

INTERNATIONAL STANDARD

ISO
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Optics and optical instruments — Optical coatings —

Part 3: Environmental durability

Optique et instruments d'optique — Traitements optiques —

Partie 3: Comportement aux essais d'environnement



Reference number
ISO 9211-3:1994(E)

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.

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.

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

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

- Part 1: Definitions
- Part 2: Optical properties
- Part 3: Environmental durability
- Part 4: Specific test methods

Optics and optical instruments — 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, but is not intended to define the process method.

This part of ISO 9211 specifies categories of use for optical coatings and identifies corresponding environmental tests. Definitions and the extent of testing are given in ISO 9211-1.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards

ISO 9022-1:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 1: Definitions, extent of testing.*

ISO 9022-2:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 2: Cold, heat, humidity.*

ISO 9022-4:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 4: Salt mist.*

ISO 9022-6:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 6: Dust.*

ISO 9022-9:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 9: Solar radiation.*

ISO 9022-11:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 11: Mould growth.*

ISO 9022-12:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 12: Contamination.*

ISO 9022-14:—¹⁾, *Optics and optical instruments — Environmental test methods — Part 14: Dew, hoarfrost, ice.*

3 Categories of use

3.1 Definitions of categories

Five categories of use are given by different sets of environmental tests. The requirements for each category are qualitatively outlined below, and specified in table 1.

Category A

This refers to applications which would normally only apply to components mounted internally within sealed units. The use in this category is in a protected and controlled environment and handling should only take place with extreme care.

Category B

This refers to applications where components will be exposed only to a controlled environment. Such applications can include mild abrasion as occurs with carefully controlled cleaning.

Category C

This refers to applications where components will be exposed to normal outdoor ambient conditions and uncontrolled cleaning without severe abrasion and

1) To be published.