INTERNATIONAL STANDARD

ISO 2574

Second edition
1994-06-01

Aircraft — Electrical cables — Identification marking

Aéronefs — Câbles électriques — Marquage d'identification

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 2574 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Sub-Committee SC 1, *Aerospace electrical requirements*.

This second edition cancels and replaces the first edition (ISO 2574:1974), of which it constitutes a technical revision.

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International Organization for Standardization

Aircraft — Electrical cables — Identification marking

1 Scope

This International Standard specifies the way in which single-core, multi-core and coaxial cables used in the wiring of aircraft are to be marked as to type, size, origin, date, etc. in order to facilitate servicing, the investigation of faults and replacement, when necessary, with an equivalent cable. It also specifies the approved methods for the marking of cores. This International Standard supplements those relating to marking that already exist. It allows for the codification of manufacturer's identities by individual countries.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3166:1993, *Codes for the representation of names of countries.*

3 Identification of cable

3.1 Because of variation in requirements for cable coverings, the minimum size of cable that can be marked will depend upon the overall diameter and should be stated in the national individual cable specification.

The marking shall consist of a legend printed in green or in a contrasting colour to that of the covering, using characters of the size required by the national standard, repeated at intervals of 300 mm $\pm$ 50 mm, and containing the following information:

— name of cable or number of specification/standard, type and size (as specified in table 1);

— country of origin in accordance with the alpha-2 code specified in ISO 3166;

— manufacturer (one-letter code) in accordance with a code prepared by the standards organization in the country of origin,

Table 1 — Cable size code

Nominal cross-sectional area mm^2	Size code	
	EN	AWG
0,15	001	26
0,25	002	24
0,4	004	22
0,6	006	20
1	010	18
1,2	012	16
2	020	14
3	030	12
5	050	10
5	051	10
9	090	8
14	140	6
22	220	4
34	340	2
42	420	1
53	530	0
68	680	00
85	850	000
107	107	0000

Table 2 — Year of manufacture code

Year of manu-facture	Code	Year of manu-facture	Code	Year of manu-facture	Code
1971	J	1986	AA	2001	01
1972	K	1987	AB	2002	02
1973	L	1988	AC	2003	03
1974	M	1989	AD	2004	04
1975	N	1990	AE	2005	05
1976	P	1991	91	2006	06
1977	R	1992	92	2007	07
1978	S	1993	93	2008	08
1979	T	1994	94	2009	09
1980	U	1995	95	2010	10
1981	V	1996	96	2011	11
1982	W	1997	97	2012	12
1983	X	1998	98	2013	13
1984	Y	1999	99	2014	14
1985	Z	2000	00	2015	15

3.2 Dashes shall be used to separate the name of the cable or the number of the specification/standard, the type and the size.

This information shall be clearly separated from the codes for the country of origin and the manufacturer by a space equivalent to eight characters.

The codes for the country of origin and the manufacturer shall also be separated with a dash.

EXAMPLE

EN 2266 - 003 - 006 _ _ _ _ _ _ _ _ DE - R 91

4 Marking of cores

Marking of cores shall be carried out by the cable manufacturer according to cable type as specified in the following subclauses

4.1 Single-core cables (without screen or without screen and jacket)

The outer surface shall be marked in a permanent and legible manner.

4.2 Single-core cables (with screen and jacket)

The outer jacket shall be marked in a permanent and legible manner.

4.3 Multicore cables (without jacket)

The marking shall be carried out on:

a) the white core if method 1A is used (see tables 3 and 6);

b) the blue or red core if method 1B is used (see tables 4 and 6);

c) the red core if method 1C is used (see tables 5 and 6);

d) the white core if method 2 is used (see table 7); or

e) any core if method 3 is used (see 5.3).

4.4 Multicore cables (with jacket or with screen and jacket)

The marking shall be carried out optionally on the jacket or on:

a) the white core if method 1A is used (see tables 3 and 6);

b) the blue or red core if method 1B is used (see tables 4 and 6);

c) the red core if method 1C is used (see tables 5 and 6);

d) the white core if method 2 is used (see table 7); or

e) any core if method 3 is used (see 5.3).

