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Interested committees:

Title: Draft BS EN 4876 Aerospace series - Environmental testing - Durability of the displays by general usage.

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

English Version

Aerospace series - Environmental testing - Durability of the displays by general usage

Série aérospatiale - Essais d'environnement -
Durabilité des affichages d'utilisation générale

Luft- und Raumfahrt - Umweltprüfung - Beständigkeit
der Displays bei allgemeiner Nutzung

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.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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European foreword

This document (prEN 4876:2021) 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.

1 Scope

This document provides a series of testing methods to determine the resistance of the digital display during general usage in an aircraft cabin. The document applies to any passive and interactive displays. It includes also dirt affinity and cleanability.

The testing methods include the determination of the durability of touchscreen surfaces, signing pads and general displays against human fingertip and hand abrasion, fingerprint and dirt affinity under the usage by humans as can occur during everyday operation inside an aircraft cabin. Additionally, the resistance against general abrasion, scratch and mar on the displays as well as the resistance study against the routine cleaning procedure conducted inside the aircraft is defined.

The test methods are also suitable to test the durability of a display surface against all low and high dynamic strains.

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.

prEN 4860, *Aerospace series — Environmental testing — Test Xb: Abrasion of markings, letterings, surfaces and materials caused by rubbing of fingertips and hands*¹

3 Terms and definitions

No terms and definitions are listed in this document.

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 <http://www.electropedia.org/>

4 General test description

4.1 General

The six tests scenarios for testing the durability of the displays in cabin interior are defined in 4.2 to 4.7.

4.2 Fingertips and hand abrasion test

The surface under test shall be repeatedly stressed by the impact and rubbing movement of a test piston. The tip of the test piston due to its elasticity shall be deformed in such a way as to fit the surface under test. The material, hardness, roughness and shape of the piston, the movement and the angle of action shall be chosen in such a way that the pressure and friction executed by a human fingertip or by the ball of a thumb are simulated.

To obtain reproducible conditions of friction and wear, a piece of fabric shall be placed between the piston and the surface under test either as a cover of the piston or as a curtain, hanging between piston and surface. The testing fabric, depending on its specified property, can contain additional ingredients as a lubricant. Therefore, depending on the relevant specification, this fabric can either be used in a dry condition (dry test and semi dry test) or additionally wetted with a specified test liquid by means of an

¹ Published as ASD-STAN Standard at the date of publication of this document by AeroSpace and Defence industries Association of Europe — Standardization (ASD-STAN), <http://www.asd-stan.org/>.