

DIN EN 4906



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Entwurf

**Luft- und Raumfahrt –
On-Board-Etiketten –
Auswahl der Befestigung zum Anbringen, Entfernen und Ersetzen von
On-Board-Etiketten;
Englische Fassung prEN 4906:2022**

Aerospace series –

Embedded tags –

Choice of fixation for installation, removal and replacement of embedded tags;

English version prEN 4906:2022

Série aérospatiale –

Étiquettes embarquées –

Choix de fixation pour pose, dépose et remplacement d'étiquettes embarquées;

Version anglaise prEN 4906:2022

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Gesamtumfang 35 Seiten

DIN-Normenausschuss Luft- und Raumfahrt (NL)

Nationales Vorwort

Der Verband der Europäischen Luft-, Raumfahrt- und Verteidigungsindustrie – Normung (ASD-STAN) ist vom Europäischen Komitee für Normung (CEN) für zuständig erklärt worden, Europäische Normen (EN) für das Gebiet der Luft- und Raumfahrt auszuarbeiten. Durch die Vereinbarung vom 3. Oktober 1986 wurde ASD Assoziierte Organisation (ASB) des CEN.

Das vorliegende Dokument (prEN 4906:2022) wurde von ASD-STAN, Fachbereich Digitale Projekte, unter Mitwirkung deutscher Experten des DIN-Normenausschusses Luft- und Raumfahrt (NL) erarbeitet.

Das zuständige deutsche Normungsgremium ist der Arbeitsausschuss NA 131-04 FBR „Fachbereichsbeirat Elektrotechnik, Avionik“ im DIN-Normenausschuss Luft- und Raumfahrt (NL).

Der vorliegende Norm-Entwurf enthält zur technischen Kommentierung einen Europäischen Norm-Entwurf (prEN) ausschließlich in Englischer Fassung aus der CEN-Umfrage.

Ein zweiter Norm-Entwurf wird nur die Deutsche Fassung der veröffentlichten ASD-STAN prEN enthalten. Es wird darauf hingewiesen, dass auf Grund der Verfahrensweise zur Normenerstellung bei ASD-STAN der zweite Norm-Entwurf ausschließlich der redaktionellen Prüfung der deutschen Sprachfassung dienen wird.

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Für die in diesem Dokument zitierten Dokumente wird im Folgenden auf die entsprechenden deutschen Dokumente hingewiesen:

IEC 60068-2 (all subparts)*	siehe	DIN EN 60068-2 (VDE 0468-2)(alle Unterteile)
IEC 60529	siehe	DIN EN 60529 (VDE 0470-1)
IEC 62262	siehe	DIN EN 62262 (VDE 0470-100)

Aktuelle Informationen zu diesem Dokument können über die Internetseiten von DIN (www.din.de) durch eine Suche nach der Dokumentennummer aufgerufen werden.

* Zu den Unterteilen IEC 60068-2-44 und IEC 60068-2-54 gibt es keine deutsche Entsprechung.

Nationaler Anhang NA (informativ)

Literaturhinweise

DIN EN 60068-2 (VDE 0468-2) (alle Unterteile), *Umgebungseinflüsse — Teil 2: Prüfverfahren*

DIN EN 60529 (VDE 0470-1), *Schutzarten durch Gehäuse (IP-Code)*

DIN EN 62262 (VDE 0470-100), *Schutzarten durch Gehäuse für elektrische Betriebsmittel (Ausrüstung) gegen äußere mechanische Beanspruchungen (IK-Code)*

— Leerseite —

English Version

Aerospace series - Embedded tags - Choice of fixation for
installation, removal and replacement of embedded tags

Série aérospatiale - Étiquettes embarquées - Choix de
fixation pour pose, dépose et remplacement
d'étiquettes embarquées

Luft- und Raumfahrt - On-Board-Etiketten - Auswahl
der Befestigung zum Anbringen, Entfernen und
Ersetzen von On-Board-Etiketten

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

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European foreword

This document (prEN 4906:2022) 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 is currently submitted to the CEN Enquiry.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

1 Scope

This document is applicable in the aeronautical domain to on-board parts and to equipment intended to be embedded or positioned on any civil or military airborne vehicle with a type certificate.

The purpose of this document is to guide design, manufacturing, maintenance and operations organizations in the installation, removal and replacement of RFID tags (UHF and HF) and Contact Memory Buttons (CMB), according to the environments defined in RTCA DO-160/EUROCAE ED-14 and according to the type of support and the expected fixation performances. This guide will provide help in the specification of the tag installation/removal functions and/or will enable the solutions on offer from tag suppliers to be enhanced.

The term “tag” used in this document covers all the tags used to store electronic data, including RFID tags and CMB tags. As a reminder, the tags can also contain information that can be read by devices other than RFID or CMB readers (e.g. bar codes - Data Matrix, QR codes, etc., and/or alphanumerical characters) and information that can be read by the naked eye without any tools (human-readable).

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 1464, *Adhesives — Determination of peel resistance of adhesive bonds — Floating roller method*

EN 1465, *Adhesives — Determination of tensile lap-shear strength of bonded assemblies*

EN 4817, *Aerospace series — Passive UHF RFID tags intended for aircraft use*

EN 4818, *Aerospace series — Passive HF RFID tags intended for aircraft use*

EN 4819, *Aerospace series — Contact Memory Button (CMB) tags intended for aircraft use*

EN ISO 11343, *Adhesives — Determination of dynamic resistance to cleavage of high-strength adhesive bonds under impact wedge conditions — Wedge impact method (ISO 11343)*

ISO 4578,¹ *Adhesives — Determination of peel resistance of high-strength adhesive bonds — Floating-roller method*

RTCA DO-160G/EUROCAE ED-14G, *Environmental Conditions and Test Procedures for Airborne Equipment*

SAE AS 5678B,² *Passive RFID Tags Intended for Airborne Equipment Use*

SAE AS 6023,² *Active and Battery Assisted Passive Tags Intended for Aircraft Use*

¹ Published by: the International Organization for Standardization (ISO), <https://www.iso.org/>.

² Published by: SAE International (US) Society of Automotive Engineers, <https://www.sae.org/>.

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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 <https://www.electropedia.org/>

3.1

airborne vehicle

any machine capable of taking off and flying in the air

3.2

surface tension

physical-chemical phenomenon related to the molecular interactions of a fluid

Note 1 to entry: It results from the increase in the energy at the interface between two fluids. The system tends towards an equilibrium corresponding to the lowest-energy configuration and therefore modifies its geometry to reduce the surface area of this interface. The force that maintains the system in this configuration is the surface tension.

3.3

primer

material added to make smooth coatings more adhesive to facilitate the application of the second coat (glue, paint, etc.)

3.4

orientation

relative position of an item of equipment

EXAMPLE upright, on its side, upside down

Note 1 to entry: The orientation can affect the reading of tags.

3.5

certification

any form of recognition in accordance with a regulation or a standard based on an appropriate assessment, certifying that a person or organization, a product, a part, or non-fixed equipment meets the applicable requirements of this regulation or this document, as well as the delegated acts and the implementing acts adopted on the basis thereof, through the issue of a certificate testifying this conformity

3.6

declaration

any written declaration made under the sole responsibility of a person or an organization confirming that the applicable requirements of a regulation or a standard, as well as the delegated acts and the implementing acts adopted on the basis thereof and pertaining to a person or an organization, a product, a part, or non-fixed equipment, are met

3.7

equipment

any instrument, mechanism, machine, auxiliary device, software or accessory transported onboard an airborne vehicle by the airborne vehicle operator, which is not a part and which is used, or intended to