SLOVENSKI STANDARD
SIST EN 4199-004:2009

01-oktober-2009

Aeronavtika - Ozemljitvene zbiralke za letala - 004. del: Okrogle ozemljitvene zbiralke iz bakra, pocinkane od -65 ĆC do vključ no 150 ĆC in ponikljane od -65 ĆC do vključ no 260 ĆC - Standard za proizvod

Aerospace series - Bonding straps for aircraft - Part 004: Round bonding straps, copper, tin plated - 65 °C up to 150 °C and nickel plated - 65 °C up to 260 °C - Product standard

Luft- und Raumfahrt - Masseverbinder für Luftfahrzeuge - Teil 004: Runde Masseverbinder aus Kupfer verzinnt -65° C bis 150° C aus Kupfer vernickelt -65° C bis 260° C - Produktnorm

Série aérospatiale - Tresses de métallisation pour avion - Partie 004: Tresse ronde, pour utilisation de - 65 °C à 150 °C en cuivre étamé et de - 65 °C à 260 °C en cuivre nickelé - Norme de produit

Ta slovenski standard je istoveten z: EN 4199-004:2009

ICS:

49.060	Letalska in vesoljska elektriļ na oprema in sistemi	Aerospace electric equipment and systems

SIST EN 4199-004:2009 **en**

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English Version

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This European Standard was approved by CEN on 12 March 2009.

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

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Foreword

This document (EN 4199-004:2009) 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 European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2010, and conflicting national standards shall be withdrawn at the latest by January 2010.

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1 Scope

This standard defines the required characteristics for round bonding straps in tin plated and nickel plated version, in different cross sections and lengths, with terminal lugs on both ends (same or different types) for aerospace applications.

It shall be used together with EN 4199-001.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 3, *Preferred numbers — Series of preferred numbers*.

EN 3373-001, *Aerospace series — Terminal lugs and in-line splices for crimping on electric conductors — Part 001: Technical specification.* [1)]

EN 4199-001, *Aerospace series — Bonding straps for aircraft — Part 001: Technical specification.*

EN 4199-006, *Aerospace series — Bonding straps for aircraft — Part 006: Round braid copper conductors for bonding straps, tin plated up to 150 °C or nickel plated up to 260 °C — Product standard.*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts.*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 4199-001 apply.

4 Required characteristics

4.1 Temperature ranges

Bonding straps, copper, tin plated braid conductor and terminal lugs, class T : – 65 °C up to 150 °C

Bonding straps, copper, nickel plated braid conductor and terminal lugs, class N : – 65 °C up to 260 °C

4.2 Cross section of the braid

See Table 1.

1) Published as ASD Prestandard at the date of publication of this standard.

Table 1

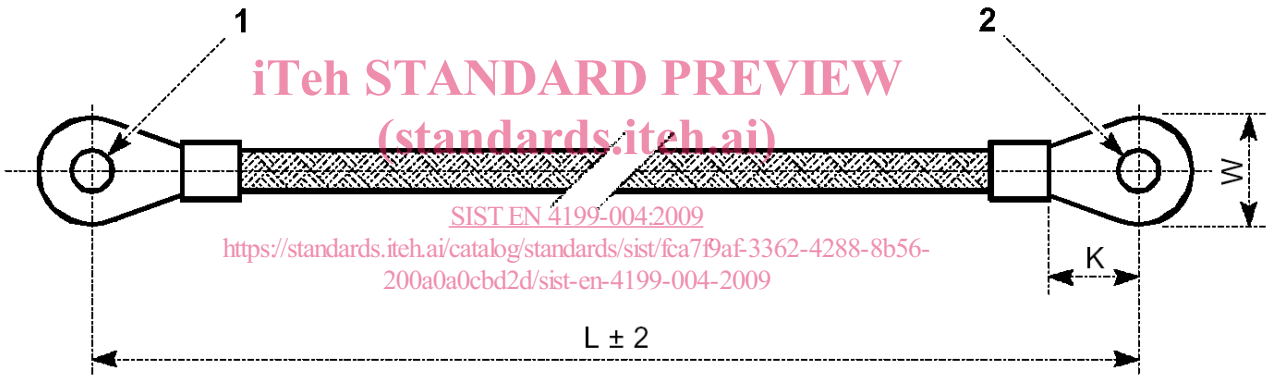
Cross section		
Code	mm^2	**Terminal lug size**
A	1,4	Code 012/AWG16
B	3,5	Code 030/AWG12
C	4,5	Code 050/AWG10
D	7	Code 090/AWG08
E	13	Code 140/AWG06

4.3 Cross section code A (1,4 mm^2) with terminal lugs for Code 012 or AWG16 cables

4.3.1 Dimensions and masses

See Figure 1, Table 2 and Table 3.

Dimensions and tolerances are in millimetres.



