
Irish Standard
I.S. 201-4:2013

# Polyvinyl Chloride Insulated Cables of Rated Voltages up to and including 450/750V - Part 4: PVC and Low Smoke Halogen Free Sheathed cables for fixed wiring

# I.S. 201-4:2013

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

I.S. 201-4:2013/AC1:2013
I.S. 201-4:2013/AC2:2014

**The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:**

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

| *This document replaces:* | *This document is based on:* | *Published:* |
|---|---|---|
| I.S. 201-4:2001 | I.S. 201-4:2013<br>I.S. 201-4:2001 | 6 September, 2013<br>28 December, 2001 |

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**I.S. 201-4:2013 – Polyvinyl Chloride Insulated Cables of Rated Voltages up to and including 450/750V - Part 4: PVC and Low Smoke Halogen Free Sheathed cables for fixed wiring**

# Corrigendum 1:2013

This corrigendum becomes effective on 2013-12-18

*Table 10 column 1, rows 9, 10 and 11, replace with the following:*

[AC1] 2 x 6[a] [AC1]

[AC1] 2 x 10[a] [AC1]

[AC1] 2 x 16[a] [AC1]

*Add footnote at bottom of Table 10 thus:*

[AC1] [a] These cables may also be made with class 5 for flexible conductors, having a minimum diameter of wires of 0,41 mm. [AC1]

# Corrigendum 2:2014

This corrigendum becomes effective on 2014-08-01

*Clause 10.3.2, Replace type YI1 with type TI1, i.e.:*

PVC compound of type [AC2] TI1 [AC2] shall be applied to each conductor.

*Clause 10.3.5, Replace type YM1 with type TM1 and replace end of sentence, i.e.:*

PVC compound of type [AC2] TM1 [AC2] shall be applied [AC2] around the assembled cores. [AC2]

Please note that these changes have been included in the text of the standard for convenience.

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# DECLARATION

OF

SPECIFICATION

ENTITLED

POLYVINYL CHLORIDE INSULATED CABLES OF RATED VOLTAGES UP

TO AND INCLUDING 450/750V.

PART 4: PVC AND LOW SMOKE HALOGEN FREE SHEATHED CABLES FOR FIXED WIRING

AS

THE IRISH STANDARD SPECIFICATION FOR

POLYVINYL CHLORIDE INSULATED CABLES OF RATED VOLTAGES UP

TO AND INCLUDING 450/750V.

PART 4: PVC AND LOW SMOKE HALOGEN FREE SHEATHED CABLES FOR FIXED WIRING

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NSAI in exercise of the power conferred by section 16 (5) of the National Standards Authority of Ireland Act, 1996 (No. 28 of 1996) and with the consent of the Minister for Jobs, Enterprise and Innovation, hereby declare as follows:

1. This instrument may be cited as the Standard Specification (Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V. Part 4: PVC and Low Smoke Halogen Free Sheathed cables for fixed wiring) Declaration, 2013.

2. (1) The Specification set forth in the Schedule to this declaration is hereby declared to be the standard specification for Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V. Part 4: PVC and Low Smoke Halogen Free Sheathed cables for fixed wiring.

(2) The said standard specification may be cited as Irish Standard 201, Part 4:2013 or as I.S. 201, Part 4:2013.

3. (1) The Standard Specification (Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V - Part 4: PVC and Low Smoke Halogen Free Sheathed cables for fixed wiring) Declaration 2001 is hereby revoked.

(2) Reference in any other standard specification to the Instrument hereby revoked and to Irish Standard 201:Part 4:2001 thereby prescribed, shall be construed, respectively, as references to this Instrument and to Irish Standard 201:Part 4:2013.

# Contents

# Foreword

This Irish Standard Specification, I.S. 201-4:2013, was prepared by the National Standards Authority of Ireland on the basis of a submission from Technical Committee No. 14 which is a Technical Subcommittee of the Electro-Technical Council of Ireland Limited (ETCI). I.S. 201 now has the following parts:

I.S. 201:Part 1 - General requirements;

I.S. 201:Part 2 - Test methods;

I.S. 201:Part 3 - Non-sheathed cables for fixed wiring;

I.S. 201:Part 4 - PVC and Low Smoke Halogen Free Sheathed cables for fixed wiring;

I.S. 201:Part 5 - Flexible cables (cords);

I.S. 201:Part 6 - (Spare);

I.S. 201:Part 7 - Cables with increased heat resistance;

I.S. 201:Part 8 - Single core non-sheathed cables for decorative chains;

I.S. 201:Part 9 - Cables for installation at low temperatures;

I.S. 201:Part 10 - Extensible leads;

I.S. 201:Part 11 - Cables for luminaires;

I.S. 201:Part 12 - Heat-resistant flexible cables (cords);

I.S. 201:Part 13 - Oil resistant PVC sheathed cables with two or more conductors.

**Transition arrangements from I.S. 201-4:2001 to I.S. 201-4:2013**

Cables manufactured in accordance with I.S. 201: Part 4 should comply with the latest version of this standard within two years of its publication.

Table are designated in numerical order followed by its equivalent roman numeral, e.g. Table 2 (II). This is in order to facilitate users of previous versions and in some cases references to those tables in other standards.

In line with international standards practice the following representation of numbers and numerical values apply.

The decimal point is shown as a comma ( , ) throughout this Irish Standard.

# SCHEDULE

**Polyvinyl Chloride Insulated Cables of Rated Voltages up to and including 450/750V - Part 4: PVC and Low Smoke Halogen Free Sheathed cables for fixed wiring**

## 1 Scope

The general requirements for cables are provided in I.S. 201-1:2001 and the particular specifications for Polyvinyl Chloride and Low Smoke Zero Halogen sheathed cables for fixed wiring are detailed in this part (Part 4).

For national colour code see ET 101:2008, Clause 514.3 Table 51A.

## 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.

NOTE One or more references to the standards below are in respect of a specific sub-division of that standard, for instance a clause, a table, a class or a type. Cross-references to these standards are undated and, at all times, the latest version applies.

I.S. 201-1:2001, *General requirements*

I.S. EN 50525-1, *Electric cables – Low voltage energy cables of rated voltages up to and including 450/750 V ($U_0$/U) - Part 1: 2011 General requirements*

I.S. EN 50395:2011, *Electrical test methods for low voltage energy cables*

I.S.EN 50396:2011, *Non-electrical test methods for low voltage energy cables*

I.S. EN 60228:2005, *Conductors of insulated cables*

I.S. EN 60332-1-2:2005, *Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kw pre-mixed flame*

I.S.EN 50363-5:2011, *Insulating, sheathing and covering materials for low voltage energy cables - Part 5: Halogen-free, cross-linked insulating compounds*

I.S. EN 60811-401:2012, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: miscellaneous tests - Thermal ageing methods - Ageing in an air oven*

I.S. EN 60811-409:2012, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 409: miscellaneous tests - Loss of mass test for thermoplastic insulations and sheaths*

I.S. EN 60811-501:2012, *Electric and optical fibre cables – Test methods for non-metallic materials - Part 501: Mechanical tests - Tests for determining the mechanical properties of insulating and sheathing compounds*

I.S. EN 60811-504:2012, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 504: Mechanical tests - Bending tests at low temperature for insulation and sheaths*

I.S. EN 60811-505:2012, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 505: Mechanical tests - Elongation at low temperature for insulations and sheaths*

I.S. EN 60811-506:2012, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 506: Mechanical tests - Impact test at low temperature for insulations and sheaths*

I.S. EN 60811-508:2012, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 508: Mechanical tests - Pressure test at high temperature for insulation and sheaths*