

INTERNATIONAL STANDARD

ISO/IEC 18010

2002

AMENDMENT 1
2005-12

Amendment 1

**Information technology –
Pathways and spaces
for customer premises cabling**

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[ISO/IEC 18010:2002/Amd 1:2005](https://standards.iteh.ai/catalog/standards/sist/13f09d04-6960-42f2-ad1f-1f4d666bc2be/iso-iec-18010-2002-amd-1-2005)

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FOREWORD

Amendment 1 to International Standard ISO/IEC 18010 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

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Contents

Add the following new items in the table of contents:

Annex A (normative) Additional requirements for multi-tenant buildings

A.1 INTRODUCTION

A.2 Entrance facilities

A.2.1 Entrance location considerations

A.2.2 Telecommunications service entrance pathway

A.2.3 Access

A.2.4 Wireless

A.3 Access provider spaces and service provider spaces

A.3.1 General

A.3.2 Location

A.3.3 Pathways

A.3.4 Design

A.4 Common equipment room

A.4.1 General

A.4.2 Location

A.4.3 Pathways

A.4.4 Design

A.5 Common telecommunications room

A.5.1 General

A.5.2 Location

A.5.3 Pathways

A.5.4 Design

A.6 Building and campus pathway requirements

A.6.1 Building pathways

A.6.2 Campus pathways

Annex B (informative) Additional recommendations for multi-tenant buildings

Existing Annexes A and B have to be renumbered as Annexes C and D, as follows:

Annex C (informative) Pathways and cable stresses

Annex D (informative) Building entrance facility

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General

Update the references to tables and figures whose numbers have been changed.

Page 5

INTRODUCTION

Add the following new paragraph:

This standard has 4 annexes:

Annex A (normative)	Additional requirements for multi-tenant buildings
Annex B (informative)	Additional recommendations for multi-tenant buildings
Annex C (informative)	Pathway and cable stresses
Annex D (informative)	Building entrance facility

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1 Scope

Replace the second paragraph by the following text:

This International Standard also influences space allocation within the building. Both single- and multi-tenant buildings for residential and commercial use are considered by this standard.

Page 7

3 Definitions and abbreviations

3.1 Definitions

Add the following new definitions after 3.1.9:

3.1.10

common equipment room (telecommunications)

enclosed space used for equipment and backbone interconnections for more than one tenant in a building

3.1.11

common telecommunications room

enclosed space used for backbone interconnections for more than one tenant in a building, which may also house equipment

Renumber the existing definitions 3.1.10 to 3.1.26 as 3.1.12 to 3.1.28.

Page 9

3.2 Abbreviations

Replace the existing text by the following:

CER	Common equipment room
CTR	Common telecommunications room
EMI	Electromagnetic interference
HVAC	Heating, ventilation and air conditioning
IT	Information technology

4 Conformance

Add the following new items:

- c) For multi-tenant buildings, Annex A shall also be observed.
- d) Local regulations shall be followed.

Page 10

5 Structure of a pathways' and spaces' infrastructure

Replace existing figure 1 by the following figure 1:

ISO/IEC 18010:2002/Amd 1:2005
<https://standards.iteh.ai/catalog/standards/sist/13f09d04-6960-42f2-ad1f-1f4d666bc2be/iso-iec-18010-2002-amd-1-2005>

