屏蔽双绞线应使用模块进行端接，以最大限度地发挥屏蔽效果。

[43]. Modular connectors must be fixed solidly to the panel.模块应牢固固定在配线架上。

1. Shielded twisted pair cables must be terminated by a method appropriate to their cable construction. 屏蔽双绞线线缆必须采用适合其线缆结构的方法进行端接。

**(Optical Fiber Connection)光缆连接**

[45]. Heat-shrinkable sleeves must be selected to the appropriate length and type to match the specifications of the storage tray.必须选择适当长度和类型的热缩管，以符合存储托盘的规格。

[46].Unless otherwise specified, fusion splicing loss must be 0.3db or less. Also, reflection loss of optical connectors must be 45db or more.除非另有规定，熔接损耗必须小于或等于  0.3db。此外，光连接器的反射损耗应小于45db。

**(Optical Fiber Storing)光纤储存**

[47].Optical fibers must be stored without kink.储存光纤时不能打结。

[48].Optical fibers should be stored aligning individual optical fibers as much as possible.储存光纤时应尽可能对齐纤芯。

[49].When storing optical fiber, the optical fiber must not be secured with tape or Velcro. However, this does not apply to optical cords.储存光纤时，不能使用胶带或魔术贴。光纤跳线除外。

[50]. Excessive length of optical fiber cord than necessary must not be stored in the tray.不得将超过所需长度的光纤线储存在托盘中。

[51]. If the size of the sleeve fixing part is different from the diameter of the sleeve, wrap plastic tape around the sleeve to increase the diameter and prevent the sleeve from coming off easily.当套管固定部位的尺寸与套管直径不同时，应用塑料胶带扩大套管直径防止其轻易脱落。

1. Heat-shrinkable sleeves must be fixed in the specified position in the storage tray.热缩套管必须固定在储存托盘中指定的位置。

**(Fiber connection box/Fiber distribution box /Fiber closure installation)（光纤连接盒/光纤分线盒/光纤盒安装）**

[53].Service loop for approximately a single loop must be secured near the optical connection box mounted on the wall.  大约一圈的余长必须固定安装在墙上的光连接盒附近。

[54].The tension members of the optical cable must be of a length and condition that does not affect the optical fiber. They must also be firmly fixed in place.光缆加强筋的长度和状况不得影响光纤。它们也必须牢固固定到位。

[55].The length of the loose tube for the optical fiber cable (24C, 48C) must be appropriate for the fiber connection box/panel/optical closure.应将合适长度的光缆 (24C、48C)松套管引入光纤连接盒/配线架/或接续盒中。

[56].The loose tube to be introduced into the storage tray must be secured using two fixing bands at the fiber introduction section. 放入存储托盘的松套管必须用两条扎带固定在光纤引入部分。

[57]. Loose tubes must not be stored in the storage tray.松套管不得存放到存储托盘中。

[58]. If the optical fiber adapters on the optical connection box/panel are not used, the protective caps must be always attached.如不使用光纤连接盒/配线架内的光纤耦合器，必须始终盖好保护盖。

[59]. In case optical pigtail cord is cut for connection, its length must be determined with consideration for maintainability, etc...要剪断光纤尾纤进行连接时，应考虑可维护性等方面来确定其长度。

**(Labeling)标签**

[60].Generally, labels are printed using a label printer, but if specified, a band with a flag is used. 标签一般使用标签打印机打印，如特别指定，则使用标签扎带。

[61]. Readability must be secured.必须保证可读性。

[62]. Labels must always be applied to both ends of the patch cord connected to the different panels. 连接到不同配线架的跳线的两端应始终贴标签。

**(Measurement Test)测量测试**

1. When conducting measurement test, an expert must be called to attend the test.进行测量测试时，

必须通知专家参与测试。

[64]. Procedure for measurement must follow the prescribed method. Please refer to ISO/IEC 14763-3.测量程序必须遵循规定的方法。请参阅ISO/IEC  14763-3。

[65]. Reference value must be set before measurement.测量前必须设定参考值。

[66].Necessary items must be described in the “Quality management report”.应在“质量管理报告”中说明必要的事项。

[67].Condition of the end faces of the of the specified optical connector must be inspected.应检查光连接器的端面状况。

[68]. Either Optical loss test or OTDR test must be selected according to the purpose.应根据目的选择进行光损耗测试或OTDR测试。