
**Paints and varnishes — Determination
of hiding power —**

**Part 1:
Kubelka-Munk method for white and
light-coloured paints**

Peintures et vernis — Détermination du pouvoir masquant —

*Partie 1: Méthode de Kubelka-Munk pour les peintures blanches et les
peintures claires*

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Published in Switzerland

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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 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).

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

This second edition cancels and replaces the first edition (ISO 6504-1:1983), which has been technically revised. The main changes compared to the previous edition are as follows:

- a) the normative references in [Clause 2](#) have been updated;
- b) [Clause 3](#) for terms and definitions has been added;
- c) [Clause 7](#) for limitations has been added;
- d) the term "contrast ratio" has been changed to "hiding power" throughout the text;
- e) it has been clarified that the reflectance R_g needs to be measured and that the graphs in [Annex A](#) and values in [Table B.1](#) are only examples for $R_g = 0,80$.

A list of all parts in the ISO 6504 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

ISO 6504-3^[1] specifies a method for determining the hiding power of paints at a fixed spreading rate, by applying paint films to black and white charts and to polyester film respectively. It depends on the observation that there is a linear relationship between hiding power and reciprocal film thickness, at least over a limited range of film thickness.

Hiding power of paints is generally defined as the spreading rate required to give a hiding power of 98 %. To determine this by the method specified in ISO 6504-3^[1] would be time-consuming and require considerable extrapolation which often exceeds the limit of linearity of the relationship between hiding power and spreading rate. Therefore, this method for the determination of hiding power, involving the Kubelka-Munk (K-M) equations which relate scattering and absorption coefficients to optical properties, has also been standardized.

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