Key

1 Terminal lug 1
2 Terminal lug 2

Figure 1

Table 2

Combination Variant Code	Assemblies				Mass (g)								
	End 1		End 2		Lengths								
	Stud	∅	Stud	∅	63	80	100	125	160	200	250	315	400
					M	N	P	Q	R	S	T	U	V
A	# 6	3,50	# 6	3,50	1,75	1,95	2,20	2,55	3,00	3,50	4,15	5,00	6,10
B	# 8	4,17	# 6	3,50	1,95	2,20	2,45	2,80	3,20	3,75	4,40	5,25	6,35
C	# 10	4,83	# 6	3,50	1,95	2,15	2,40	2,75	3,20	3,70	4,35	5,20	6,30
D	1/4	6,35	# 6	3,50	2,25	2,45	2,70	3,05	3,50	4,00	4,65	5,50	6,60
E	# 8	4,17	# 8	4,17	2,20	2,40	2,65	3,00	3,45	3,95	4,60	5,45	6,55
F	# 10	4,83	# 8	4,17	2,15	2,40	2,65	2,95	3,40	3,95	4,60	5,45	6,55
G	1/4	6,35	# 8	4,17	2,45	2,70	2,95	3,25	3,70	4,25	4,90	5,75	6,85
H	# 10	4,83	# 10	4,83	2,10	2,35	2,60	2,95	3,40	3,90	4,55	5,40	6,50
J	1/4	6,35	# 10	4,83	2,45	2,65	2,90	3,25	3,70	4,20	4,85	5,70	6,80
K	1/4	6,35	1/4	6,35	2,75	2,95	3,20	3,55	4,00	4,50	5,15	6,00	7,10
L	5/16	7,94	# 10	4,83	2,30	2,61	2,80	3,15	3,55	4,05	4,70	5,40	6,65
M	5/16	7,94	5/16	7,94	2,60	2,75	2,90	3,25	3,75	4,30	4,90	5,70	6,90

Table 3

Terminals			
Stud	∅	K	W
# 6	3,50	4,4	6,3
# 8	4,17	7,1	8,7
# 10	4,83	7,1	8,7
1/4	6,35	11,1	11,9
5/16	7,94	11,1	11,9
Terminal thickness: 0,84			

4.3.2 Recommended lengths (R10 series as per standard ISO 3) and maximum resistance

See Table 4.

Table 4

Length L	63	80	100	125	160	200	250	315	400
Resistance (mΩ)	1,16	1,45	1,79	2,22	2,81	3,49	4,34	5,45	6,89

4.3.3 Other lengths possible (exceptional cases)

See Table 5.

Table 5

Length L	190	254	260	280	304	320	460	570
Resistance (mΩ)	3,32	4,36	4,51	4,82	5,24	5,53	7,97	9,78

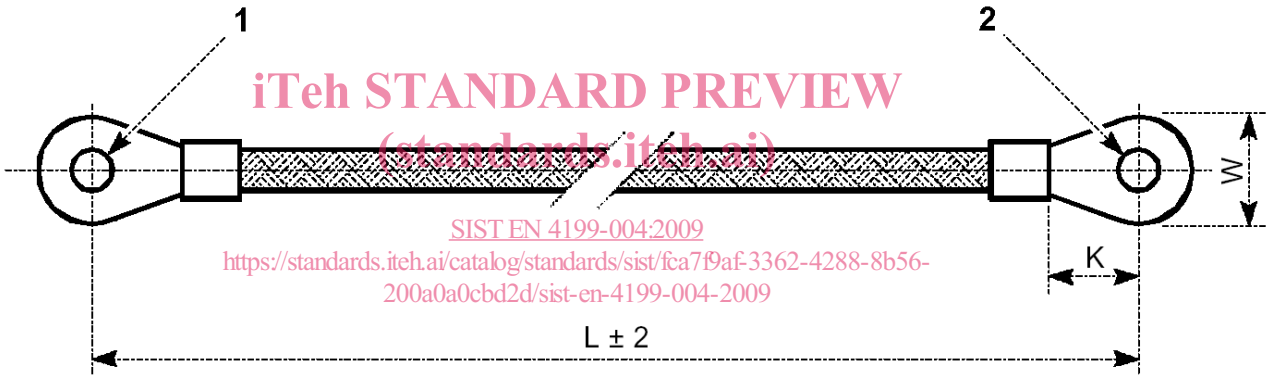
IMPORTANT — only tin plating for terminal lugs and braid code A.

4.4 Cross section code B (3,5 mm^2) with terminal lugs for Code 030 or AWG12 cables

4.4.1 Dimensions and masses

See Figure 2, Table 6 and Table 7.

Dimensions and tolerances are in millimetres.



Key

1 Terminal lug 1
2 Terminal lug 2

Figure 2