
**Optics and photonics — Optical
coatings —**

Part 3:
Environmental durability

*Optique et photonique — Traitements optiques —
Partie 3: Durabilité environnementale*



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Foreword

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

This second edition cancels and replaces the first edition (ISO 9211-3:1994) subclauses 3.1 to 3.5 of which have been technically revised or deleted and renumbered; Table 1 of which has been expanded and technically revised and Table 2 of which has been deleted and replaced by new informative Annex A.

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*

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Optics and photonics — Optical coatings —

Part 3: Environmental durability

1 Scope

ISO 9211 identifies 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 whenever necessary. It is not intended to define the process method.

This part of ISO 9211 specifies categories of use for optical coatings and identifies which environmental tests are necessary to prove that the coatings meet the required specification. Definitions and the extent of testing are given in ISO 9022-1.

2 Normative references

The following referenced documents are indispensable for the application 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 9022-1, *Optics and optical instruments — Environmental test methods — Part 1: Definitions, extent of testing*

ISO 9022-2, *Optics and optical instruments — Environmental test methods — Part 2: Cold, heat and humidity*

ISO 9022-4, *Optics and optical instruments — Environmental test methods — Part 4: Salt mist*

ISO 9022-6, *Optics and optical instruments — Environmental test methods — Part 6: Dust*

ISO 9022-9:1994, *Optics and optical instruments — Environmental test methods — Part 9: Solar radiation*

ISO 9022-11, *Optics and optical instruments — Environmental test methods — Part 11: Mould growth*

ISO 9022-12, *Optics and optical instruments — Environmental test methods — Part 12: Contamination*

ISO 9022-14, *Optics and optical instruments — Environmental test methods — Part 14: Dew, hoarfrost, ice*

ISO 9211-4, *Optics and optical instruments — Optical coatings — Part 4: Specific test methods*

3 Categories of use

3.1 Definitions of categories

Five categories of use are defined. Each category requires either different environmental tests and/or different severity of testing. These categories are listed below in order of severity of requirement.