
International Standard



4543

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Metallic and other non-organic coatings — General rules for corrosion tests applicable for storage conditions

Revêtements métalliques et autres revêtements non organiques — Directives générales pour les essais de corrosion applicables aux conditions de stockage

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4543 was developed by Technical Committee ISO/TC 107, *Metallic and other non-organic coatings*, and was circulated to the member bodies in November 1978.

It has been approved by the member bodies of the following countries :

Australia	India	South Africa, Rep. of
Bulgaria	Italy	Spain
Czechoslovakia	Japan	Sweden
Egypt, Arab Rep. of	Netherlands	Switzerland
France	New Zealand	Turkey
Germany, F. R.	Poland	USA
Hungary	Romania	USSR

The member body of the following country expressed disapproval of the document on technical grounds :

United Kingdom

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0 Introduction

Corrosion testing under storage conditions is carried out in order to :

- a) assess the corrosion resistance of different protective coatings to environments encountered under particular storage conditions;
- b) compare the corrosion resistance of two or more protective coatings;
- c) determine the type and optimum thickness of a protective coating and type of protective wrapping;
- d) evaluate the relationship between the results of testing under laboratory and storage conditions.

It involves exposure of coated test specimens to the action of corrosive factors encountered in storage and periodic observation of the test specimens.

The aggressiveness of corrosion in storage rooms depends upon the humidity and temperature of the atmosphere and upon the action of other environmental factors which may either be constant or may vary periodically or accidentally in a particular microclimate.

1 Scope and field of application

This International Standard gives guidance on methods of corrosion testing of protective metallic, conversion and other non-organic coatings, with or without additive protection, in heated and unheated storage rooms in all microclimates with or without control of climatic parameters.

Specimens and articles may be tested separately or in bulk, and with or without protective wrappings.

2 Test specimens

2.1 Type

The following types of test specimen may be used :

- specially prepared specimens covered with the protective coating to be tested;

- coated production articles or parts thereof.

Depending on the purpose of the examinations, specimens may be tested with or without wrappings and with or without temporary protective films.

2.2 Shape and dimensions

To minimize edge effects and to obtain representative corrosion, the surface area of the test specimens should be as large as possible and in any case not less than 50 cm² (5 cm × 10 cm).

If the coated articles used are smaller than 50 cm² in area, specimens of the same kind may be combined to total the required minimum surface area, but the results obtained will not necessarily be strictly comparable with those obtained on specially prepared test specimens of the specified minimum area.

2.3 Preparation

Clean the test specimens thoroughly before exposure to remove any contaminants that may affect the performance of the coating system being tested. The cleaning method to be employed depends upon the nature of the surface and the contaminants, but shall not include the use of any abrasives or solvents which may attack the surfaces of the test specimens.

However, if testing coatings with additional temporary protective films, do not clean the surface.

2.4 Handling

The handling of test specimens prepared for testing (installation on racks, hanging, etc.) shall be carried out with clean, cotton-gloved hands.

2.5 Marking

Mark the test specimens in such a way that no confusion during the storage test is possible. Markings should be legible and durable over the whole period of testing and should be made on those areas of the test specimens that are not subjected to visual assessment and that have no functional purpose.