INTERNATIONAL STANDARD

ISO 9211-4

Third edition
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Optics and photonics — Optical coatings —

Part 4: Specific test methods

Optique et photonique — Traitements optiques —

Partie 4: Méthodes d'essai spécifiques

Reference number
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 9211-4 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 3, *Optical materials and components*.

This third edition cancels and replaces the second edition (ISO 9211-4:2006), which has been technically revised.

ISO 9211 consists of the following parts, under the general title *Optics and photonics — Optical coatings*:

— *Part 1: Definitions*

— *Part 2: Optical properties*

— *Part 3: Environmental durability*

— *Part 4: Specific test methods*

Optics and photonics — Optical coatings —

Part 4: Specific test methods

1 Scope

ISO 9211 describes surface treatments of components and substrates, excluding ophthalmic optics (spectacles), by the application of optical coatings and gives a standard form for their specification. It defines the general characteristics and the test and measurement methods wherever necessary, but it is not intended to define the process method.

This part of ISO 9211 describes specific test procedures for coating environmental durability tests that are identified in ISO 9211-3 but not described in other normative references. They are typically performed in sequence with other environmental durability tests, as shown in ISO 9211-3:2008, Annex A.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD).*

ISO 9211-1, *Optics and photonics — Optical coatings — Part 1: Definitions*

ISO 29862, *Self adhesive tapes — Determination of peel adhesion properties*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9211-1 apply.

4 Test conditioning

Before and after subjecting a coated specimen (component or witness sample) to any inspection or test, the specimen shall be thoroughly cleaned as required to remove dirt, finger marks, smears, etc. Recommended storage time is at least 12 h after the coating process under ambient atmospheric conditions, or as specified between manufacturer and buyer.

5 Abrasion resistance tests (conditioning method 01: abrasion)

5.1 General

The purpose of these tests is to evaluate to what extent the optical and mechanical properties of optical coatings on components and substrates are affected when subjected to specific abrading conditions at ambient atmospheric conditions.