

Aerospace series - Surface treatments - Test method for measurement of electrical contact resistance

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

| | |
|---|--|
| See Eesti standard EVS-EN 4875:2020 sisaldab Euroopa standardi EN 4875:2020 ingliskeelset teksti. | This Estonian standard EVS-EN 4875:2020 consists of the English text of the European standard EN 4875:2020. |
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| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 08.01.2020. | Date of Availability of the European standard is 08.01.2020. |
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English Version

Aerospace series - Surface treatments - Test method for measurement of electrical contact resistance

Série aérospatiale - Traitements de surface - Méthode d'essai de mesure de la résistance électrique de contact

Luft- und Raumfahrt - Oberflächenbehandlungen - Prüfverfahren zur Messung von elektrischer Kontaktwiderstand

This European Standard was approved by CEN on 11 November 2019.

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| Contents | Page |
|--|-------------|
| European foreword | 3 |
| 1 Scope | 4 |
| 2 Normative references | 4 |
| 3 Terms and definitions | 4 |
| 4 Principle | 4 |
| 5 Apparatus | 4 |
| 6 Test specimen | 5 |
| 7 Procedure | 6 |
| 8 Results of electrical contact resistance | 8 |
| 9 Designation | 8 |
| 10 Test report | 8 |

European foreword

This document (EN 4875:2020) 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2020, and conflicting national standards shall be withdrawn at the latest by July 2020.

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1 Scope

This document describes the electrical contact resistance testing method applicable to conductive and non-conductive coatings applied on test specimens made of conductive materials (unless otherwise specified) for aerospace applications. An objective of this practice is to define and control many of the known variables in such a way that valid comparisons of the contact properties of materials can be made.

This test may be locally destructive depending on the process tested.

2 Normative references

There are no normative references in this document.

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 <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

contact resistance

resistance to current flow between two touching bodies, consisting of constriction resistance and film resistance

4 Principle

The principle of the method involves applying a known current I to the coating, measuring the voltage V , and calculating the resistance R_{measured} according to Ohm's law:

$$R_{\text{measured}} = \frac{V}{I}$$

NOTE Inner resistance of electrodes and cables is negligible.

5 Apparatus

5.1 Electrical equipment

Ohmmeters or multimeters with the ohmic measuring range at least corresponding to the expected value shall be used. The instruments shall be controlled and calibrated regularly.

5.2 Electrode equipment

Test equipment and electrical circuit as shown on Figure 1 shall be used for measuring the electrical resistance of test specimens.