HARMONIZATION DOCUMENT **HD 308 S2**

DOCUMENT D'HARMONISATION

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Supersedes HD 3 S2:1976 and HD 308 S1:1976

English version

Identification of cores in cables and flexible cords

Identification des conducteurs des câbles et cordons souples

Kennzeichnung von Adern in Kabel/Leitungen und flexiblen Leitungen

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This Harmonization Document exists in three official versions (English, French, German).

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

This Harmonization Document was prepared by SC 64B, Protection against thermal effects, of Technical Committee CENELEC TC 64, Electrical installations of buildings.

The text of the draft was submitted to the formal vote and was approved by CENELEC as HD 308 S2 on 2001-05-01.

This Harmonization Document supersedes HD 3 S2:1976 and HD 308 S1:1976.

The following dates were fixed:

- latest date by which the existence of the HD has to be announced at national level	(doa)	2001-10-01
- latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsment	(dop)	2002-05-01
- latest date by which the national standards conflicting with the HD have to be withdrawn	(dow)	2006-04-01

1 Scope

This Harmonization Document applies to the identification of cores of rigid and flexible cables and cords for which the rated voltage does not exceed the upper limit of Voltage Band II (according to HD 193).

This HD applies to:

- electrical installations,
- distribution systems,
- supplies to fixed or mobile current-using equipment and
- cords for portable equipment.

NOTE For distribution systems, the identification by numbers is permitted.

This HD is not intended to apply to:

- cables or insulated conductors used in the internal wiring of current-using equipment or factory built assemblies manufactured according to their own European Standards, or
- cables and cords used in d.c applications, or
- cables and cords having more cores than the number indicated in Tables 1 and 2, or
- circuits intended for uses other than solely the supply of power to equipment, or
- covered overhead lines and insulated overhead conductors according to HD 626.

2 Normative references

This Harmonization Document incorporates by dated or undated reference, provisions from other publications. These references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to Harmonization Document only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

HD 193	Voltage bands for electrical installations in buildings
HD 626	Overhead distribution cables of rated voltage Uo/U(Um): 0,6/1(1,2) kV
EN 60446	Basic and safety principles for man-machine interface, marking and identification – Identification of conductors by colours and numerals

3 Identification of cores

3.1 Multi-core cables and cords

The cores of multi-core cables and cords shall be identified by the colours given in Tables 1 and 2. These tables indicate the colours of the cores, according to the number of cores, as well as, in the case of cables with four or five cores, the order of rotation of those colours. Table 1 is for cables with a green-and-yellow core and Table 2 is for cables without a green-and-yellow core.

Identification by colour is not required for concentric conductors, cores of flat flexible cables without a sheath or cables having insulation materials which cannot be identified by colour, for example mineral insulated cables.

Table 1 – Cables and cords with a green-and-yellow core

Number of cores	Colours of cores [b]				
	Protective	Live			
3	Green-and-yellow	Blue	Brown		
4	Green-and-yellow	-	Brown	Black	Grey
4[a]	Green-and-yellow	Blue	Brown	Black	
5	Green-and-yellow	Blue	Brown	Black	Grey

[a] For certain applications only.

[b] In this table an uninsulated concentric conductor, such as a metallic sheath, armour or screen wires, is not regarded as a core. A concentric conductor is identified by its position and, therefore, need not be identified by colour.

Table 2 – Cables and cords without a green-and-yellow core

Number of cores	Colour of cores [b]				
2	Blue	Brown			
3	-	Brown	Black	Grey	
3[a]	Blue	Brown	Black		
4	Blue	Brown	Black	Grey	
5	Blue	Brown	Black	Grey	Black

[a] For certain applications only.

[b] In this table an uninsulated concentric conductor, such as a metallic sheath, armour or screen wires, is not regarded as a core. A concentric conductor is identified by its position and, therefore, need not be identified by colour.

3.2 Single-core cables

For sheathed single-core cables and for insulated conductors the following colours shall be used for the insulation:

- the bi-colour combination green-and-yellow for the protective conductor;
- the colour blue for the neutral conductor.

It is recommended that, for the phase conductors, the colours brown, or black or grey are used. Other colours may be used for certain applications.

3.3 Protective conductor

Requirements for the identification of the protective conductor with the bi-colour combination green-and-yellow are set out in EN 60446.