INTERNATIONAL STANDARD

ISO 23584-2

First edition
2012-08-15

Optics and photonics — Specification of reference dictionary —

Part 2: Classes' and properties' definitions

Optique et photonique — Spécification d'un dictionnaire de référence —

Partie 2: Définitions des classes et des propriétés

Reference number
ISO 23584-2:2012(E)

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Published in Switzerland

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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 23584-2 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*.

ISO 23584 consists of the following parts, under the general title *Optics and photonics — Specification of reference dictionary*:

— *Part 1: General overview on organization and structure*

— *Part 2: Classes' and properties' definitions*

Optics and photonics — Specification of reference dictionary —

Part 2:
Classes' and properties' definitions

1 Scope

This part of ISO 23584, on the basis of the rules set forth in ISO 13584-42, ISO/IEC Guide 77-2 and IEC 61360-1, specifies a reference dictionary of standardized product properties for the area of optics and photonics.

The properties are determined on the basis of standardized attributes. To ensure optimum unambiguity, the standardized properties are classified into definition classes forming a so-called standardized "reference hierarchy".

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 13584-42, *Industrial automation systems and integration — Parts library — Part 42: Description methodology: Methodology for structuring parts families*

ISO/IEC Guide 77-2, *Guide for specification of product properties and classes — Part 2: Technical principles and guidance*

IEC 61360-1, *Standard data elements types with associated classification scheme for electric items — Part 1: Definitions — Principles and methods*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13584-42, ISO/IEC Guide 77-2 and IEC 61360-1 apply.

NOTE Some basic definitions and principles of key importance for the understanding of this part of ISO 23584 are provided in ISO 23584-1:2009, Annex A for information.

4 Explanatory notes

Each property is defined in a particular definition class, which defines the domain of all properties specified therein. Once defined (in their definition class) the properties can be referenced, i.e. used, in other classes, e. g. in (standardized) application classes or immediately in a user's system. The entirety of definition classes makes up the ISO/TC 172 reference hierarchy.

The following definition classes form part of the reference dictionary for optics and photonics:

+--- 01 generalities, terminology, standardization, documentation

+--- quantities

+--- quantities of light and related electromagnetic radiations

+--- 07 mathematics, natural sciences

+--- 11 health care technology

+--- 13 environment, health protection, safety

+--- 17 metrology and measurement

+--- 21 mechanical systems and components for general use

+--- 31 electronics

+--- 37 image technology

    +--- functional coating

    +--- optical element

    +--- optical material

        +--- optical glass

    +--- optical system

    +--- optically used surface

        +--- diffractive surface

        +--- dioptric surface

The attribute information for these definition classes is given in Clause 5. The attribute information for their associated properties is specified in Clause 6. Both can be viewed immediately in the ISO/TC 172 database.

NOTE 1 The above structure of reference hierarchy provides the starting point included in this part of ISO 23584. It is not yet complete and will be expanded in the electronic version as more properties and their respective definition classes are defined.

In addition, a number of root application classes, one for ISO/TC 172 and one for each of the subcommittees of ISO/TC 172, have been included in order to provide the workspace for the committees to create their application classes, as required. These root application classes are given in Clause 7. They can also be viewed immediately in the ISO/TC 172 database.

NOTE 2 The reader should carefully study ISO 23584-1 regarding definition classes, which is a subset of the specification of ISO 13584-42.

5 Definition classes

5.1 ISOTC172-AAA005-001: 01 generalities, terminology, standardization, documentation

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA005-001.023**
Preferred name*	**01 generalities, terminology, standardization, documentation**
Short name	terminology
Synonymous name	
Definition*	ICS class of generalities, terminology, standardization and documentation
Source document of definition	
Note	
Remark	The class and its definition are based on the classification of ICS 5:2002.
List of defined properties	ISOTC172-AAA052-001
Figure	
Classification to ICS*	01.000
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	ISOTC172-AAA052-001
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.2 ISOTC172-AAA018-001: quantities

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA018-001.015**
Preferred name*	**quantities**
Short name	quantities
Synonymous name	
Definition*	classification and description of quantities
Source document of definition	
Note	
Remark	
List of defined properties	ISOTC172-AAA052-001
Figure	
Classification to ICS*	01.060
Its superclass	ISOTC172-AAA005-001
Preferred name of superclass	01 generalities, terminology, standardization, documentation
Keyword	dimension\quantity
Applicable properties	ISOTC172-AAA052-001
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.3 ISOTC172-AAA008-001: quantities of light and related electromagnetic radiations

