

AS/NZS 61386.21:2015

(Incorporating Amendments up to and including No. 2)



STANDARDS
Australia



Australian/New Zealand Standard™

Conduit systems for cable management

Part 21: Particular requirements — Rigid conduit systems



AS/NZS 61386.21:2015

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- Australian Chamber of Commerce and Industry
- Australian Industry Group
- Consumer Electronics Suppliers Association
- Consumers Federation of Australia
- Electrical Compliance Testing Association
- Electrical Regulatory Authorities Council
- Engineers Australia
- International Accreditation New Zealand
- Ministry of Economic Development, New Zealand
- New Zealand Manufacturers and Exporters Association
- NSW Office of Fair Trading
- Plastics Industry Pipe Association of Australia

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Part 21: Particular requirements — Rigid conduit systems

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-004, Electrical Accessories. This Standard will run in parallel with AS/NZS 2053.2:2001, *Conduits and fittings for electrical installations, Part 2: Rigid plain conduits of insulating materials*, AS/NZS 2053.6:2001, *Rigid conduit and fittings for electrical installations, Part 6: Profile-wall, smooth-bore conduits and fittings of insulating material* and AS/NZS 2053.7:2002, *Conduits and fittings for electrical installations, Part 7: Rigid metal conduits and fittings*. It is the intention of Committee EL-004 that AS/NZS 2053.2, AS/NZS 2053.6 and AS/NZS 2053.7 will be withdrawn at some appropriate future time.

A2 This Standard incorporates Amendment No. 1 (April 2020) and Amendment No. 2 (May 2023). The start and end of changes introduced by the Amendment are indicated in the text by tags including the amendment numbers. **A2**

The objective of this Standard is to provide Australian and New Zealand electrical industries with requirements for rigid conduit systems for cable management.

The essential safety requirements in AS/NZS 3820, *Essential safety requirements for electrical equipment that could be applicable to cable management systems* are covered by this Standard.

A1 The objective of Amendment 1 is to correct typographical errors. **A1**

A2 The objective of Amendment 2 is to specify minimum inside diameter dimensions, particularly for larger size conduits carrying multiple cables, and to clarify the relationship between the mechanical classifications in AS/NZS 2053.2 and AS/NZS 61386.21. **A2**

This Standard is based on but not equivalent to IEC 61386-21, Ed.1.0 (2002), *Conduit systems for cable management, Part 21: Particular requirements— Rigid conduit systems*.

The main areas of variation from IEC include the following:

- (a) Requirements for profile wall smooth bore conduit and fittings.
- (b) Marking requirements.
- (c) Dimensional requirements.

This Standard is Part 21 of the AS/NZS 61386 series of Standards on conduit systems. It specifies particular requirements for rigid conduit systems and is to be used in conjunction with AS/NZS 61386.1, which specifies general requirements for conduit systems.

This Part 21 supplements or modifies the corresponding clauses of AS/NZS 61386.1. Where a particular clause or subclause of Part 1 is not mentioned in the Part 21, that clause applies as far as is reasonable. Where this Part 21 states 'addition', 'modification' or 'replacement', the relevant text of Part 1 is to be adapted accordingly.

Subclauses, tables and figures, which are in addition to those in Part 1 are numbered starting with 201.

This series comprises of the following:

AS/NZS 61386.1, Conduit systems for cable management, Part 1: General requirements

AS/NZS 61386.21, Conduit systems for cable management, Part 21: Particular requirements— Rigid conduit systems (this Standard)

AS/NZS 61386.22, Conduit systems for cable management, Part 22: Particular requirements— Pliable conduit systems

AS/NZS 61386.23, Conduit systems for cable management, Part 23: Particular requirements— Flexible conduit systems

Statements expressed in mandatory terms in footnotes to tables are deemed to be required of this Standard.

The term 'normative' has been used in this Standard to define the application of the Appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

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NOTES

Australian/New Zealand Standard

Conduit systems for cable management

Part 21: Particular requirements — Rigid conduit systems

1 Scope

This Clause of Part 1 is applicable, except as follows:

Addition:

This Standard specifies the requirements for rigid conduit systems and smooth bore profile wall conduit systems.

2 Normative references

This Clause of Part 1 is applicable except as follows:

Addition:

AS 1014, *Gauging of metric screw threads*

AS 1721, *General purpose metric screw threads*

AS/NZS 1462.1, *Methods of test for plastics pipes and fittings, Method 1: Method for determining the dimensions of pipes and fittings*

AS/NZS 1477, *PVC pipes and fittings for pressure applications*

AS/NZS 4130, *Polyethylene (PE) pipes for pressure applications*

ISO 9969, *Thermoplastics pipes— Determination of ring stiffness*

3 Definitions

This Clause of Part 1 is applicable, as follows:

Addition:

3.201

profile-wall, smooth-bore conduits

conduits that have a smooth bore and a profile wall (which may be hollow), and that are not normally bent

4 General requirements

This Clause of Part 1 is applicable.

5 General conditions for tests

This Clause of Part 1 is applicable.

6 Classification

This Clause of Part 1 is applicable, except as follows:

Addition:

6.1.201 Rigid conduit and fittings of insulating material

For rigid conduit and fittings of insulating material, including smooth bore profile wall, the following are not applicable:

- (a) Clause 6.3(a) and (c).
- (b) Clause 6.4.3.

For rigid conduit and fittings of metal material, Clause 6.3(b) and (c) is not applicable:

7 Marking and documentation

This Clause of Part 1 is applicable, except as follows:

Addition:

7.1.201 Marking

The conduit shall be marked in accordance with Clause 7.1 along its entire length at regular intervals of preferably 1 m but not longer than 3 m, and each length shall be marked at least once.

Conduits made of PVC and complying with the Best Environmental Practice requirements of AS/NZS 1260 may be marked with the letters 'BEP PVC' or the words 'Best Environmental Practice PVC'. Compliance with best environmental practice requirements is not required for compliance with this Standard.

Compliance shall be checked by inspection.

7.1.202 Documentation

The manufacturer shall document for the system the minimum inside diameter and the classification in accordance with [Clause 6](#).

Compliance shall be checked by inspection.

7.1.203 Marking for non-metallic conduit and fittings other than smooth bore profile wall conduit

The marking for nominal size 80 mm shall be 80(NZ) or 80(AU), and for nominal size 100 mm shall be 100(NZ) or 100(AU), depending on which set of dimensions are used.

7.1.204 Marking for metallic conduit

Clause 7.1(v) is not applicable.

7.1.205 Marking for smooth bore profile wall conduit

The marking for nominal size 100 mm shall be 100(NZ) or 100(AU), depending on which set of dimensions is used.

7.1.206 Marking for flame propagating conduit

Conduit classified as flame propagating shall be marked in accordance with [Clause 7.1.201](#) with the following: 'FLAME PROPAGATING'.