



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

GB/T 6461-2002

**Methods for corrosion testing of metallic and other inorganic
coatings on metallic substrates -- Rating of test specimens and
manufactured articles subjected to corrosion tests**

(English Translation)

Issued on: September 11, 2002

Implemented on: April 1, 2003

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine of the People's Republic of China**

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Foreword

This Standard equivalently adopts ISO 10289.1999 "Methods for Corrosion Testing of Metallic and Other Inorganic Coatings on Metallic Substrates - Rating of Test Specimens and Manufactured Articles Subjected to Corrosion Tests" (English edition).

This Standard equivalently translates the international standard; it is based on the English edition of the international standard. For ease of use, the following editorial modifications are made.

- Use "This Standard" to replace "this International standard";
- Delete the "Foreword" in the international standard.

This Standard replaces GB/T 6461-1986 "Metallic Coatings - Coatings Cathodic to the Substrate - Rating of Electro-plated Test Specimens Subjected to Corrosion Tests" and GB/T 12335-1990 "Metallic Coatings - Coatings Anodic to the Substrate - Rating of Test Specimens Subjected to Corrosion".

Compared with GB/T 6461-1986 and GB/T 12335-1990, the main changes in this Standard are as follows.

- For "Dot Charts for Coatings Anodic to the Base Metal" (Appendix B), it better-matches with the shapes of defects on specimens and articles after

corrosion test in a further degree; Appendix A in the former GB/T 12335 is deleted.

- Chapter 6 in this Standard makes significant modifications to those in Chapters 5,

6 and 7 of the former GB/T 12335; Chapters 4, 5, 6, and Appendix A in the former

GB/T 6461, so as to make the expression to be clearer and more complete.

- "Within 6mm of the edge of a specimen" in Section 3.4 of the former GB/T 6461 and Section 4.5 in the former GB/T 12335 is changed to be "within 5mm of the edge of a specimen or tape/wax".

Appendixes A and B in this Standard are informative.

This Standard was proposed by the China Machinery Industry Federation

This Standard shall be under the jurisdiction of the National Technical Committee on Metallic and Non-metallic Coatings of Standardization Administration of China.

Drafting organization of this Standard. Wuhan Material Protection Research Institute.

Chief drafting staffs of this Standard. Zhang Yan, Li Zhi, Wang Yaping, Sun Zhiyong, Wu Laixing, and Zhang Sanping.

The previous editions replaced by this Standard are as follows.

GB/T 6461-1986, and GB/T 12335-1990.

1 Scope

This Standard gives a method of evaluating the condition of decorative and protective metallic and inorganic coated panels or articles which have been exposed to corrosive environments for test or for other purposes.

2 Terms and Definitions

For the purpose of this Standard, the following terms and definitions apply.

Combination of the protection rating number (Rp) followed by a slash mark followed by the appearance rating number (RA), i.e. Rp/RA.

3 Principle

This Standard establishes a rating system for evaluating the deterioration of the coating and the base metal due to corrosion. The rating method described in this Standard is applied to evaluate the appearance of the coating, as well the extent of the corrosion on test panels or the significant surfaces of articles which have been subjected to performance tests.

4 Types of Defect

It is possible for defects to affect both the protection rating (Rp) and the appearance rating (RA). In this rating system, the protection rating is a simple numerical rating while the appearance rating is permitted to include specific defects along with a numerical rating designating the intensity.

5 Method of Inspection

Drawings or suitably marked test specimens are used to indicate the significant surface.

6 Assignment of Ratings

As stated in Section 2.5, the performance rating is the combination of the protection rating (Rp) followed by a slash mark, followed by the appearance rating (RA). Examples of reporting the performance rating are.

7 Test Report

Unless otherwise specified, the test report shall contain the following items.

Appendix A

(informative)

Dot Charts and Colour Photographs for Coatings Cathodic to the Base Metal 1)

These charts and photographs represent the maximum amount of corrosion of the base metal permissible for a given rating; there is a chart or photograph for each

rating from 1 to 9. A specimen worse than the chart or photograph for Rating 1 is assigned a rating of 0 unless a fractional rating is assigned between 1 and 0.

Appendix B

(Informative)

Dot Charts for Coatings Anodic to the Base Metal

These charts represent the maximum amount of corrosion of the coating and base metal permissible for a given rating; there is a chart for each rating from 1 to 9. A specimen worse than the chart or photograph for Rating 1 is assigned a rating of 0 unless a fractional rating is assigned between 1 and 0.

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