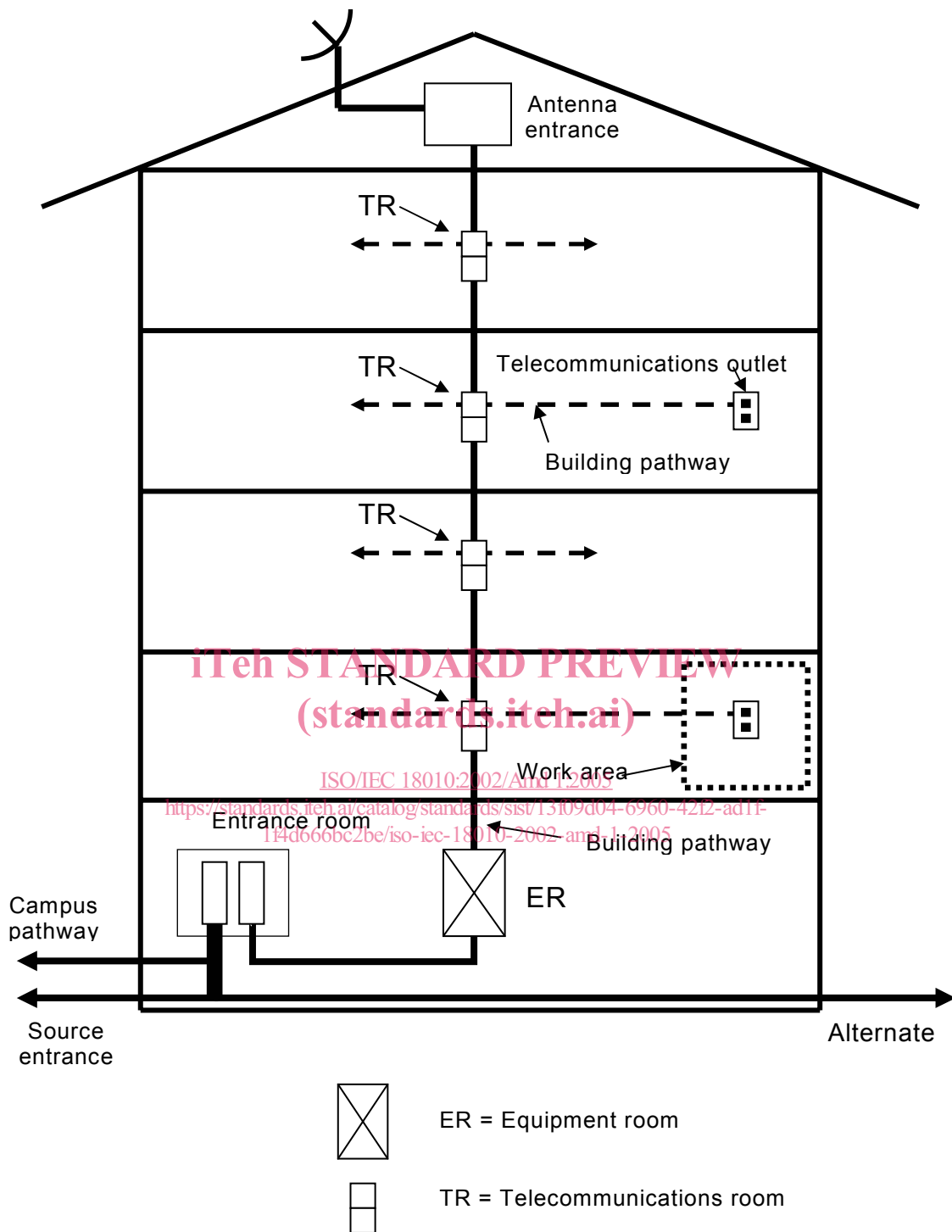


Figure 1 – Basic elements of a pathways' and spaces' infrastructure

6.3 Telecommunications room

Add the following new paragraph before the last paragraph:

Telecommunications room temperature and humidity shall provide for continuous operation of the installed active equipment. Humidifying and dehumidifying equipment may be required depending upon local environmental conditions.

6.4 Equipment room

Add, on page 12, the following paragraph after the fifth paragraph:

Equipment room temperature and humidity shall provide for continuous operation of the installed active equipment. Humidifying and dehumidifying equipment may be required depending upon local environmental conditions.

Page 12

6.5 Main terminal space

Add an new subclause 6.6 after 6.5.

6.6 Home distributor (HD)

The HD shall be able to contain telecommunications equipment, cable terminations and associated cross-connect cables.

The HD should be located as close as practicable to the centre of the area served and preferably in the core area.

The HD space shall be dedicated to the HD function and related support facilities. HD space should not be shared with electrical installations other than those for telecommunications.

A minimum of one dedicated electrical outlet shall be provided for equipment power.

NOTE Local regulations should be followed for electrical power distribution.

Renumber existing subclauses 6.6 to 6.9 as 6.7 to 6.10.

Page 20

8.8 Handholes

Add, after the end of subclause 8.8, the following two new annexes A and B and renumber existing annex A and annex B as annex C and annex D, respectively.

Annex A (normative)

Additional requirements for multi-tenant buildings

A.1 INTRODUCTION

Annexes A and B focus on the pathways and spaces that are common to multi-tenant buildings and campuses.

Telecommunications pathways and spaces in multi-tenant buildings are challenged by the phased nature of their use. After the building is constructed and the first group of tenants moves in, the tenant's telecommunications needs may immediately cause modifications to the building. Over a span of years, as tenants cycle through the building, evolving tenant needs will oblige the owner/agent of the building to adapt its installations to these demands.

Multi-tenant commercial office and residential buildings have life cycles that mirror that of single-tenant buildings. Many buildings are over 100 years old. Over time, these older buildings have become severely challenged to support escalating demands on their pathways and spaces as a result of tenants' ever-increasing needs for telecommunications connectivity.

