



International
Standard

ISO 22785-1

**Paints and varnishes — Coatings on
plastics and composites —**

**Part 1:
General introduction**

*Peintures et vernis — Revêtements sur plastiques et
composites —*

Partie 1: Introduction générale

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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 document 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).

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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 22785 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

Many of the existing test methods for coatings resulting from paints and varnishes have been developed for metallic substrates and were often applied to plastics substrates in the past.

This document explains characteristics of and differences between plastics and metallic substrates and shows their possible effect on the behaviour of the coating in various test methods.

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

This document provides a general introduction to the particularities and terms and definitions of coatings on plastics and composites. The test methods for which deviating behaviour of the coating can occur on plastics substrates and which measures can possibly be taken are dealt with in the other parts of the ISO 22785 series. The structure of the ISO 22785 series is as follows:

- ISO 22785-2 on weathering and irradiation testing
- ISO 22785-3 on constant climate and alternating climate testing
- ISO 22785-4 on abrasion and scratch testing
- ISO 22785-5 on chemical resistance testing
- ISO 22785-6 on stone-chip resistance testing
- ISO 22785-7 on adhesion
- ISO 22785-8 on film thickness

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Paints and varnishes — Coatings on plastics and composites —

Part 1: General introduction

1 Scope

This document specifies the applicability of general test methods for coatings resulting from paints and varnishes (hereinafter referred to as “coatings”) on plastics, plastics composites and similar substrates, hereinafter collectively referred to under the term “plastics”. It provides a general introduction to the particularities of coatings on plastics.

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and the following 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/>

3.1 transparency

property of a material or coating by which a negligible portion of the transmitted radiation undergoes scattering or absorption, thereby enabling objects or the substrate to be distinguished clearly through the material

[SOURCE: ISO 472:2013, 2.1200, modified — definition extended to coatings; “light” replaced by “radiation”; “or absorption” added; “or the substrate” added.]

3.2 opaque

quality whereby materials or coatings are impenetrable

Note 1 to entry: Depending on the thickness, most real materials and paints and varnishes are neither completely opaque nor completely transparent.