BS EN 2714-002:2016

BSI Standards Publication

Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between — 55 °C and 260 °C

Part 002: Screened and jacketed — General

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National foreword

This British Standard is the UK implementation of EN 2714-002:2016. It supersedes BS EN 2714-002:2012 which is withdrawn.

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Série aérospatiale - Câbles, électriques, mono et multiconducteurs d'usage général - Températures de fonctionnement comprises entre - 55 °C et 260 °C - Partie 002: Blindés et gainés - Généralités

Luft- und Raumfahrt - Leitungen, elektrisch, ein- und mehradrig, für allgemeine Verwendung - Betriebstemperaturen zwischen - 55 °C und 260 °C - Teil 002: Geschirmt und ummantelt - Allgemeines

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European foreword

This document (EN 2714-002:2016) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

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1 Scope

This European Standard specifies the list of product standards and common characteristics of single and multicore screened and jacketed electrical cables for use in the on-board electrical systems of aircraft, at operating temperatures between − 55 °C and 260 °C (unless otherwise specified in product standards).

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.

EN 2235, *Aerospace series — Single and multicore electrical cables, screened and jacketed — Technical specification*

EN 2714-003, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 003: Screened (spiral) and jacketed, ink jet printable — Product standard*

EN 2714-004, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 004: Screened (braided) and jacketed, ink jet printable — Product standard*

EN 2714-005, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 005: Screened (spiral) and jacketed, CO_2 laser printable — Product standard*

EN 2714-006, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 006: Screened (braided) and jacketed, CO_2 laser printable — Product standard*

EN 2714-007, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 007: Screened (spiral) and jacketed, UV laser printable — Product standard*

EN 2714-008, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 008: Screened (braided) and jacketed, UV laser printable — Product standard*

EN 2714-009, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 009: Screened (spiral) and jacketed, YAG X3 laser printable — Product standard*

EN 2714-010, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 010: Screened (braided) and jacketed, YAG X3 laser printable — Product standard*

EN 2714-011, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 011: DM family, screened (spiral) and jacketed, UV laser printable — Product standard*

EN 2714-012, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 012: DM family, screened (braided) and jacketed, UV laser printable — Product standard*

EN 2714-013, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 013: DR family, screened (spiral) and jacketed, UV laser printable — Product standard*

EN 2714-014, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 014: DR family, 4 to 11 cores, taped, screened (braided) and jacketed, UV laser printable — Product standard*

EN 2714-015, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 015: DZ family, screened (spiral) and jacketed, UV laser printable for use in low pressure atmosphere — Product standard* [1)]

EN 3475-100, *Aerospace series — Cables, electrical, aircraft use — Test methods — Part 100: General*

EN 3838, *Aerospace series — Requirements and tests on user-applied markings on aircraft electrical cables*

TR 6058, *Aerospace series — Cable code identification list* [2)]

3 Terms, definitions and symbols

For the purposes of this document, the terms, definitions and symbols given in EN 3475-100 apply.

4 List of product standards

EN 2714-003, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 003: Screened (spiral) and jacketed, ink jet printable — Product standard*

EN 2714-004, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 004: Screened (braided) and jacketed, ink jet printable — Product standard*

EN 2714-005, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 005: Screened (spiral) and jacketed, CO_2 laser printable — Product standard*

EN 2714-006, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 006: Screened (braided) and jacketed, CO_2 laser printable — Product standard*

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1) In preparation at the date of publication of this European Standard.

2) Published as ASD-STAN Technical Report at the date of publication of this European Standard. (http://www.asd-stan.org/)

EN 2714-007, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 007: Screened (spiral) and jacketed, UV laser printable — Product standard*

EN 2714-008, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 008: Screened (braided) and jacketed, UV laser printable — Product standard*

EN 2714-009, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 009: Screened (spiral) and jacketed, YAG X3 laser printable — Product standard*

EN 2714-010, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 010: Screened (braided) and jacketed, YAG X3 laser printable — Product standard*

EN 2714-011, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 011: DM family, screened (spiral) and jacketed, UV laser printable — Product standard*

EN 2714-012, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 012: DM family, screened (braided) and jacketed, UV laser printable — Product standard*

EN 2714-013, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 013: DR family, screened (spiral) and jacketed, UV laser printable — Product standard*

EN 2714-014, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 014: DR family, 4 to 11 cores, taped, screened (braided) and jacketed, UV laser printable — Product standard*

EN 2714-015, *Aerospace series — Cables, electrical, single and multicore for general purpose — Operating temperatures between – 55 °C and 260 °C — Part 015: DZ family, screened (spiral) and jacketed, UV laser printable for use in low pressure atmosphere — Product standard*

5 Construction

5.1 Number of cores

See Table 1.

Table 1 — Number of cores

Number of cores	1	2	3	4	5	6	7	8	9	10	11
Code	A	B	C	D	E	F	G	H	J	K	L

5.2 Colour coding of cores and jacket

See Tables 2 to 10.

