International Standard

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Paints and varnishes — Coatings on plastics and composites —

Part 7: Adhesion

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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 22785 series can be found on the ISO website.

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Introduction

Many of the existing test methods for determining the adhesion of coatings have been developed for metallic substrates.

This document explains characteristics of plastics and differences between plastics substrates and metallic substrates, and it shows their potential effect on the behaviour of the coating in different test methods.

It is possible that the substrate has an effect on the behaviour of the coating during the test. It is therefore sometimes useful to select test conditions that are based, for example, on standards from the plastics sector and not on standards from the coatings sector, in order to take into account influencing factors such as the thermal conductivity of the substrate.

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Paints and varnishes — Coatings on plastics and composites —

Part 7: Adhesion

1 Scope

This document specifies the testing of adhesion of coatings on plastics, plastics composites and similar substrates.

It also provides an overview of common test methods.

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 4618, *Paints and varnishes — Vocabulary*

ISO 22785-1, *Coatings on plastics and composites — Part 1: General introduction*

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3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and ISO 22785-1 apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Test specimen characteristics and preparation

4.1 Requirements for test specimens

Both coatings on test specimen panels specified in ISO 1514 and coatings on components are tested. Depending on the selected test method, there are different requirements for the geometry of the test specimen.

It is important that the substrates are free from flaws and damage of any kind that could adversely affect appearance and properties.

The coating system and the substrate are selected together with the pre-treatment and coating methods so that a homogeneous coating is achieved. The film thickness is documented in accordance with the technical requirements relating to the visual appearance and/or coating.

4.2 Conditioning

Conditioning serves to improve the repeatability and reproducibility of test results.

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