
**Paints and varnishes —
Electro-deposition coatings —**

**Part 2:
Throwing power**

*Peintures et vernis — Peintures d'électrodeposition —
Partie 2: Pouvoir de pénétration*



This document is a preview generated by EMS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 Principle.....	1
5 Number of determinations.....	2
6 Method A — Single-chamber method.....	2
6.1 Apparatus and materials.....	2
6.2 Test panels.....	3
6.3 Preparation of the test specimen.....	3
6.4 Procedure.....	3
6.5 Evaluation.....	7
7 Method B — Multiple-chamber method.....	7
7.1 Apparatus and materials.....	7
7.2 Test panels.....	9
7.3 Preparation of the test specimen.....	9
7.4 Procedure.....	11
7.5 Evaluation.....	12
8 Precision.....	13
9 Test report.....	13

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

A list of all parts in the ISO 22553 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

An important quality characteristic of an electro-deposition coating material is the property of coating cavities inside a workpiece. As examples, rockers and pillars of car bodies can be mentioned. The obtained dry-film thickness has an influence on the corrosion protection.

Paints and varnishes — Electro-deposition coatings —

Part 2: Throwing power

1 Scope

This document specifies two methods for the determination of the throwing power of electro-deposition coating materials.

It is applicable to electro-deposition coatings for automotive industries and other general industrial applications, e.g. chiller units, consumer products, radiators, aerospace, agriculture.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

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

ISO 4618, *Paints and varnishes — Terms and definitions*

ISO 22553-1, *Paints and varnishes — Electro-deposition coatings — Part 1: Vocabulary*

ISO 23321, *Solvents for paints and varnishes — Demineralized water for industrial applications — Specification and test methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and ISO 22553-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

4 Principle

For method A, a special test specimen is coated with an electro-deposition coating material under specified conditions.

For method B, special test specimens are coated with an electro-deposition coating material in a multiple-chamber system under specified conditions.

The coating is stoved and the dry-film thickness is measured on test panels in defined distances from the lower edge of the test specimen. For other test specimens, the dry-film thickness is determined on defined measuring points.