
Conduits for electrical installations

Part 1. Specification of general requirements

[IEC title : Specification for conduits for electrical installations
Part 1 : General requirements]

Conduits pour installations électriques
Partie 1. Spécifications générales

Leitungsrohre für elektrische Anlagen
Teil 1. Allgemeine Anforderungen

National foreword

This British Standard, which was prepared under the direction of the Power Electrical Engineering Standards Committee, is a multi-Part standard. Part 1, which specifies general requirements, implements Harmonization Document No. 394-1 of the European Committee for Electrotechnical Standardization (CENELEC). It is identical with IEC Publication 614-1 : 1978 'Specification for conduits for electrical installations Part 1 : General requirements', published by the International Electrotechnical Commission (IEC).

Particular requirements for specific types of conduit will be covered by different Sections of Part 2.

Terminology and conventions. The text of the international standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is especially drawn to the following.

In the figures, the comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Where page numbers are quoted in the text, they refer to IEC page numbers.

Cross-references

International standard	Corresponding British Standard
IEC 423 : 1973 and IEC 423A : 1978	BS 6053 : 1981 Specification for outside diameters of conduits for electrical installations and threads for conduits and fittings (Technically equivalent)



Amendment No.1
published and effective from 31 December 1985
to BS 6099 : Part 1 : 1981
(IEC 614-1 : 1978)

Conduits for electrical installations
Part 1. Specification of general requirements

NOTE. This amendment has been issued to implement Amendments Nos. 1 and 2 to IEC 614-1 : 1978. The opportunity has also been taken of making amendments to the national foreword and contents of the British Standard.

Revised text

AMD 4933
December 1985

National foreword

In paragraph 1, delete sentence 3 and substitute:

'It is identical with IEC Publication 614-1 : 1978 'Specification for conduits for electrical installations Part 1 : General requirements' as amended by Amendments Nos. 1 and 2 published by the International Electrotechnical Commission (IEC).'

Insert the following at the end of the existing cross-references:

'IEC 529 : 1976 BS 5490 : 1977 Specification for degrees of protection
provided by enclosures
(Identical)'

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Contents

Insert the following at the end of the existing contents list:

'APPENDIX..... 17'

5. Classification

Replace the existing table of Sub-clause 5.5 by the following:

Temperature classification	Temperatures not normally less than		Permanent application temperature range (°C)
	Storage and transport (°C)	Use and installation (°C)	
-45	-45	-15	-15 to +60
-25	-25	-15	-15 to +60
-5	-5	-5	-5 to +60
+90	-5	-5	-5 to +60 *
+90/-25	-25	-15	-15 to +60 *

* These types, for use in prefabricated concrete will temporarily withstand temperatures up to +90 °C.

Replace the existing Sub-clauses 5.8.1 and 5.8.2 by the following:

5.8.1 protection against ingress of water:

- 5.8.1.1 – conduits giving no protection (IPX0)
- 5.8.1.2 – conduits giving protection against spraying water (IPX3)
- 5.8.1.3 – conduits giving protection against splashing water (IPX4)
- 5.8.1.4 – conduits giving protection against water jets (IPX5)
- 5.8.1.5 – conduits giving protection against heavy seas (IPX6)
- 5.8.1.6 – conduits giving protection against immersion (IPX7)
- 5.8.1.7 – conduits giving protection against submersion (IPX8)

5.8.2 protection against ingress of solid objects:

- 5.8.2.1 – conduits giving protection against solid objects greater than 2.5 mm (IP3X)
- 5.8.2.2 – conduits giving protection against solid objects greater than 1 mm (IP4X)
- 5.8.2.3 – conduits giving protection against dust (IP5X)
- 5.8.2.4 – dust-tight conduits (IP6X)

Note. — The classifications of Sub-clauses 5.8.1 and 5.8.2 are in accordance with I E C Publication 529: Classification of Degrees of Protection provided by Enclosures.

6. Marking

Replace the existing Sub-clause 6.1 by the following:

6.1 Conduits shall be marked with:

- a) the name of the manufacturer or responsible vendor, trade mark or other identifying symbol;
- b) a classification code in accordance with Clause A1 of Appendix A;
- c) any other mark or symbol required by the relevant section of Part 2 of this standard.

Conduits may also be marked with an additional classification code in accordance with Clause A2 of Appendix A.

Flame propagating conduits shall be made of an orange coloured material. (They shall not be coloured by painting, etc.)

Non-flame propagating conduits may be of any colour except yellow, orange or red.

9. Mechanical properties

Replace the existing fifth line of Sub-clause 9.4.3, by the following:

$-25 \pm 1^{\circ}\text{C}$ for conduits of types -25 and $+90/-25$

At the end of the same sub-clause, add the following new line:

$-45 \pm 1^{\circ}\text{C}$ for conduits of type -45

Insert the following appendix after figure 4:

APPENDIX A

CONDUIT MARKING CLASSIFICATION CODES

A1. Mandatory marking code

Metal conduits shall be marked with a single digit code denoting mechanical properties.

Insulating and composite conduits shall be marked with a three digit code, the first digit shall denote mechanical properties, the second and third digits shall denote temperature classification.

The code shall be in accordance with the following table:

First digit — mechanical properties

Very light mechanical stresses	1
Light mechanical stresses	2
Medium mechanical stresses	3
Heavy mechanical stresses	4
Very heavy mechanical stresses	5

Second and third digit — temperature classification

– 5 conduits	05
– 25 conduits	25
– 45 conduits	45
+ 90 conduits	90
+ 90/– 25 conduits	95

A2. Additional marking code

Conduits may be marked with an additional code denoting properties other than mechanical or temperature classification. The additional code, if used, shall follow immediately after the code marking required by Clause A1 and shall be separated from it by an oblique stroke (/).

The additional code shall consist of six digits, if code marking in respect of any of the additional properties is not required it shall be replaced by a 0 in the six digit sequence.

The code shall be in accordance with the following table:

First additional digit — suitability for bending

Rigid conduits	1
Pliable conduits	2
Self-recovering conduits	3
Flexibles conduits	4