4.5 Coaxial cables

The outer jacket shall be marked in a legible manner in green or white and shall include:

a) the standard number of the coaxial cable,

b) the country, manufacturer and year (see 3.1).

Table 3 — Method 1A

Number of cores in cable										
1	White	—	—	—	—	—	—	—	—	—
2	White	Blue	—	—	—	—	—	—	—	—
3	White	Blue	Orange	—	—	—	—	—	—	—
4	White	Blue	Orange	Green	—	—	—	—	—	—
5	White	Blue	Orange	Green	Red	—	—	—	—	—
6	White	Blue	Orange	Green	Red	Black	—	—	—	—
7	White	Blue	Orange	Green	Red	Black	Yellow	—	—	—
8	White	Blue	Orange	Green	Red	Black	Yellow	Violet	—	—
9	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey	—
10	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey	Brown

NOTE — For cables having more than 10 cores, see table 6

Table 4 — Method 1B

Number of cores in cable										
1	White	—	—	—	—	—	—	—	—	—
2	Red	Blue	—	—	—	—	—	—	—	—
3	Red	Blue	Yellow	—	—	—	—	—	—	—
4	Red	Blue	Yellow	Green	—	—	—	—	—	—
5	Red	Blue	Yellow	Green	White	—	—	—	—	—
6	Red	Blue	Yellow	Green	White	Black	—	—	—	—
7	Red	Blue	Yellow	Green	White	Black	Brown	—	—	—
8	Red	Blue	Yellow	Green	White	Black	Brown	Orange	—	—
9	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Purple	—
10	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Purple	Grey

NOTE — For cables having more than 10 cores, see table 6

Table 5 — Method 1C

Number of cores in cable										
1	White	—	—	—	—	—	—	—	—	—
2	Red	Blue	—	—	—	—	—	—	—	—
3	Red	Blue	Yellow	—	—	—	—	—	—	—
4	Red	Blue	Yellow	Green	—	—	—	—	—	—
5	Red	Blue	Yellow	Green	Black	—	—	—	—	—
6	Red	Blue	Yellow	Green	Black	Violet	—	—	—	—
7	Red	Blue	Yellow	Green	Black	Violet	Orange	—	—	—
8	Red	Blue	Yellow	Green	Black	Violet	Orange	Brown	—	—
9	Red	Blue	Yellow	Green	Black	Violet	Orange	Brown	Pink	—
10	Red	Blue	Yellow	Green	Black	Violet	Orange	Brown	Pink	Grey

NOTE — For cables having more than 10 cores, see table 6.

5 Identification of cores of single- and multicore screened cables

Cores of single- and multicore screened cables shall be identified using one of the methods described in 5.1 to 5 3

5.1 Identification by colour

The insulation of each core is coloured in accordance with method 1A, 1B or 1C as specified in tables 3 to 6.

Table 6 — Methods 1A, 1B and 1C for greater than 10 cores

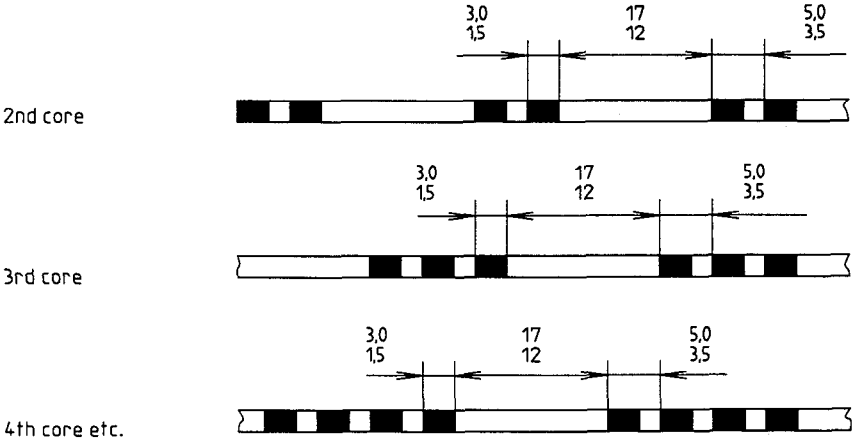
Core number	Colour		Core number	Colour		Core number	Colour	
	Insulation	Stripe		Insulation	Stripe		Insulation	Stripe
11	Grey	Red	—	—	—	—	—	—
12	Grey	Blue	20	Red	Blue	—	—	—
13	Grey	Yellow	21	Red	Yellow	28	Blue	Yellow
14	Grey	Green	22	Red	Green	29	Blue	Green
15	Grey	Black	23	Red	Black	30	Blue	Black
16	Grey	Violet	24	Red	Violet	—	—	—
17	Grey	Orange	25	Red	Orange	—	—	—
18	Grey	Brown	26	Red	Brown	—	—	—
19	Grey	Pink	27	Red	Pink	—	—	—

