

INTERNATIONAL STANDARD



1521

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Paints and varnishes – Determination of resistance to water – Water immersion method

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Descriptors : paints, varnishes, tests, waterproofing, submerging.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, International Standard ISO 1521 replaces ISO Recommendation R 1521-1971 drawn up by Technical Committee ISO/TC 35, *Paints and varnishes*.

The Member Bodies of the following countries approved the Recommendation :

Austria	Israel	Spain
Chile	Italy	Sweden
Denmark	Netherlands	Switzerland
Egypt, Arab Rep. of	New Zealand	Turkey
France	Poland	United Kingdom
Germany	Portugal	U.S.S.R.
Greece	South Africa, Rep. of	Yugoslavia

No Member Body expressed disapproval of the Recommendation.

Paints and varnishes — Determination of resistance to water — Water immersion method

0 INTRODUCTION

This International Standard is one of a series dealing with the testing of paints, varnishes and related products. The method specified is intended to give an indication of the results obtained when articles are stored under conditions where contact with condensed water is likely to take place.

Comparative tests carried out by an ISO Task Group with the co-operation of five countries showed good correlation between results obtained with this method and those obtained with more complex humidity resistance tests (cycling and non-cycling) and it was therefore recommended to adopt this method for international use.

This International Standard should be read in conjunction with ISO 1512, ISO 1513, and ISO 1514.

The method of test specified requires to be completed, for any particular application, by the following supplementary information. This information should be derived from the national standard or other document for the product under test or, where appropriate, should be the subject of agreement between the interested parties.

- a) Material and surface preparation of substrate.
- b) Method of application of test coating to substrate.
- c) Thickness, in micrometres, of the coating, including method of measurement, and whether it is a single coating or a multicoat system.
- d) Duration and conditions of drying of the coated panel before testing (or conditions of stoving and ageing, if applicable).
- e) Duration of test.
- f) How inspection of the test coating is to be made and what characteristics are to be considered in evaluating its resistance properties.

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a procedure for the comparative determination of the resistance to water immersion of a paint or paint system. The method gives an

indication of the results likely to be obtained when painted articles are stored under conditions where prolonged condensation may be produced but not an extremely corrosive atmosphere.

The method is not intended to reproduce any particular condition of condensation.

2 REFERENCES

ISO 1512, *Paints and varnishes — Sampling*.

ISO 1513, *Paints and varnishes — Examination and preparation of samples for testing*.

ISO 1514, *Paints and varnishes — Standard panels for testing*.

ISO 2808, *Paints and varnishes — Determination of film thickness*.

3 APPARATUS

NOTE — All parts of the apparatus in contact with water shall be made from inert materials.

3.1 Tank, of suitable size (a convenient size of tank is 700 mm X 400 mm X 400 mm), fitted with a cover, a heater and thermostatic control.

3.2 System for circulation and aeration of water or a means for stirring used in conjunction with a source of dry, oil-free, pressurized air.

If a pump is used, it shall be of a suitable capacity to agitate the whole contents of the tank.

3.3 Support for the test panels, made from non-conductive material and arranged so that the panels are maintained at an angle of 15 to 20° to the vertical, with the test surface uppermost, and with their plane parallel to the direction of the flow of water in the tank.

The panels shall be at least 30 mm apart, at least 30 mm from the bottom of the tank and at least 50 mm from the walls of the tank. Their positions shall be interchanged periodically, either mechanically or by hand.