Table 2 — Code A

Number of cores in cables	Colours			
1	White			
2	White	Blue		
3	White	Blue	Yellow	
4	White	Blue	Yellow	Green
NOTE Jacket: for codes 002/006/012 light blue, white for other sizes.				

Table 3 — Code B

Number of cores in cables	Colours										
01	White										
02	White	Blue									
03	White	Blue	Orange								
04	White	Blue	Orange	Green							
05	White	Blue	Orange	Green	Red						
06	White	Blue	Orange	Green	Red	Black					
07	White	Blue	Orange	Green	Red	Black	Yellow				
08	White	Blue	Orange	Green	Red	Black	Yellow	Violet			
09	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey		
10	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey	Brown	
11	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey	Brown	Light green
NOTE Jacket: for codes 002/006/012 light blue, white for other sizes.											

Table 4 — Code C

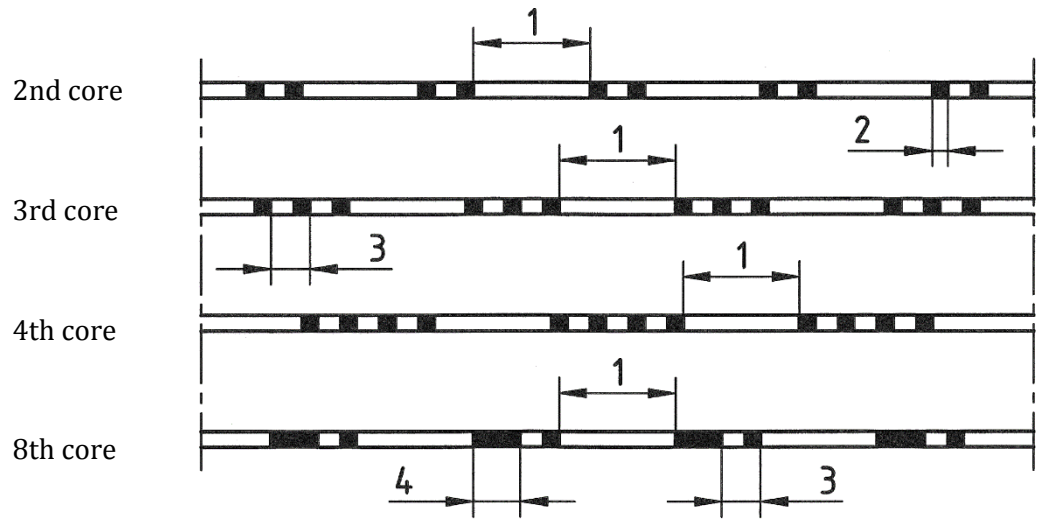
Number of cores in cables	Colours										
01	White										
02	White	Blue									
03	White	Blue	Orange								
04	White	Blue	Orange	Green							
05	White	Blue	Orange	Green	Red						
06	White	Blue	Orange	Green	Red	Black					
07	White	Blue	Orange	Green	Red	Black	Yellow				
08	White	Blue	Orange	Green	Red	Black	Yellow	Violet			
09	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey		
10	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey	Brown	
11	White	Blue	Orange	Green	Red	Black	Yellow	Violet	Grey	Brown	Light green
NOTE Jacket: white.											

Table 5 — Code D

Number of cores in cables	Band group configuration	Number of rings	
		Wide	Narrow
1	No ring on the first core	0	0
2		0	2
3		0	3
4		0	4
5		0	5
6		0	6
7		0	7
8		1	1
9		1	2
10		1	3
11		1	4

Marking with colour rings.
Basic colour of cores: same as jacket.
Colour of rings: green.
Jacket base: pink for codes 001/006/020
white for codes 002/010/030
light green for codes 004/012/050/051.

Arrangement of colour rings (see Figure 1):



Key

1 12 mm to 17 mm
2 1,5 mm to 3 mm
3 3,5 mm to 5 mm
4 3 mm to 6 mm

Figure 1

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

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

Table 6 — Code E (reserved for flight test instruments)

Number of cores in cables	**Colours**										
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	Violet		
10	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Violet	Grey	
11	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Violet	Grey	Light green
NOTE Jacket: orange.											

Table 7 — Code F

Number of cores in cables	Colours										
1	White [a]										
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	Violet		
10	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Violet	Grey	
11	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Violet	Grey	Light green

NOTE Jacket: codes 002/006/012 light blue, other codes: white.

[a] Light green for code 004 and light yellow for code 001.

Table 8 — Code G

Number of cores in cables	Colours										
1	White [a]										
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	Violet		
10	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Violet	Grey	
11	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Violet	Grey	Light green

NOTE Jacket: white.

Table 9 — Code H (reserved for specific need)

Number of cores in cables	**Colours**									
5	Black	Light Blue	Yellow	Red	Dark Green					
NOTE Jacket: codes 002/006/012/030 light blue, other codes: white.										

