



NSAI
Standards

Irish Standard
I.S. EN ISO 22553-4:2020

Paints and varnishes - Electro-deposition coatings - Part 4: Compatibility of electro-deposition coating materials with liquid, paste-like and solid foreign materials (ISO 22553-4:2019)

I.S. EN ISO 22553-4:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 22553-4:2020

Published:

2020-12-02

This document was published under the authority of the NSAI and comes into effect on:

2020-12-21

ICS number:

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 22553-4:2020 is the adopted Irish version of the European Document EN ISO 22553-4:2020, Paints and varnishes - Electro-deposition coatings - Part 4: Compatibility of electro-deposition coating materials with liquid, paste-like and solid foreign materials (ISO 22553-4:2019)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 22553-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

December 2020

ICS 87.040

English Version

**Paints and varnishes - Electro-deposition coatings - Part 4:
Compatibility of electro-deposition coating materials with
liquid, paste-like and solid foreign materials (ISO 22553-
4:2019)**

Peintures et vernis - Peintures d'électrodéposition -
Partie 4: Compatibilité des peintures
d'électrodéposition avec des matières liquides,
pâteuses et solides (ISO 22553-4:2019)

Beschichtungsstoffe - Elektrotauchlacke - Teil 4:
Verträglichkeit von Elektrotauchlacken mit flüssigen,
pastösen und festen Fremdmaterialien (ISO 22553-
4:2019)

This European Standard was approved by CEN on 30 November 2020.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 22553-4:2020 (E)

Contents	Page
European foreword.....	3

European foreword

The text of ISO 22553-4:2019 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 22553-4:2020 by Technical Committee CEN/TC 139 "Paints and varnishes" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2021, and conflicting national standards shall be withdrawn at the latest by June 2021.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 22553-4:2019 has been approved by CEN as EN ISO 22553-4:2020 without any modification.

This page is intentionally left blank

**INTERNATIONAL
STANDARD**

**ISO
22553-4**

First edition
2019-10

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

Part 4:

**Compatibility of electro-deposition
coating materials with liquid, paste-
like and solid foreign materials**

*Peintures et vernis — Peintures d'électrodéposition —
Partie 4: Compatibilité des peintures d'électrodéposition avec des
matières liquides, pâteuses et solides*



Reference number
ISO 22553-4:2019(E)

© ISO 2019

ISO 22553-4:2019(E)



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 Principles	2
5 Apparatus and materials	2
6 Reagents	3
7 Foreign materials	3
8 Test panels	3
9 Method A — Direct contamination	3
9.1 Blank test	3
9.2 Number of determinations	4
9.3 Contamination of the electro-deposition tank with foreign material	4
9.3.1 Liquid foreign material	4
9.3.2 Paste-like foreign material	4
9.3.3 Solid foreign materials	5
9.4 Coating of the test panels	6
9.5 Evaluation	6
10 Method B — Contact contamination	6
10.1 Blank test	6
10.2 Number of determinations	6
10.3 Contamination of the test panels	6
10.4 Coating of the test panels	6
10.5 Evaluation	7
11 Method C — Contamination during the stoving process	7
11.1 Blank test	7
11.2 Number of determinations	7
11.3 Coating of the test panel	7
11.4 Preparation of the base panel with the foreign material	7
11.5 Stoving of the test specimens	8
11.6 Evaluation	8
12 Precision	8
13 Test report	9
Bibliography	10

ISO 22553-4:2019(E)

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

During the electro-deposition coating process, foreign materials used in downstream production processes pass through the electro-deposition coating tank. Consequently, contamination of the electro-deposition coating tank material or defects in the surface of the coating can occur. Foreign materials can be, for example, oils, adhesives, insulating material and plastic building components.

Test methods for determining the compatibility of electro-deposition coating materials with a reference oil, which influences the properties of the electro-deposition coating, are described in ISO 22553-3.

Paints and varnishes — Electro-deposition coatings —

Part 4:

Compatibility of electro-deposition coating materials with liquid, paste-like and solid foreign materials

1 Scope

This document specifies three different methods of electro-deposition coating material contamination with liquid, paste-like and solid foreign 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, ISO 22553-1 and the following 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/>

3.1

foreign material

conscious or unconscious contaminant, used in all downstream processes up to the stoving of the electro-deposition coating

EXAMPLE Adhesive, insulating material, drawing oil, corrosion protection oil, prelubes (special oil with the properties of a drawing and corrosion protection oil).

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-