

DIN EN ISO 6504-1:2019-09 (E)

Paints and varnishes - Determination of hiding power - Part 1: Kubelka-Munk method for white and light-coloured paints (IS O 6504-1:2019)

| Contents | Page |
|---|------|
| European foreword..... | 4 |
| Foreword..... | 5 |
| Introduction..... | 6 |
| 1 Scope..... | 7 |
| 2 Normative references..... | 7 |
| 3 Terms and definitions..... | 7 |
| 4 Principle..... | 7 |
| 5 Kubelka-Munk equations..... | 8 |
| 6 Apparatus and materials..... | 9 |
| 6.1 Substrates..... | 9 |
| 6.1.1 Determination of R_B | 9 |
| 6.1.2 Determination of R_∞ | 10 |
| 6.2 Film applicators..... | 10 |
| 6.3 Reflectometer..... | 10 |
| 6.4 Template..... | 10 |
| 7 Limitations..... | 10 |
| 8 Sampling..... | 10 |
| 9 Procedure..... | 10 |
| 9.1 Determination of R_∞ | 10 |
| 9.2 Determination of R_B | 11 |
| 9.2.1 Preparation of test films..... | 11 |
| 9.2.2 Measurement of reflectance R_B | 11 |
| 9.3 Determination of film thickness..... | 12 |
| 9.3.1 General..... | 12 |
| 9.3.2 Method using polyester film..... | 12 |
| 9.3.3 Method using black glass plates..... | 12 |
| 10 Expression of results..... | 12 |
| 10.1 Calculation of wet film thickness..... | 12 |
| 10.2 Calculation of hiding power..... | 13 |
| 11 Precision..... | 13 |
| 11.1 Repeatability (r)..... | 13 |
| 11.2 Reproducibility (R)..... | 13 |
| 12 Test report..... | 13 |
| Annex A (informative) Graphs for determination of St from R_B and R_∞ for $R_g = 0,80$ | 14 |
| Annex B (informative) Table of values of reflectivity R_∞ and factor α for $R_g = 0,80$ | 39 |

| | |
|--|-----------|
| Annex C (informative) Examples of the calculation of hiding power from measurements of R_B and R_∞ | 40 |
| C.1 Determination of the scattering coefficient, S | 40 |
| C.2 Determination of hiding power, V | 40 |
| Bibliography | 42 |