Table 10 — Code J (reserved for specific need)

Number of cores in cables	**Colours**									
5	White	Light Blue	Yellow	Red	Dark Green					
NOTE Jacket: codes 002/006/012/030 light blue, other codes: white.										

Table 11 — Code K

Number of cores in cables	**Colours**										
1	White [a]										
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	
11	Red	Blue	Yellow	Green	White	Black	Brown	Orange	Purple	Grey	Light green
NOTE Jacket: colour = dark red.											
[a] Light green for code 004 and light yellow for code 001.											

6 Identification and marking

The identification and marking of cables by the manufacturer shall be in accordance with EN 2235.

As the designation, required for orders, is generally too long for use in electrical drawings, a shorter cross designation (without colour information) is given by the TR 6058 plus the corresponding nearest AWG (gauge code).

EXAMPLE Designation: EN 2714-005B002F
Cross reference: TT C 24

This shorter designation is used for identification and marking as in the following example:

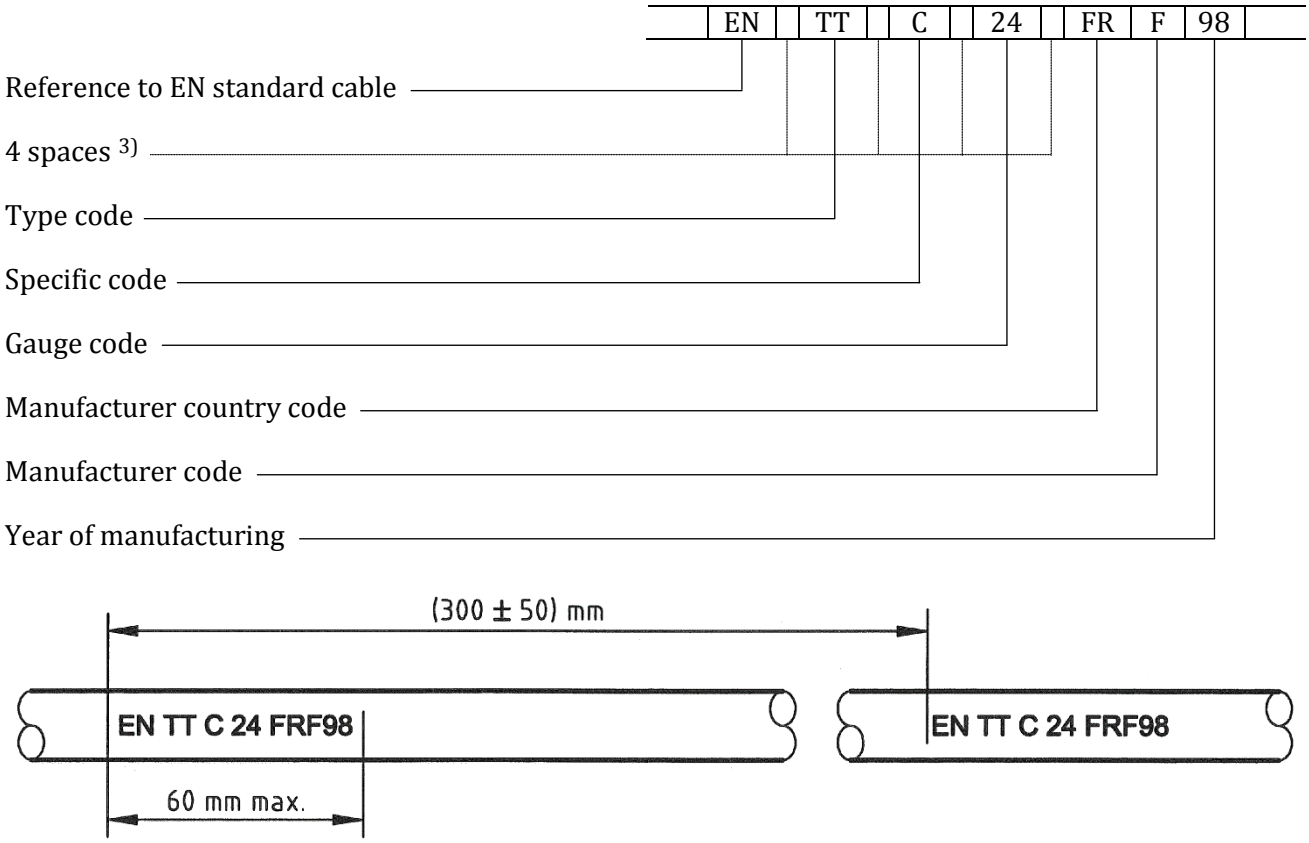


Figure 2

The marking will be optional on cores and mandatory on the jacket.

Except otherwise specified in product standard, when marking on cores is performed, each core shall be marked with its own designation.

The cables shall be capable of being printed with the user-applied markings according to EN 3838.

3) Space are mandatory, with a possible exception for the second one.

7 Technical specification

See EN 2235.

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