Figure A.1 illustrates a representative model for the various functional elements that comprise multi-tenant pathways and spaces for a building. This is not intended to be an all-inclusive representation. It depicts the relationship between the elements and how they are configured to create a total system. Table A.1 provides a summary of the telecommunications spaces.

Elements of multi-tenant spaces include, but are not limited to,

- entrance room, [ISO/IEC 18010:2002/Amd 1:2005](https://standards.iteh.ai/catalog/standards/sist/13f09d04-6960-42f2-ad1f-4d666bc2be/iso-iec-18010-2002-amd-1-2005)
- access provider space, <https://standards.iteh.ai/catalog/standards/sist/13f09d04-6960-42f2-ad1f-4d666bc2be/iso-iec-18010-2002-amd-1-2005>
- service provider space,
- common equipment room and
- common telecommunications room.

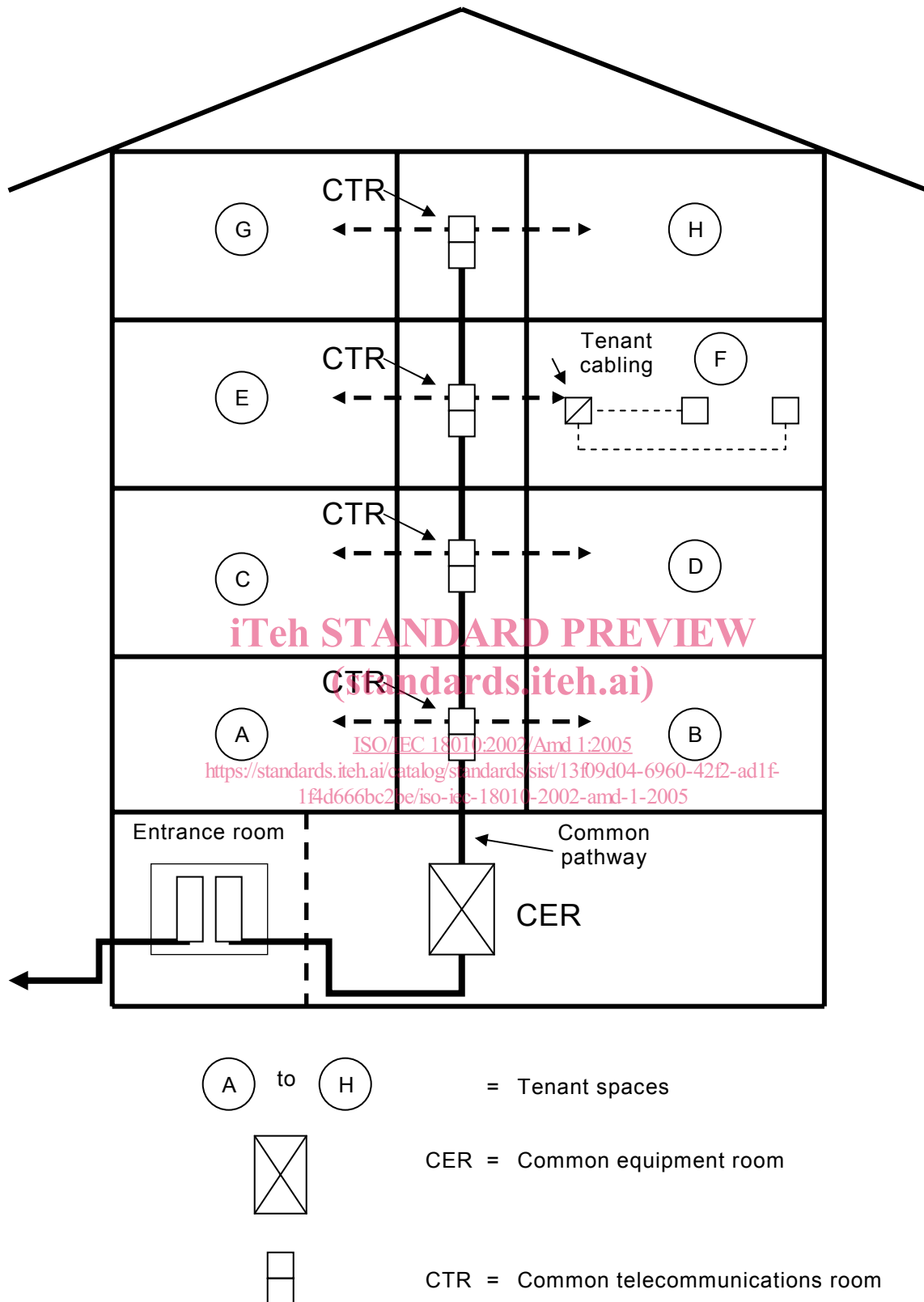


Figure A.1 – Example of pathways and spaces components used to service a multi-tenant building

