AS 1049.2:2022

Australian STANDARD®

STANDARDS Australia

Telecommunication cables — Insulation, sheath and jacket

Part 2: Test methods

AS 1049.2:2022

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Australian Chamber of Commerce and Industry
Australian Council of Trade Unions (ACTU)
Australian Digital & Telecommunications Industry Association
Australian Industry Group
Australian Information Industry Association
BICSI South Pacific (Australia)
Energy Networks Australia
Engineers Australia
KNX National Group
National Electrical and Communications Association
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Additional Interests

BICSI South Pacific (New Zealand)
Telecommunications Users Association of New Zealand
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Part 2: Test methods

Originated as AS 1049:1971.
Previous edition AS 1049.2—2008.
Second edition AS 1049.2:2022.

Preface

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee CT-001, Communications Cabling, to supersede AS 1049.2—2008.

The objective of this document is to specify test methods to evaluate the properties of materials used to manufacture telecommunication cables. This document is intended for use by polymer manufacturers, communication cable manufacturers and end-users.

AS 1049 is divided in two parts, as follows:

AS 1049.1, *Telecommunication cables — Insulation, sheath and jacket, Part 1: Materials*

AS 1049.2, *Telecommunication cables — Insulation, sheath and jacket Part 2: Test methods* (this document)

Part 1 specifies the material requirements for the insulation, sheath and jacket of the finished products and some of the compounds used to manufacture telecommunication cables.

Part 2 provides a set of reference test methods for evaluating these material requirements.

The major changes in this edition are as follows:

(a) Removal of Appendix C Test method 3: Softness number.

(b) Correction of the ASTM G155 weatherometer apparatus types in Appendix E.

(c) Addition of thermogravimetric analysis as per IEC 60811-605 as an alternative test method for the determination of the carbon black concentration in Appendix R.

(d) Apparatus changed from as specified in AS/NZS 2122.2 to as specified in ISO 4589-2 for the combustion test in Appendix DD.

(e) Update of reference designation from AS/NZS 1660.5.4 to AS/NZS IEC 60754.2 for the acidity of gases evolved during combustion test in Appendix EE.

(f) General update to meet the requirements of Standards Australia drafting rules, including dividing test methods into consistent subclauses (where appropriate) and the addition of the test report subclause where previously missing.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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Part 2: Test methods

Section 1 Scope and general

1.1 Scope

This document specifies test methods to evaluate the properties of materials used to manufacture telecommunication cables.

This document does not include the following:

(a) Cables using non-metallic semi-conductive compound.

NOTE In the context of this document, semi-conductive compound is a polymer with the addition of a conductive additive such as carbon black which increases the conductivity of the polymer.

(b) Aspects of telecommunication cables such as spacers or cores in coaxial cables.

(c) Dimensions or electrical requirements of completed cables.

(d) Cables used to conduct mains electrical power.

Table 2.1 provides a summary of the material tests that are set out in the Appendices of this document.

1.2 Application

This document is intended for use by the following:

(a) Polymer manufacturers, to form the basis of the raw material quality control procedures for the manufacture of polymer compounds.

(b) Cable manufacturers, to form the basis of the cable material quality control procedures for the manufacture of a range of insulation, sheath and jacket of different materials.

(c) Cable end users, to form the basis of the cable acceptance procedures for the completed cable.

1.3 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1049.1, *Telecommunication cables—Insulation, sheath and jacket, Part 1: Materials*

AS 2700, *Colour standards for general purposes*

AS 4004, *Lighting booths for visual assessment of colour and colour matching*

AS/NZS 1580.601.3, *Paints and related materials—Methods of test, Method 601.3: Colour—Methods of colour measurement*

AS/NZS 1660.2.1:1998, *Test methods for electric cables, cords and conductors, Method 2.1: Insulation, extruded semi-conductive screens and non-metallic sheaths—Methods for general application*