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

GB/T 47038-2026

**Aerospace - Chemical conversion coating of aluminum and
aluminum alloy**

航空航天 铝及铝合金化学转化膜层

(English Translation)

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and Definitions
4 Technical Requirements

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

This document is equivalent to ISO 8081:2021 "Aerospace processing - Chemical conversion coatings on aluminum alloys - General applications".

The following minimal editorial changes have been made to this document.

---To align with existing standards, the standard name has been changed to "Chemical Conversion Coatings for Aerospace Aluminum and Aluminum Alloys";

---Added a note explaining the meaning of the symbol "-" (see Table 1 and Table 2).

1 Scope

This document specifies the requirements for the manufacture and testing of chemical conversion coatings for aluminum and aluminum alloys.

This document applies to the manufacture of chemical conversion coatings for aluminum and aluminum alloys in aerospace products, aiming to improve coating adhesion and corrosion resistance. This document also applies to the repair of anodized films.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

ISO 2409 Paints and varnishes - Cross-cut test

Note: GB/T 9286-2021 Paints and varnishes - Cross-cut test (ISO 2409:2020, IDT)

Note: GB/T 9792-2003 Determination of mass per unit area of conversion coating on metallic materials - Gravimetric method (ISO 3892:2000, MOD) tests)

Note: GB/T 10125-2021 Artificial Atmosphere Corrosion Test - Salt Spray Test (ISO 9227:2017, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Batch lot

All parts are treated simultaneously in the same bath.

3.2 Continuous water-break-free surface

After immersion or spraying in clean water below 38°C, the water film remains on the surface for at least 30 seconds without breaking.

4.1 Classification

Chemical conversion coatings should be classified into the following two types.

---Type I. Conversion coating containing hexavalent chromium;

---Type II. Conversion coating without hexavalent chromium.

The type of chemical conversion coating is specified in the drawings or relevant standards.