SLOVENSKI STANDARD
oSIST prEN 2266-008:2020

01-julij-2020

Aeronavtika - Električni kabli za splošno uporabo - Delovne temperature med –55 °C in 200 °C - 008. del: Družina DRP (dvožilni), DRT (trižilni), DRQ (štirižilni), večžilni, oplaščeni, z možnostjo UV-laserskega tiskanja - Standard za proizvod

Aerospace series - Cables, electrical, for general purpose - Operating temperatures between -55 °C and 200 °C - Part 008: DRP (pair) DRT (3 cores) DRQ (4 cores) family, multicore UV laser printable jacketed cable - Product standard

Luft- und Raumfahrt - Leitungen, elektrisch, für allgemeine Verwendung - Betriebstemperaturen zwischen - 55 °C und 200 °C - Teil 008: DRP- (zweiadrig), DRT- (dreiadrig), DRQ- (vieradrig) Leitungsfamilie, mehradrige, UV-Laser-bedruckbare, ummantelte Leitungen - Produktnorm

Série aérospatiale - Câbles, électriques, d'usage général - Températures de fonctionnement comprises entre - 55 °C et 200 °C - Partie 008 : DRP (paire) DRT (tierce) DRQ (quarte) multiconducteurs gainés marquables au laser UV - Norme de produit

Ta slovenski standard je istoveten z: **prEN 2266-008**

ICS:

29.060.20	Kabli	Cables
49.060	Letalska in vesoljska električna oprema in sistemi	Aerospace electric equipment and systems

oSIST prEN 2266-008:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 2266-008

May 2020

ICS 49.060

Will supersede EN 2266-008:2015

English Version

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ASD-STAN.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (prEN 2266-008:2020) 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.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 2266-008:2015.

1 Scope

This document specifies the characteristics of UV laser printable multicore jacketed electrical cables for use in the on-board electrical systems of aircraft at operating temperatures between −55 °C and 200 °C.

It is also possible to mark these cables with qualified compatible markings. These markings are supposed to be 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 2083, *Aerospace series - Copper and copper alloys conductors for electrical cables - Product standard*

EN 2235:2015, *Aerospace series - Single and multicore electrical cables, screened and jacketed - Technical specification*

EN 2267-002, *Aerospace series - Cables, electrical, for general purpose - Operating temperatures between -55 °C and 260 °C - Part 002: General*

EN 2267-009, *Aerospace series - Cables, electrical, for general purpose - Operating temperatures between -55 °C and 260 °C - Part 009: DRA family, single and multicore assembly - Product standard*

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

EN 3475-201, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 201: Visual examination*

EN 3475-202, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 202: Mass*

EN 3475-203, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 203: Dimensions*

EN 3475-301, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 301: Ohmic resistance per unit length*

EN 3475-302, *Aerospace series - Cable, electrical, aircraft use - Test methods - Part 302: Voltage proof test*

EN 3475-303, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 303: Insulation resistance*

EN 3475-304, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 304: Surface resistance*

EN 3475-306, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 306: Continuity of conductors*

EN 3475-401, *Aerospace series - Cables, electrical, aircraft use - Test Methods - Part 401: Accelerated ageing*

EN 3475-402, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 402: Shrinkage and delamination*

EN 3475-403, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 403: Delamination and blocking*

EN 3475-404, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 404: Thermal shock*

EN 3475-405, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 405: Bending at ambient temperature*

EN 3475-406, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 406: Cold bend test*

EN 3475-407, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 407: Flammability*

EN 3475-411, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 411: Resistance to fluids*

EN 3475-505, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 505: Tensile test on conductors and strands*

EN 3475-506, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 506: Plating continuity*

EN 3475-507, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 507: Adherence of plating*

EN 3475-508, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 508: Plating thickness*

EN 3475-601, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 601: Smoke density*

EN 3475-602, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 602: Toxicity*

EN 3475-701, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 701: Strippability and adherence of insulation to the conductor*

EN 3475-703, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 703: Permanence of manufacturer's marking*

EN 3475-705, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 705: Contrast measurement*

EN 3475-706, *Aerospace series - Cables, electrical, aircraft use - Test methods - Part 706: Laser markability*

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/ui
- IEC Electropedia: available at http://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 2 to 4.

