



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

GB/T 10125-2021

Corrosion tests in artificial atmospheres - Salt spray tests

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Foreword

This document was drafted in accordance with the rules given in GB/T 1.1-2020

"Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents".

This document replaces GB/T 10125-2012 "Corrosion tests in artificial atmospheres - Salt spray tests". Compared with GB/T 10125-2012, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- ADD the scope of application of the acetic acid salt spray test, copper accelerated acetic acid salt spray test, as well as the unapplicable scope of this method (see Chapter 1);
- MODIFY and ADD the normative references (see Chapter 2; Chapter 2 of

the 2012 edition);

- ADD Chapter 3 "Terms and definitions";
- ADD Chapter 4 "Principles";
- MODIFY the control requirements for the heavy metal impurity content of sodium chloride, which is used in solution preparation (see 5.1; 3.1 of the

2012 edition);

- MODIFY the method of measuring the pH value of the collected spray solution (see 5.2; 3.2 of the 2012 edition);
- ADD the requirements for specimen holders (see 6.1);
- DELETE the requirement that the volume of the salt spray chamber is not less than 0.4 m³ (see 4.2 of the 2012 edition);
- ADD the new requirements for spraying in the salt spray chamber (see 6.2);
- MODIFY the requirements for the location of the temperature measurement area (see 6.3; 4.3 of the 2012 edition);
- ADD the recommended value of spray pressure (see 6.4.2);
- MODIFY the requirements for compressed air humidification equipment (see 6.4.3; 4.4 of the 2012 edition);
- ADD the guide value of the hot water temperature of the saturation tower, at 160 MPa and 170 MPa spray pressure (see Table 1);
- ADD the operation method for obtaining stable, continuous, uniform spray (see 6.4);
- ADD the precautions for cleaning after the salt spray chamber test (see 6.6);
- MODIFY the use quantity and treatment method of steel reference specimens (see 7.2; 5.2.1, 5.3.1, 5.4.1 of the 2012 edition);
- MODIFY the number of steel reference specimens, which are placed in the salt spray chamber, as well as the requirements for the verification method of the salt spray chamber (see 7.3; 5.2.2, 5.3.2, 5.4.2 of the 2012 edition);
- DELETE the test time (see 5.2.2, 5.3.2, 5.4.2 of the 2012 edition);

- DELETE the method for removing steel corrosion products, which is specified in ISO 8407 (see 5.2.3, 5.3.3, 5.4.3 of the 2012 edition);
- MODIFY the writing format of the performance evaluation method of salt spray chamber for the neutral salt spray, acetic acid salt spray, copper accelerated acetic acid salt spray test (see Chapter 7; Chapter 5 of the

2012 edition);

- ADD the parameter setting value requirements of the salt spray chamber (see Table 3);
- ADD the precautions for the concentration and pH measurement of the salt spray collection solution (see 10.2);
- ADD the recommended value for the test frequency of salt spray sedimentation rate (see 10.3);
- ADD measures to prevent fluctuations in the concentration and pH of sodium chloride solution (see 10.5);
- MODIFY the recommended value of the test period (see 11.1; 9.1 of the

2012 edition);

- ADD the requirement that the opening time of the salt spray chamber shall not exceed 1 hour per day, during the test (see 11.2);
- ADD an overview of the test sample treatment method after the test (see 12.1);
- ADD the specific method for handling the test specimen of the organic coating after the test (see 12.3);
- MODIFY the design diagram of the salt spray chamber (see Figure C.1, Figure C.2; Figure A.1, Figure A.2 in Appendix A of the 2012 edition);
- MODIFY the number of zinc reference specimens, which are placed in the salt spray chamber, as well as the requirements for the verification method of the salt spray chamber (see D.1, D.2; B.1, B.2 of the 2012 edition);
- MODIFY the value of the distance between scratches on the organic

coating test specimens (see E.4; C.4 of the 2012 edition);

- MODIFY the Appendix G China's foreign standard year number (see

Appendix G; Appendix E of the 2012 edition);

- DELETE the "Appendix NA" (see Appendix NA of the 2012 edition).

This document uses the redrafting method, to modify and adopt ISO 9227.2017

"Corrosion tests in artificial atmospheres - Salt spray tests".

Compared with ISO 9227.2017, this document has more structural adjustments.

Appendix A lists the comparison of structural adjustment between this

document and ISO 9227.2017.

There are technical differences between this document and ISO 9227.2017.

The terms of these differences have been marked by a vertical single line (|),

on the outer margin of the document. Appendix B gives a list of the

corresponding technical differences and their reasons.

1 Scope

This document specifies the equipment, reagents, methods for neutral salt spray (NSS), acetic acid salt spray (AASS), copper accelerated acetic acid salt spray (CASS) tests. This document also specifies methods for evaluating the corrosiveness of the test chamber atmosphere.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) is applicable to this standard.

GB/T 6461 Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates - Rating of test specimens and manufactured articles subjected to corrosion tests (GB/T 6461-2002, ISO 10289.1999, IDT)

GB/T 9271 Paints and varnishes standard panels for testing (GB/T 9271-2008, ISO 1514.2004, MOD)