Australian/New Zealand Standard™

Telecommunications installations—Generic cabling for commercial premises (ISO/IEC 11801:2002, MOD)

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee CT-001, Communications Cabling. It was approved on behalf of the Council of Standards Australia on 30 March 2003 and on behalf of the Council of Standards New Zealand on 5 March 2003.
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The following are represented on Committee CT-001:

Australian Chamber of Commerce and Industry
Australian Communications Authority
Australian Communications Industry Forum
Australian Electrical and Electronic Manufacturers Association
Australian Information Industry Association
Australian Telecommunications Users Group
BICSI Australia
Cable & Wireless Optus
Electrical Compliance Testing Association
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Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

AS/NZS 3080:2003
(Incorporating Amendment No. 1)

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee CT-001, Communications Cabling and supersedes AS/NZS 3080(Int):2002.

This Standard incorporates Amendment No. 1 (February 2009). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

A1 This Standard is an adoption with national modifications and has been reproduced from ISO/IEC 11801:2002, *Information technology—Generic cabling for customer premises*, and its Corrigendum 1:2002, Corrigendum 2:2002, Corrigendum 3:2002, Amendment 1:2008 and Corrigendum 1:2008. The Corrigenda, the Amendment and the Corrigendum to the Amendment can be found at the end of the source text.

The objective of this Standard is to provide building owners, managers, architects, designers, manufacturers, installers, maintainers and users, with requirements to ensure compatibility with equipment and services and to ensure performance of infrastructure to meet present and foreseeable future requirements.

This Standard applies to the use of generic cabling within commercial premises, which may comprise single buildings or multiple buildings on a campus.

The application of this Standard should lead to the installation of cabling systems that satisfy user requirements and provide a useful life of at least 10 years.

Annex ZA has been added and it provides additional information and guidance for Australian and New Zealand users.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text ‘this International Standard’ should read ‘this Australian/New Zealand Standard’.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS	
60068	Environmental testing	60068	Environmental testing procedures for electrotechnology
60068-1	Part 1: General and guidance	60068.1	Part 1: General and guidance
60512	Electromechanical components for electronic equipment; basic testing procedures and measuring methods	3726	Electromechanical components for electronic equipment—Basic testing procedures and measuring methods
60512-2	Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests Amendment 1 (1988)	3726.2	Part 2: General examination, electrical continuity and contact resistance tests, insulation tests and voltage stress tests

IEC		AS/NZS	
60825	Safety of laser products (all parts)	2211	Safety of laser products (Parts 3, 4, 6, 7 and 9 are identical to IEC Parts 3, 4, 6, 7 and 9)

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INTRODUCTION

Within customer premises, the importance of the cabling infrastructure is similar to that of other fundamental building utilities such as heating, lighting and mains power. As with other utilities, interruptions to service can have a serious impact. Poor quality of service due to lack of design foresight, use of inappropriate components, incorrect installation, poor administration or inadequate support can threaten an organisation's effectiveness.

Historically, the cabling within premises comprised both application specific and multipurpose networks. The original edition of this standard enabled a controlled migration to generic cabling and the reduction in the use of application-specific cabling.

The subsequent growth of generic cabling designed in accordance with ISO/IEC 11801 has

a) contributed to the economy and growth of Information and Communications Technology (ICT),
b) supported the development of high data rate applications based upon a defined cabling model, and
c) initiated development of cabling with a performance surpassing the performance classes specified in ISO/IEC 11801:1995 and ISO/IEC 11801 Ed1.2:2000.

NOTE ISO/IEC 11801, edition 1.2 consists of edition 1.0 (1995) and its amendments 1 (1999) and 2 (1999).

This second edition of ISO/IEC 11801 has been developed to reflect these increased demands and opportunities.

This International Standard provides:

a) users with an application independent generic cabling system capable of supporting a wide range of applications;
b) users with a flexible cabling scheme such that modifications are both easy and economical;
c) building professionals (for example, architects) with guidance allowing the accommodation of cabling before specific requirements are known; that is, in the initial planning either for construction or refurbishment;
d) industry and applications standardization bodies with a cabling system which supports current products and provides a basis for future product development.

This International Standard specifies a multi-vendor cabling system which may be implemented with material from single and multiple sources, and is related to:

a) international standards for cabling components developed by committees of the IEC, for example copper cables and connectors as well as optical fibre cables and connectors (see Clause 2 and bibliography);
b) standards for the installation and operation of information technology cabling as well as for the testing of installed cabling (see Clause 2 and bibliography);
c) applications developed by technical committees of the IEC, by subcommittees of ISO/IEC JTC 1 and by study groups of ITU-T, for example for LANs and ISDN;
d) planning and installation guides which take into account the needs of specific applications for the configuration and the use of cabling systems on customer premises(ISO/IEC 14709 series).

Physical layer requirements for the applications listed in Annex F have been analysed to determine their compatibility with cabling classes specified in this standard. These application requirements, together with statistics concerning the topology of premises and the model described in 7.2, have been used to develop the requirements for Classes A to D and the optical class cabling systems. New Classes E and F have been developed in anticipation of future network technologies.

As a result, generic cabling defined within this International Standard

a) specifies a cabling structure supporting a wide variety of applications,

b) specifies channel and link Classes A, B, C, D and E meeting the requirements of standardised applications,

c) specifies channel and link Classes E and F based on higher performance components to support the development and implementation of future applications,

d) specifies optical channel and link Classes OF-300, OF-500, and OF-2000 meeting the requirements of standardised applications and exploiting component capabilities to ease the implementation of applications developed in the future,

e) invokes component requirements and specifies cabling implementations that ensure performance of permanent links and of channels that meet or exceed the requirements for cabling classes,

f) is targeted at, but not limited to, the general office environment.

This International Standard specifies a generic cabling system that is anticipated to have a usable life in excess of 10 years.

NOTES

AUSTRALIAN/NEW ZEALAND STANDARD

Telecommunications installations—Generic cabling for commercial premises (ISO/IEC 11801:2002, MOD)

1 Scope

ISO/IEC 11801 specifies generic cabling for use within premises, which may comprise single or multiple buildings on a campus. It covers balanced cabling and optical fibre cabling.

ISO/IEC 11801 is optimised for premises in which the maximum distance over which telecommunications services can be distributed is 2 000 m. The principles of this International Standard may be applied to larger installations.

Cabling defined by this standard supports a wide range of services, including voice, data, text, image and video.

This International Standard specifies directly or via reference the:

a) structure and minimum configuration for generic cabling,

b) interfaces at the telecommunications outlet (TO),

c) performance requirements for individual cabling links and channels,

d) implementation requirements and options,

e) performance requirements for cabling components required for the maximum distances specified in this standard,

f) conformance requirements and verification procedures.

Safety (electrical safety and protection, fire, etc.) and Electromagnetic Compatibility (EMC) requirements are outside the scope of this International Standard, and are covered by other standards and by regulations. However, information given by this standard may be of assistance.

ISO/IEC 11801 has taken into account requirements specified in application standards listed in Annex F. It refers to available International Standards for components and test methods where appropriate.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60068-1, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-14, *Environmental testing – Part 2: Tests – Test N: Change of temperature*

IEC 60068-2-38, *Environmental testing – Part 2: Tests – Test Z/AD: Composite temperature/humidity cyclic test*

IEC 60352-3, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance*