IEC 62821-3

Edition 1.0 2015-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Electric cables – Halogen-free, low smoke, thermoplastic insulated and sheathed cables of rated voltages up to and including 450/750 V – Part 3: Flexible cables (cords)

Câbles électriques – Câbles à isolation et gaine thermoplastique sans halogène à faible dégagement de fumée de tension assignée au plus égale à 450/750 V – Partie 3: Câbles souples (cordons)

IEC 62821-3:2015-02(en-fr)

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CONTENTS

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ELECTRIC CABLES –HALOGEN-FREE, LOW SMOKE, THERMOPLASTIC INSULATED AND SHEATHED CABLES OF RATED VOLTAGES UP TO AND INCLUDING 450/750 V –

Part 3: Flexible cables (cords)

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International Standard IEC 62821-3 has been prepared by IEC technical committee 20: Electric cables. The text of this standard is based on the following documents:

FDIS	Report on voting
20/1552A/FDIS	20/1565/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This part of IEC 62821 should be read in conjunction with IEC 62821-1, which specifies general requirements.

A list of all parts in the IEC 62821 series, published under the general title, *Electric cables – Halogen-free, low smoke, thermoplastic insulated and sheathed cables of rated voltages up to and including 450/750 V*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

ELECTRIC CABLES –HALOGEN-FREE, LOW SMOKE, THERMOPLASTIC INSULATED AND SHEATHED CABLES OF RATED VOLTAGES UP TO AND INCLUDING 450/750 V –

Part 3: Flexible cables (cords)

1 Scope

This part of IEC 62821 applies to flexible cables for connection to appliances, insulated and sheathed with halogen-free thermoplastic compound and having low emission of smoke and corrosive gases when exposed to fire.

NOTE For some types of flexible cables, the term "cord" is used.

Low emission of smoke is checked in accordance with IEC 61034-2. Low emission of corrosive gases is checked as part of the check for absence of halogens (see Annex B of IEC 62821-1:2015).

The cables are of rated voltages U_0/U up to and including 300/500 V.

Circular cables and flat cables are included.

The maximum conductor operating temperature for each of the cables in this standard is 70 °C.

IEC 62440 should be used as guidance on the safe use of cables in this standard.

2 Normative references

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

IEC 60227-2, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 2: Test methods*

IEC 60228, *Conductors of insulated cables*

IEC 60332-1-2, *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*

IEC 60811-401, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 401: Miscellaneous tests – Thermal ageing methods – Ageing in an air oven*

IEC 60811-506, *Electric and optical fibre cables – Test methods for non-metallic materials – Part 506: Mechanical tests – Impact test at low temperature for insulations and sheaths*

IEC 61034-2, *Measurement of smoke density of cables burning under defined conditions – Part 2: Test procedure and requirements*

IEC 62440, *Electrical cables with a rated voltage not exceeding 450/750 V – Guide to use*

IEC 62821-1:2015, *Electric cables – Halogen-free low smoke thermoplastic insulated and sheathed cables of rated voltage up to and including 450/750 V – Part 1: General requirements*

IEC 62821-2, *Electric cables – Halogen-free low smoke thermoplastic insulated and sheathed cables of rated voltage up to and including 450/750 V – Part 2: Test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62821-1 apply.

4 General purpose cables

4.1 Light duty, halogen-free, low smoke flexible cables

4.1.1 Code designation

62821 IEC 101 for circular cable and 62821 IEC 101f for flat cable.

4.1.2 Rated voltage

- 300/300 V

4.1.3 Construction

4.1.3.1 Conductor

The conductor shall comply with Class 5, according to IEC 60228.

4.1.3.2 Sizes of cable

The sizes of cable shall be:

a) circular cable: 0,5 mm^2 and 0,75 mm^2 – 2, 3 and 4 core;
b) flat cable: 0,5 mm^2 and 0,75 mm^2 – 2 core only.

4.1.3.3 Insulation

The insulation shall be thermoplastic compound of LSHF/D to IEC 62821-1.

4.1.3.4 Assembly

The cores shall be assembled as follows:

a) circular cable: the cores shall be twisted together;
b) flat cable: the cores shall be laid parallel.

A halogen-free tape may be applied around the core assembly before application of the sheath.

4.1.3.5 Sheath

The sheath shall be a thermoplastic compound of Type LSHF/ST1 to IEC 62821-1.

The sheath shall not adhere to the cores. The assembly of cores may be surrounded by a separator which shall not adhere to the cores.