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Second edition  
2016-07-01

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## **Paper and board — Measurement of specular gloss —**

### **Part 2: 75° gloss with a parallel beam, DIN method**

*Papiers et cartons — Mesurage du brillant spéculaire —*

*Partie 2: Brillant à 75° avec un faisceau parallèle, méthode DIN*



Reference number  
ISO 8254-2:2016(E)

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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](http://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](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 6, *Paper, board and pulps*.

This second edition cancels and replaces the first edition (ISO 8254-2:2003), which has been editorially revised (minor revision) to update the bibliographic references.

ISO 8254 consists of the following parts, under the general title *Paper and board — Measurement of specular gloss*:

- *Part 1: 75° gloss with a converging beam, TAPPI method*
- *Part 2: 75° gloss with a parallel beam, DIN method*
- *Part 3: 20° gloss with a converging beam, TAPPI method*

[Annex A](#) forms a normative part of this part of ISO 8254. [Annex B](#) is for information only.

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## Introduction

Visual gloss is a sensory impression which cannot yet be described completely. Some important physical variables which influence gloss are however known. The sensory perception of gloss under a suitable illumination results from a physical stimulus due to reflection of light from a surface. This reflection is defined by an indicatrix which changes with the angle of incidence. The maximum indicatrix value which is decisive for visual gloss impression is associated with specular reflection, at an angle of reflection which is approximately equal to the angle of incidence. The reflectometer value is determined by averaging the reflection in a defined angular region centred in the specular direction.

NOTE 1 A reflectometer value is a measure of the visual gloss only when the optical conditions of measurement, such as angles and apertures of illumination and observation, are similar to the conditions of viewing.

NOTE 2 Because luminance and structure enter to some extent into the reflectometer value of the test piece, only the comparison of test pieces with nearly the same luminance and structure is meaningful. The influence of luminance on the measurement result decreases rapidly with increasing reflectometer value and increasing angle of reflection.

The proportion of specular reflection in the entire reflection increases with increasing angle of incidence. Very matt surfaces generate a noticeable degree of specular reflection and, therefore, a noticeable gloss effect only above a certain minimum angle of incidence. On the other hand, a large angle of incidence reduces the ability to differentiate between surfaces of high gloss.

NOTE 3 Manufacturers of coated papers usually divide their products into two classes according to their surface gloss: matt coating and gloss coating. However, these classes are only defined approximately. The matt class has reflectometer values, measured according to this part of ISO 8254, from 0 to approximately 20. The glossy class has reflectometer values higher than this value. As there is no precise correlation between reflectometer values measured with different geometries, it is advisable to compare the reflectometer values only within a single class of papers and using the same measuring geometry.

This part of ISO 8254 describes measurement at an angle of incidence of 75° using a parallel beam geometry commonly known as the 75° DIN method. Precision data are not available at the time of publication.

NOTE 4 EN 14086 describes measurement at an angle of 45°.