NOTE — Where a second colour is required, this shall be in the form of a helical stripe approximately 0,75 mm wide applied with a lay length of approximately 12 times the core diameter

5.2 Identification by coloured rings (method 2)

Each core is identified, on its insulation, by coloured rings in accordance with table 7 and figure 1.

Dimensions in millimetres



NOTES

1 Each ring shall cover at least 3/4 of the circumference

2 The wide rings shall be twice the width of the narrow rings

Table 7 — Method 2

Number of core in cable	Ring group configuration	Number of rings[1)]
1	White	None
2	▬ ▬ ▬ ▬	2 narrow
3	▬ ▬ ▬ ▬ ▬ ▬	3 narrow
4	▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬	4 narrow
5	▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬	5 narrow
6	▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬	6 narrow
7	▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬	7 narrow
8	▬ ▬ ▬ ▬	1 wide 1 narrow
9	▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬	1 wide 2 narrow
10	▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬	1 wide 3 narrow
NOTE — Colour of rings. Green		
1) See also figure 1		

5.3 Identification by numbers (method 3)

All cores in a multicore cable are numbered in natural sequence. The identification shall be printed in arabic numerals on the insulator of each core, the insulator being coloured white.

6 Identification of cables by coloured threads

Multicore cables or single cables of cross-sectional area greater than 14 mm^2 (AWG 6) which cannot be marked by the manufacturer, for example, cables of irregular cross-section, shall be identified by coloured threads indicating year of manufacture and manufacturer. The material and colour of the threads shall withstand the maximum operating temperature specified in the relevant cable standards.

The colours of the threads shall be visible on the finished cables and shall conform to the specifications of 6.1 and 6.2.

6.1 Indication of year of manufacture

Two coloured threads shall be used but shall not be stranded. Colours of the threads shall be as indicated in table 8

6.2 Indication of manufacturer

The colour and number of threads shall be allocated on request by the different countries.

Table 8 — Coloured threads for indication of year of manufacture

Year	1st thread	2nd thread	Year	1st thread	2nd thread
1971	Brown	Red	1993	Green	Violet
1972	Green	Black	1994	Green	Orange
1973	Green	White	1995	Green	Grey
1974	Green	Red	1996	Green	Yellow
1975	Black	White	1997	Green	Brown
1976	Black	Red	1998	Green	Blue
1977	White	Red	1999	Blue	Violet
1978	Blue	Black	2000	Blue	Orange
1979	Blue	White	2001	Blue	Grey
1980	Blue	Red	2002	Blue	Yellow
1981	Yellow	Black	2003	Blue	Brown
1982	Yellow	White	2004	Brown	Violet
1983	Yellow	Red	2005	Brown	Orange
1984	Grey	Black	2006	Brown	Grey
1985	Grey	White	2007	Brown	Yellow
1986	Grey	Red	2008	Yellow	Violet
1987	Violet	Black	2009	Yellow	Orange
1988	Violet	White	2010	Yellow	Grey
1989	Violet	Red	2011	Grey	Violet
1990	Orange	Black	2012	Grey	Orange
1991	Orange	White	2013	Orange	Violet
1992	Orange	Red	2014	Brown	Black
			2015	Brown	White

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Descriptors: aircraft, aircraft equipment, electric cables, identification methods, marking, colour codes, alphanumeric codes.

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