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

**Part 1:
Vocabulary**

Peintures et vernis — Peintures d'électrodéposition —

Partie 1: Vocabulaire

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Foreword

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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).

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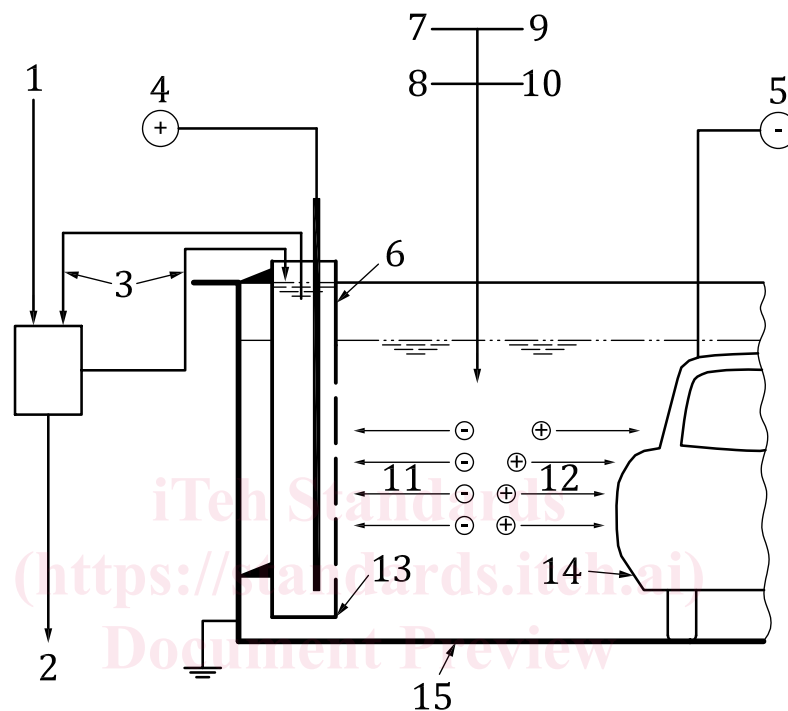
This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

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, the non-volatile matter content from water-thinnable electro-deposition coating materials is deposited on the workpiece caused by an electrophoretic process. During that process, the areas on the inside as well as on the outside of the workpiece, including all cavities, are reached. Depending on whether the workpiece is used as cathode or anode, it is distinguished between cathodic or anodic deposition. The cathodic electro-deposition coating process is commonly used (see [Figure 1](#)).



Key

1 demineralized water	9 solvent
2 wastewater treatment	10 demineralized water
3 anolyte circulation	11 acid
4 anode	12 electro-deposition coating material
5 cathode	13 ion-selective membrane
6 anode box	14 vehicle body
7 binder	15 cathodic e-coat tank
8 pigment	

Figure 1 — Example of a deposition processes during cathodic electro-deposition coating

With the combination of binder, pigment and deposition process, a very resistant coating is generated on the workpiece after hardening, which significantly contributes to the corrosion protection in interior and exterior areas.

The electric properties of the material are also significant for the electric power consumption of the process (density of volume charge).

Since the e-coat is jointly responsible for the total appearance of the coating system, a good run of the coating without visible defects is generally emphasized.

Consequently, for extensive corrosion protection and for sealing the workpiece, an additional application of seam-sealing materials, adhesives or foams is recommended.

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Inside the e-coat tanks, there is a possibility of bacterial contamination due to the dragged-in material and the physical conditions (heat, aqueous media, sources of carbon, etc.).

This document specifies terms and definitions for electro-deposition coatings. The subsequent parts of the ISO 22553 series specify methods for the characterization of electro-deposition coatings and test methods. An overview on the test methods is given in [Annex A](#).

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