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DIN 50961

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DIN 50961:2000-09

Electroplated coatings – Zinc coatings on iron or steel – Terms, testing and corrosion resistance, English translation of DIN 50961:2012-04

Galvanische Überzüge –
Zinküberzüge auf Eisenwerkstoffen –
Begriffe, Korrosionsprüfung und Korrosionsbeständigkeit,
Englische Übersetzung von DIN 50961:2012-04

Revêtements électrolytiques –
Revêtements électrolytiques de zinc sur fer ou acier –
Termes, essai et résistance à la corrosion,
Traduction anglaise de DIN 50961:2012-04

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In case of doubt, the German-language original shall be considered authoritative.

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A comma is used as the decimal marker.

Contents

Foreword

This document has been prepared by Working Group NA 062-01-76 AA *Galvanische Überzüge* of the *Normenausschuss Materialprüfung* (Materials Testing Standards Committee) (NMP).

Attention is drawn to the possibility that some elements of this document may be the subject of patent rights. DIN [and/or DKE] shall not be held responsible for identifying any or all such patent rights.

Amendments

This standard differs from DIN 50961:2000-09 as follows:

a) the normative references have been updated;

b) the definition of the term “electroplated coating” has been changed to be in line with DIN EN 12508:2000-09;

c) a note on chromating solutions and chromate coating types includes an indication to blue chromate coatings;

d) a definition of the term “passivation of zinc coatings” has been added;

e) Table 1 “Corrosion resistance of zinc plus chromate conversion coatings” has been reworked.

Previous editions

DIN 50941: 1968-01, 1978-05
DIN 50961: 1955-01, 1963x-03, 1976-04, 1987-06, 2000-09
DIN 50962: 1955-01, 1963-03, 1976-04

Introduction

Metallic and other inorganic coatings – Electroplated coatings of zinc with supplementary treatments on iron or steel are standardized in DIN EN ISO 2081. This supplementary standard, DIN 50961, was developed because the testing of coatings in industrial atmospheres (formerly known as the “Kesternich test”) is not carried out in many European countries whereas in German industry it is indispensable for the corrosion testing of zinc coatings. For this reason quality requirements also need to be specified for coating systems that are subjected to a DIN 50018 – KFW 2,0 S test. Furthermore, zinc coatings that have not been subsequently treated are still occasionally found in practice, and so requirements are also required to be specified for such coatings. Finally, this standard gives additional information on the surface condition of the object to be coated and also on chromate conversion coating, which has not been included in DIN EN ISO 2081.

1 Scope

This standard is only to be used in conjunction with DIN EN ISO 2081, which specifies requirements to be met by electroplated coatings of zinc with supplementary treatments.

This standard supplements the provisions of DIN EN ISO 2081 by specifying, for various service conditions, the minimum requirements regarding corrosion resistance when the coatings are tested using a DIN 50018 KFW 2,0 S test, as well as specifying recommended coating thicknesses.

Requirements regarding corrosion resistance for zinc coatings which have not been subsequently treated are specified for coatings that are tested using the DIN 50018 – KFW 2,0 S test or the neutral salt spray test (NSS) as in DIN EN ISO 9227. Cr(VI) free passivated and sealed zinc and zinc alloy coatings are defined in DIN 50979.

NOTE Users of this standard are to observe the statutory safety requirements and the valid national and European laws and ordinances and regulations.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

DIN 50018, *Sulfur dioxide corrosion testing in a saturated atmosphere*

DIN 50969-1, *Prevention of hydrogen-induced brittle fracture of high-strength steel building elements — Part 1: Advice on the prevention*

DIN 50979, *Metallic coatings — Electroplated zinc and zinc alloy coatings on iron or steel with supplementary Cr(VI)-free treatment*

DIN EN 1403, *Corrosion protection of metals — Electrodeposited coatings — Method of specifying general requirements*

DIN EN ISO 2064, *Metallic and other inorganic coatings — Definitions and conventions concerning the measurement of thickness)*

DIN EN ISO 2080:2009-08, *Metallic and other inorganic coatings — Surface treatment, metallic and other inorganic coatings — Vocabulary (ISO 2080:2008)*

DIN EN ISO 2081:2009-08, *Metallic and other inorganic coatings — Electroplated coatings of zinc with supplementary treatments on iron or steel (ISO 2081:2008)*

DIN EN ISO 9227, *Corrosion tests in artificial atmospheres — Salt spray tests*

DIN EN ISO 10289, *Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates — Rating of test specimens and manufactured articles subjected to corrosion tests*

3 Terms and definitions

For the purposes of this document, the terms and definitions in DIN EN 1403 and DIN EN ISO 2064 and the following apply.