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

Outer jacket:

— shall be defined to satisfy all required characteristics of Clause 5.

4.2 Construction

See EN 4434, EN 2083 and Table 1.

Table 1

Number of cores	Code for nominal section	Nominal section mm²	AWG [a]	Linear resistance at 20 °C Ω/km max.	External diameter mm max.	Mass kg/km max.
2	001	0,15	26	165	1,86	5,01
	002	0,25	24	117	2,10	6,54
	004	0,4	22	61,7	2,39	9,47
	006	0,6	20	34,1	2,91	15,28
	010	1	18	21,7	3,44	22,90
	012	1,2	16	14,9	4,02	31,78
	020	2	14	11,2	4,67	42,61
3	001	0,15	26	165	1,99	7,28
	002	0,25	24	117	2,24	9,50
	004	0,4	22	61,7	2,55	13,91
	006	0,6	20	34,1	3,12	22,55
	010	1	18	21,7	3,68	33,91
	012	1,2	16	14,9	4,30	47,15
	020	2	14	11,2	5,01	63,34
	030	3	12	6,99	5,98	99,57
4	001	0,15	26	165	2,22	9,56
	002	0,25	24	117	2,49	12,48
	004	0,4	22	61,7	2,87	18,34
	006	0,6	20	34,1	3,50	29,82
	010	1	18	21,7	4,15	44,92
	012	1,2	16	14,9	4,80	62,52
	020	2	14	11,2	5,48	84,06

[a] AWG = Closest American Wire Gage.

4.3 Colours coding of cores

See EN 2267-002.

See EN 2235:2015, 4.3.2 for cabling.

5 Required characteristics

Tests according to EN 3475-100.

See Table 2.

Table 2

EN 3475-	Designation of the test	Details
201	Visual examination	Applicable
202	Mass	Applicable, see Table 1.
203	Dimensions	Applicable, see Table 1.
301	Ohmic resistance per unit length	Applicable, see Table 1.
302	Voltage proof test	Applicable
303	Insulation resistance	Applicable
304	Surface resistance	Applicable
305	Overload resistance	Not applicable
306	Continuity of conductors	Applicable
401	Accelerated ageing	Applicable Temperature (230 ± 5) °C
402	Shrinkage and delamination	Applicable Temperature (230 ± 5) °C Maximum shrinkage at each end of cable: — for jacket: not applicable, — for core insulation: see EN 2267-009.
403	Delamination and blocking	Applicable Temperature (230 ± 5) °C
404	Thermal shock	Applicable Temperature (200 ± 5) °C Maximum shrinkage at each end of cable: — for jacket: not applicable, — for core insulation: see EN 2267-009.
405	Bending at ambient temperature	Applicable
406	Cold bend test	Applicable
407	Flammability	Applicable Extinguishing time: max. 3 s
408	Fire resistance	Not applicable

EN 3475-	Designation of the test	Details
409	Air-excluded ageing	Not applicable
410	Thermal endurance	Not applicable
411	Resistance to fluids	Applicable
412	Humidity resistance	Not applicable
501	Dynamic cut-through	Not applicable
502	Notch propagation	Not applicable
503	Scrape abrasion	Not applicable
504	Torsion	Not applicable
505	Tensile test on conductors and strands	Applicable
506	Plating continuity	Applicable
507	Adherence of plating	Applicable
508	Plating thickness	Applicable
509	Solderability	Not applicable
511	Cable-to-cable abrasion	Not applicable
512	Flexure endurance	Not applicable
601	Smoke density	Applicable
602	Toxicity	Applicable
603	Resistance to wet arc tracking	Not applicable
604	Resistance to dry arc propagation	Not applicable
605	Wet short circuit test	Not applicable
701	Strippability and adherence of insulation to the conductor	Applicable
702	Screen pushback capability	Not applicable
703	Permanence of manufacturer's marking	Applicable – On cylindrical cable only Load: 1 N
704	Flexibility	Not applicable
705	Contrast measurement	Applicable K ≥ 50 %
706	Laser markability	Applicable – UV laser

6 Quality assurance

See EN 9133.