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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 12967.2-2008

Replacing GB/T 12967.2-1991

**Test Methods for anodic oxidation coatings of aluminium and aluminium alloys --
Part 2: measurement of wear resistance and wear index of anodic oxidation
coatings with an abrasive wheel wear test apparatus**

(English Translation)

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Foreword

GB/T 12967 "anodized aluminum and aluminum alloy film detection method" is divided into seven parts as follows.

- Part 1. Determination of the average wear anodic oxidation coatings with an abrasive jet test apparatus;
- Part 2. abrasion and wear coefficient anodic oxide film was measured using an abrasive wheel wear tester;
- Part 3. Copper accelerated acetic acid salt spray test (CASS test);
- Part 4. Determination of colored anodic oxide films resistant to ultraviolet light;
- Part 5. Evaluation by deformation of the anodized film crack resistance;
- Part 6. Visual observation of colored anodic oxide film color and appearance quality;
- Part 7. Determination of wear resistance of anodic oxidation coatings with falling sand tester.

This section GB/T Part of 212,967.

The partial modification of the use of ISO 8251. 1987 (E) "anodized aluminum and aluminum alloys --- Determination anodized wheel wear tester Abrasion and wear coefficient of the film "(in English), and according to ISO 8251. (E) redrafted 1987. For ease of comparison, in information attached Appendix C lists the control list in this section and the corresponding clauses of the international standard chapter.

This section in the use of international standards have been modified, these technical differences identified in terms of a single vertical line they involved margins Margin. The main technical differences are as follows.

- Expanding the scope of the test conditions, the test run double stroking (ds) in T1, said instead of the original fixed number of times.

- Canceled a method of mass loss was measured oxide film thickness.
- Increasing the expression of the concept of pre-ground formula, abrasion and wear coefficients have been changed, the scope more widely.
- Means increased analytical balance; increased requirements for the test environment.
- APPENDIX A standard sample preparation, anodizing temperature deviation range changed to ± 1 °C.
- For the hard anodic oxide film, and testing to determine the grinding wheel surface contact force is usually $19.6\text{N} \pm 0.5\text{N}$, increase the hard sun Anodic oxide film standard sample preparation methods, particularly in Appendix B, where anodic oxidation temperature deviation range changed to ± 1 °C.
- For the hard anodic oxide film, a polishing tape selection is different from ordinary anodic oxide film.

This Part replaces GB/T 12967.2-1991 "anodized aluminum and aluminum alloys - anodic oxide film of wheel wear test apparatus Abrasion and wear factor. " this section compared with the GB/T 12967.2-1991, the main changes are as follows.

- Expanding the scope of the test conditions, the test run double stroking (ds) in T1, said instead of the original fixed number of times.
- Canceled a method of mass loss was measured oxide film thickness.
- Increasing the expression of the concept of pre-ground formula, abrasion and wear coefficients have been changed, the scope more widely.
- Means increased analytical balance; increased requirements for the test environment.
- APPENDIX A standard sample preparation, anodizing temperature deviation range changed to ± 1 °C.
- For the hard anodic oxide film to determine the contact force of the grinding wheel and test surface is usually $19.6\text{N} \pm 0.5\text{N}$, selective grinding tape Take Unlike ordinary anodic film, increase the preparation of hard anodic oxide film standard test panels, particularly in Appendix B, where Anodic oxidation temperature deviation range changed to ± 1 °C.

This part of the Annex A, Annex B normative appendix; Appendix C of this section is informative appendix.

This part is proposed by the China Nonferrous Metals Industry Association.

The non-ferrous metal part by the National Standardization Technical Committee.

This section is responsible for drafting. National Quality Supervision and Inspection Center nonferrous metals, Fujian Nanping Aluminum Co., Ltd., the South China Nonferrous Metals Quality Supervision and Inspection Center, Guangdong Fung Alcoa Aluminum Co., Ltd.

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1 Scope

1.1

part specifies a test of wear resistance and wear index of anodic aluminum and aluminum oxide film was measured using an abrasive wheel wear tester method.

1.2

section applies to anodized aluminum sheet plate thickness not less than 5μm of test specimens. For the whole of the anodized film layer and a thick skin or any selected one layer of the oxide film can be used in this method for determining the wear resistance and wear factor.

1.3

does not apply to the uneven surface of the sample was measured anodized sample.

Determination of abrasion resistance of organic polymer film 1.4 can refer to this section.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this document, but encourage the parties to reach an agreement on this standard is Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 4957 non-magnetic metal body non-conductive coating thickness measurement eddy overlay method (GB/T 4957-2003, ISO 2360. 1982, IDT) GB/T 8005.3 aluminum and aluminum alloys - Terminology - Part 3. Surface Treatment Terminology (GB/T 8005.3-2008, ISO 7583-1986Anodizingofaluminiumanditsalloys-VocabularyTrilingualedition, MOD) GB/T 9258.1-2000 coated abrasives Analysis Part 1 abrasive particle size. Grain size test (ISO 6344:1998, IDT)

3 Terms, definitions

GB/T 8005.3 and established the following terms, definitions, symbols apply to this standard.

Prepare for sample testing.

In Appendix A and Appendix B sample preparation conditions given.

Samples recognized by both supply and demand conditions prepared.

Grinding wheel completed one full reciprocation.

4 Summary

4.1

anodized specimens should wear tests under the following conditions. around the outer edge of the grinding wheel with silicon carbide paper tape, paper tape sample relative reciprocally