ICS 25.220.20
CCS H 21

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 42514-2023

Corrosion evaluation for anodic oxide coatings and organic polymer coatings on aluminium and its alloys - Chart method

Issued on: May 23, 2023 **Implemented on: December 1, 2023**

Issued by: State Administration for Market Regulation, China National Standardization Administration

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foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules for Standardization Documents"

drafting:

This document was drafted with reference to ISO 8993:2018 "Aluminum and Aluminum Alloy Anodic Oxidation Pitting Evaluation Rating System Chart Method", the consistency degree

degrees are not equivalent:

Please note that some contents of this document may refer to patents: The issuing agency of this document assumes no responsibility for identifying patents:

1 Scope

This document describes a method for assessing corrosion results of anodic oxide coatings and organic polymer coatings on aluminum and its aluminum alloys using the chart method:

This document is applicable to the grades of corrosion results of corrosion test samples and service samples of aluminum and aluminum alloy anodized films and organic polymer films

assessment:

2 Normative references

The contents of the following documents constitute the essential provisions of this document through normative references in the text: Among them, dated references

For documents, only the version corresponding to the date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

this document:

GB/T 6682 Analytical laboratory water specifications and test methods

GB/T 8005:3 Terminology for Aluminum and Aluminum Alloys Part 3: Surface Treatment

GB/T 26296 Defects of aluminum and aluminum alloy anodized film and organic polymer coating

GB/T 30789:2-2014 Evaluation of aging of paint and varnish coatings Number and size of defects and degree of uniform change in appearance

Identification of degrees: Part 2: Evaluation of the degree of foaming

3 Terms and Definitions

GB/T 8005:3, GB/T 26296 and the following terms and definitions apply to this document:

3:1

Corrosion corrosion

Physical-chemical reactions (usually manifested as electrochemical reactions) occur between the surface of aluminum and aluminum alloys and the environment, resulting in damage to their surface functions:

3:2

pit corrosion pitcorrosion

Pit-shaped corrosion defects on the surface of aluminum and aluminum alloy anodized films or organic polymer films that expand to the inside:

3:3

Irregularly distributed corrosion that occurs under the organic polymer film of aluminum and aluminum alloys due to the penetration of corrosive media:

Note: The corrosion generally starts from the cutting edge or local damage of the film layer:

3:4

bubbling

It appears on the surface of aluminum and aluminum alloy anodized composite film or organic polymer film, and is formed due to the local loss of bonding force under the film due to corrosion:

domed corrosion defects:

4 Test conditions

The test temperature is 20°C~25°C: