

INCITS/ISO/IEC TS 22237-5:2018 (2019)

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*Information technology -- Data centre facilities
and infrastructures -- Part 5:
Telecommunications cabling infrastructure*

Developed by



Where IT all begins

INCITS/ISO/IEC TS 22237-5:2018 (2019)

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Part 5: Telecommunications cabling infrastructure

Technologie de l'information — Installation et infrastructures de centres de traitement de données —

Partie 5: Infrastructure du câblage dédié télécommunications



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Contents

| | Page |
|--|-----------|
| Foreword | v |
| Introduction | vi |
| 1 Scope | 1 |
| 2 Normative references | 1 |
| 3 Terms, definitions and abbreviations | 2 |
| 3.1 Terms and definitions..... | 2 |
| 3.2 Abbreviated terms..... | 3 |
| 4 Conformance | 4 |
| 5 Telecommunications cabling within the data centre | 4 |
| 5.1 General..... | 4 |
| 5.1.1 The importance of telecommunications cabling within data centre spaces..... | 4 |
| 5.1.2 Cabling implementation..... | 5 |
| 5.1.3 Point-to-point cabling..... | 5 |
| 5.1.4 Fixed cabling..... | 6 |
| 5.2 Information technology and network telecommunications cabling in the computer room space..... | 7 |
| 5.2.1 General..... | 7 |
| 5.2.2 Generic cabling for data centre information technology equipment..... | 8 |
| 5.2.3 Generic cabling for office network information technology equipment..... | 9 |
| 5.2.4 Generic cabling for monitoring and control..... | 9 |
| 5.2.5 Application-specific fixed cabling..... | 10 |
| 5.3 Structured cabling for other data centre spaces and application-specific structured cabling..... | 10 |
| 5.3.1 General..... | 10 |
| 5.3.2 Application-specific cabling using a fixed infrastructure..... | 10 |
| 6 Availability design principles for telecommunications cabling infrastructure | 11 |
| 7 Availability classification for telecommunications cabling infrastructure | 11 |
| 7.1 General..... | 11 |
| 7.2 Telecommunications cabling for the computer room..... | 12 |
| 7.2.1 Cabling for Availability Class 1..... | 12 |
| 7.2.2 Cabling for Availability Class 2..... | 13 |
| 7.2.3 Cabling for Availability Class 3..... | 14 |
| 7.2.4 Cabling for Availability Class 4..... | 15 |
| 7.3 Telecommunications cabling for offices..... | 16 |
| 7.4 Telecommunications cabling for monitoring and control..... | 16 |
| 8 Pathways and pathway systems for telecommunications cabling | 16 |
| 8.1 General..... | 16 |
| 8.2 Pathways..... | 17 |
| 8.2.1 External service pathways..... | 17 |
| 8.2.2 Data centre pathways..... | 17 |
| 8.3 Pathway systems..... | 18 |
| 8.3.1 Requirements for data centre pathway systems..... | 18 |
| 8.3.2 Access floor tile openings..... | 18 |
| 8.3.3 Cable management systems..... | 18 |
| 9 Cabinets and racks for the computer room space | 19 |
| 9.1 General requirements..... | 19 |
| 9.2 Requirements for dimensions..... | 19 |
| 9.3 Recommendations..... | 19 |
| 10 Documentation and quality plan | 20 |
| 10.1 Requirements for documentation..... | 20 |

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| | | |
|---------------------|---|-----------|
| 10.2 | Recommendations for documentation..... | 20 |
| 10.3 | Requirements for the quality plan..... | 20 |
| 11 | Management and operation of the telecommunications cabling infrastructure | 20 |
| 11.1 | General..... | 20 |
| 11.2 | Automated infrastructure management systems | 20 |
| 11.3 | Fibre optic cabling..... | 20 |
| Annex A | (normative) Cabling design concepts | 21 |
| Annex B | (informative) Energy efficiency considerations for the telecommunications cabling infrastructure | 29 |
| Bibliography | | 30 |

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 39, *Sustainability for and by Information Technology*.

A list of all parts in the ISO/IEC TS 22237 series can be found on the ISO website.

Introduction

The unrestricted access to internet-based information demanded by the information society has led to an exponential growth of both internet traffic and the volume of stored/retrieved data. Data centres are housing and supporting the information technology and network telecommunications equipment for data processing, data storage and data transport. They are required both by network operators (delivering those services to customer premises) and by enterprises within those customer premises.

Data centres need to provide modular, scalable and flexible facilities and infrastructures to easily accommodate the rapidly changing requirements of the market. In addition, energy consumption of data centres has become critical both from an environmental point of view (reduction of carbon footprint) and with respect to economical considerations (cost of energy) for the data centre operator.

The implementation of data centres varies in terms of:

- a) purpose (enterprise, co-location, co-hosting or network operator facilities);
- b) security level;
- c) physical size;
- d) accommodation (mobile, temporary and permanent constructions).

