

Aerospace series - Cables, electrical, single and multicore for general purpose - Operating temperatures between -55 °C and 200 °C - Part 012: MNA (1 core), MNB (pair), MNC (3 cores), MND (4 cores), cables family - Silver-plated copper screened (spiral) and jacketed, UV laser printable - Product standard

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN 2713-012:2022 sisaldab Euroopa standardi EN 2713-012:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 2713-012:2022 consists of the English text of the European standard EN 2713-012:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.02.2022.	Date of Availability of the European standard is 09.02.2022.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

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ICS 49.060

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English Version

**Aerospace series - Cables, electrical, single and multicore for general purpose - Operating temperatures between -55 °C and 200 °C - Part 012: MNA (1 core), MNB (pair), MNC (3 cores), MND (4 cores), cables family - Silver-plated copper screened (spiral) and jacketed, UV laser printable - Product standard**

Série aérospatiale - Câbles, électriques, mono et multiconducteurs d'usage général - Températures de fonctionnement comprises entre -55 °C et 200 °C - Partie 012 : MNA (1 élément), MNB (paire), MNC (tierce), MND (quarte), série de câbles multiconducteurs à blindage cuivre argenté (guipés et gainés), marquables au laser UV - Norme de produit

Luft- und Raumfahrt - Leitungen, elektrisch, ein- und mehradrig, für allgemeine Verwendung - Betriebstemperaturen zwischen -55 °C und 200 °C - Teil 012: MNA- (einadrig), MNB- (zweiadrig), MNC- (dreiadrig), MND- (vieradrig) Leitungsfamilie, mit versilbertem - Kupfergeflecht geschirmt (Umseilung) und ummantelt, UV-Laser-bedruckbar - Produktnorm

This European Standard was approved by CEN on 8 November 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN 2713-012:2022) 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 document has received the approval of the National Associations and the Official Services of the member countries of ASD-STAN, prior to its presentation to CEN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2022, and conflicting national standards shall be withdrawn at the latest by August 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

[This document supersedes EN 2713-012:2017.]

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this document: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 1 Scope

This document specifies the characteristics of UV laser printable, single and multicore silver-plated copper screened (spiral) and jacketed electrical cables for use in the on-board electrical systems of aircraft, at operating temperatures between  $-55\text{ °C}$  and  $200\text{ °C}$ .

It is also possible to mark these cables by qualified compatible marking. These markings are in accordance with EN 3838.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. 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 2267-009, *Aerospace series — Cables, electrical, for general purpose — Operating temperatures between  $-55\text{ °C}$  and  $260\text{ °C}$  — Part 009: DRA family, single and multicore assembly — Product standard*

EN 2713-002, *Aerospace series — Cables, electrical, single and multicore for general purpose - Operating temperatures between  $-55\text{ °C}$  and  $200\text{ °C}$  — Part 002: Screened and jacketed — General*

EN 3475,\* *Aerospace series — Cables, electrical, aircraft use — Test methods*

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

EN 4434, *Aerospace series — Copper or copper alloy lightweight conductors for electrical cables — Product standard (Normal and tight tolerances)*

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

## 4 Materials and construction

### 4.1 Materials

These cables shall consist of the following:

- cores according to EN 2267-009;
- number of cores 1 to 4.

2 to 4-core cables shall be twisted together according to EN 2235.

Screen:

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\* All parts quoted in this document.