Table A.1 – Summary of spaces used to service a multi-tenant building

Space name	Acronym	Primary responsible organization / secondary responsible organization
Entrance room		Building owner or agent
Access provider space		Access provider / building owner or agent
Service provider space		Service provider / building owner or agent
Common equipment room	CER	Building owner or agent

A.2 Entrance facilities

A.2.1 Entrance location considerations

Consideration should be given to facility, occupants’ and users’ telecommunications wireline and wireless connectivity needs. If access to both wireline and wireless services is required, then the entrance facilities may require adjustment in size, quantity and location. Mechanical fixtures (e.g., piping, ductwork, pneumatic tubing) not related to the support of the entrance facility should not be installed in, pass through, or enter the telecommunications entrance facility.

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A.2.2 Telecommunications service entrance pathway

Telecommunications service entrance pathways shall be specified to support the initial and forecasted telecommunications needs including the total building area served and wireline and wireless tenant connectivity requirements. The forecasted telecommunications needs shall be agreed upon between the building owner and the designer. Accommodations should be made for multiple service entrance points to support multiple access providers.

A.2.3 Access

Access to the entrance room shall be controlled by the primary or secondary responsible organization (see table 1). Signage, if used, should be developed within the security plan of the building.

A.2.4 Wireless

A.2.4.1 Line of sight

Wireless transmission/reception device placement is critical to its performance. Obstructions to a wireless transmission/reception device function can take many forms including radio frequencies, electrical and physical objects. Obstructions may be on the same platform, on an adjoining building or be located some distance away. Wireless transmission/reception devices shall be in line of sight with its target system if required by the employed technology. Certain systems will not function properly if the wireless transmission/reception device’s line of sight is obstructed.

A.2.4.2 Cable pathways

Cable pathways from tower-mounted wireless transmission/reception devices should be consolidated where possible on the tower and remain consolidated along their route to the access provider space. The most direct route between the wireless transmission/reception device and the entrance facility should be followed. To protect cables from environmental damage and isolate cables from pedestrian traffic, they should be placed inside conduit or in cable tray, or be otherwise secured from physical damage.

A.2.4.3 Location

Depending upon function and site conditions, wireless service transmission/reception spaces may be located at the building's upper rooftop, outside walls or on lower roof setbacks. Wireless service transmission/reception points may also be located inside the building. Wherever possible, wall-mounted wireless transmission/reception device support structures should be mounted at a minimum of 2 m above surfaces where foot traffic may occur.

A.2.4.4 Support structures

A.2.4.4.1 General

A structural analysis shall be carried out by a relevant specialist to aid in the design and placement of wireless transmission/reception device support structures.

A.2.4.4.2 Towers

Where the location or height of the building makes it a desirable wireless transmission/reception device site, consideration should be given to installation of a tower on top of the building. Towers are desirable because they allow efficient use of limited rooftop space, and offer significant flexibility regarding space planning. Multiple access providers and other users may share space on a single tower.

A.2.4.4.3 Non-penetrating wireless transmission/reception device mounts

Wireless transmission/reception devices that are of limited weight and size may be installed on mounts, which are not fastened to the building structural members. These types of wireless transmission/reception device mounts are often referred to as sled mounts, ballast mounts or non-penetrating wireless transmission/reception device mounts. These mounts remain secured to the rooftop by their own weight plus addition of dead weights to keep the wireless transmission/reception device in place. The amount of weight (ballast) required is calculated with consideration given to loading created by wind and ice build-up on the wireless transmission/reception device and supporting system. In some cases, these mounts are tethered for increased stability. Local regulations may provide specific requirements that have to be observed. The building owner has to be consulted for permission to add load to the roof.

A.2.4.4.4 Penetrating wireless transmission/reception device mounts

Wireless transmission/reception device mounting systems that penetrate either the rooftop or walls of a building are commonly employed. The primary considerations with such systems are the loading that the system places on the structure and waterproofing of any penetration points.

A.2.4.5 Design considerations

Electrical service shall be sized to support functions that include, but are not limited to antenna lighting, de-icing and motor-operated functions where required. Where mandated by regulatory code, automatic switchover to standby power shall be provided. Sizing of the electrical service shall be carried out by a relevant specialist.

A.3 Access provider spaces and service provider spaces

A.3.1 General

Access to the access provider spaces and service provider spaces shall be controlled by the primary or secondary responsible organization (see table 1). Common approaches include lockable cabinets and caged spaces.