The needs of data centres also vary in terms of availability of service, the provision of security and the objectives for energy efficiency. These needs and objectives influence the design of data centres in terms of building construction, power distribution, environmental control and physical security. Effective management and operational information is required to monitor achievement of the defined needs and objectives.

The ISO/IEC TS 22237 series specifies requirements and recommendations to support the various parties involved in the design, planning, procurement, integration, installation, operation and maintenance of facilities and infrastructures within data centres. These parties include:

- 1) owners, facility managers, ICT managers, project managers, main contractors;
- 2) architects, building designers and builders, system and installation designers;
- 3) facility and infrastructure integrators, suppliers of equipment;
- 4) installers, maintainers.

At the time of publication of this document, the ISO/IEC TS 22237 series will comprise the following documents:

ISO/IEC TS 22237-1, *Information technology — Data centre facilities and infrastructures — Part 1: General concepts*

ISO/IEC TS 22237-2, *Information technology — Data centre facilities and infrastructures — Part 2: Building construction*

ISO/IEC TS 22237-3, *Information technology — Data centre facilities and infrastructures — Part 3: Power distribution*

ISO/IEC TS 22237-4, *Information technology — Data centre facilities and infrastructures — Part 4: Environmental control*

ISO/IEC TS 22237-5, *Information technology — Data centre facilities and infrastructures — Part 5: Telecommunications cabling infrastructure*

ISO/IEC TS 22237-6, *Information technology — Data centre facilities and infrastructures — Part 6: Security systems*

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ISO/IEC TS 22237-7, *Information technology — Data centre facilities and infrastructures — Part 7: Management and operational information*

The inter-relationship of the specifications within the ISO/IEC TS 22237 series is shown in [Figure 1](#).

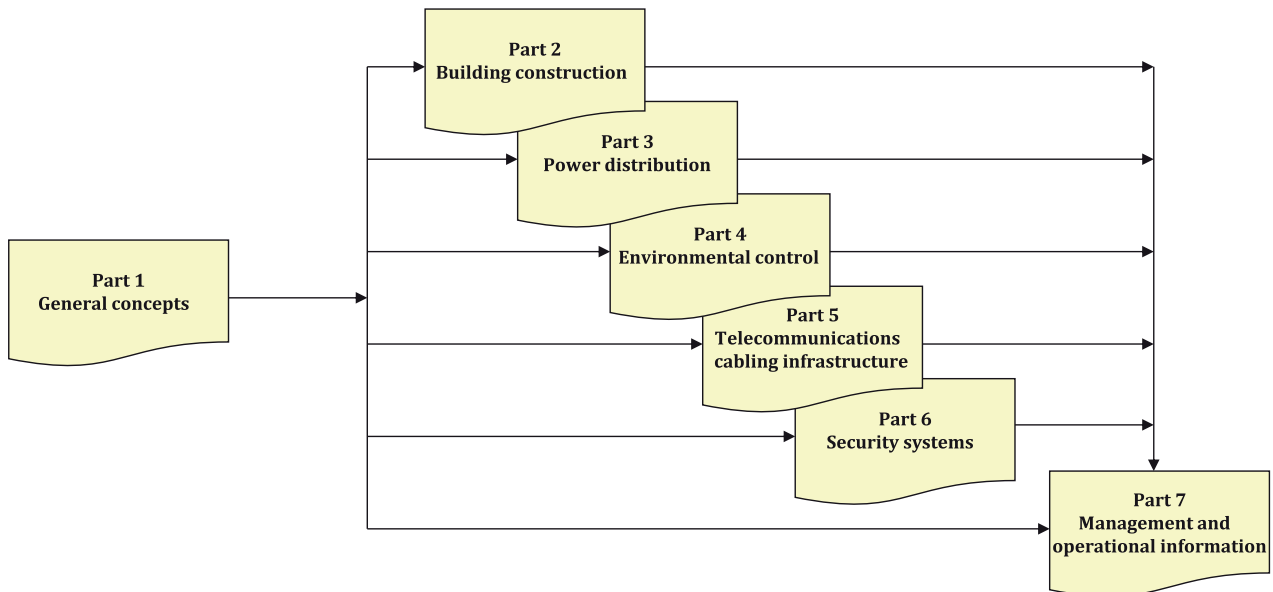


Figure 1 — Schematic relationship between the ISO/IEC TS 22237 series of documents

ISO/IEC TS 22237-2 to ISO/IEC TS 22237-6 specify requirements and recommendations for particular facilities and infrastructures to support the relevant classification for “availability”, “security” and “energy efficiency enablement” selected from ISO/IEC TS 22237-1.

This document addresses the specific requirements for the telecommunications cabling infrastructure in data centres used for the purpose of IT networking and building services (in accordance with the requirements of ISO/IEC TS 22237-1).

ISO/IEC TS 22237-7 addresses the operational and management information (in accordance with the requirements of ISO/IEC TS 22237-1).

This document is intended for use by and collaboration between architects, building designers and builders, system and installation designers.

The ISO/IEC TS 22237 series does not address the selection of information technology and network telecommunications equipment, software and associated configuration issues.