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA008-001.021**
Preferred name*	**quantities of light and related electromagnetic radiations**
Short name	
Synonymous name	
Definition*	quantities based on phenomena of light and related electromagnetic radiations
Source document of definition	
Note	
Remark	
List of defined properties	ISOTC172-AAA052-001
Figure	
Classification to ICS*	01.060
Its superclass	ISOTC172-AAA018-001
Preferred name of superclass	quantities
Keyword	
Applicable properties	ISOTC172-AAA052-001
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.4 ISOTC172-AAA012-001: 07 mathematics, natural sciences

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA012-001.019**
Preferred name*	**07 mathematics, natural sciences**
Short name	natural sciences
Synonymous name	
Definition*	ICS class of the sciences that research the nature
Source document of definition	
Note	
Remark	The class and its definition are based on the classification of ICS 5:2002.
List of defined properties	
Figure	
Classification to ICS*	07.000
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.5 ISOTC172-AAA019-001: 11 health care technology

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA019-001.014**
Preferred name*	**11 health care technology**
Short name	
Synonymous name	
Definition*	ICS class of health care technology
Source document of definition	
Note	
Remark	The class and its definition are based on the classification of ICS 5:2002
List of defined properties	
Figure	
Classification to ICS*	11.000
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.6 ISOTC172-AAA001-001: 13 environment, health protection, safety

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA001-001.026**
Preferred name*	**13 environment, health protection, safety**
Short name	environment and safety
Synonymous name	
Definition*	ICS class comprising all instruments, devices, equipments and methods for the protection and safety of health and the environment
Source document of definition	
Note	
Remark	The class and its definition are based on the classification of ICS 5:2002.
List of defined properties	
Figure	
Classification to ICS*	13.000
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.7 ISOTC172-AAA009-001: 17 metrology and measurement

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA009-001.012**
Preferred name*	**17 metrology and measurement**
Short name	metrology
Synonymous name	
Definition*	ICS class of the science of metrology and measurement, the key areas of which are units and reference masters, measurement methods and procedures, measurement equipment and any impact on the measurement result of an individual carrying out the measurement
Source document of definition	
Note	
Remark	The class and its definition are based on the classification of ICS 5:2002.
List of defined properties	
Figure	
Classification to ICS*	17.000
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.8 ISOTC172-AAA015-001: 21 mechanical systems and components for general use

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA015-001.014**
Preferred name*	**21 mechanical systems and components for general use**
Short name	mechanical systems and components
Synonymous name	
Definition*	ICS class of mechanical parts and components, and of mechanical form features, which have been developed for a general function
Source document of definition	
Note	
Remark	The class and its definition are based on the classification of ICS 5:2002.
List of defined properties	
Figure	
Classification to ICS*	21.000
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.9 ISOTC172-AAA028-001: 31 electronics

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA028-001.012**
Preferred name*	**31 electronics**
Short name	electronics
Synonymous name	
Definition*	ICS class of electronic components including optoelectronics and laser equipment
Source document of definition	
Note	
Remark	The class and its definition are based on the classification of ICS 5:2002.
List of defined properties	
Figure	
Classification to ICS*	31.000
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.10 ISOTC172-AAA003-001: 37 image technology

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA003-001.015**
Preferred name*	**37 image technology**
Short name	
Synonymous name	
Definition*	ICS class of image technology, including optics (science and industry based on the science of light) and optical equipment
Source document of definition	
Note	Formerly optics was understood to be based on the science of visible light; nowadays optics is generally understood to be based on the science of electromagnetic radiation ranging from infrared through ultraviolet portions of the spectrum.
Remark	The class and its definition are based on the classification of ICS 5:2002.
List of defined properties	
Figure	
Classification to ICS*	37.000\37.020
Its superclass	ISOTC172-AAA004-001
Preferred name of superclass	Definition classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.11 ISOTC172-AAA013-001: functional coating

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA013-001.016**
Preferred name*	**functional coating**
Short name	
Synonymous name	
Definition*	thin film of materials deposited onto the surface of an optical element which provides specific optical or non-optical modifications of surface properties
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA003-001
Preferred name of superclass	37 image technology
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.12 ISOTC172-AAA011-001: optical element

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	I**SOTC172-AAA011-001.014**
Preferred name*	**optical element**
Short name	
Synonymous name	
Definition*	part providing a function in optical imaging
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA003-001
Preferred name of superclass	37 image technology
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.13 ISOTC172-AAA002-001: optical material

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA002-001.013**
Preferred name*	**optical material**
Short name	
Synonymous name	
Definition*	material that has main properties usable for optical imaging
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA003-001
Preferred name of superclass	37 image technology
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.14 ISOTC172-AAA010-001: optical glass

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA010-001.017**
Preferred name*	**optical glass**
Short name	
Synonymous name	
Definition*	inorganic product produced by melting, which in principle solidifies without crystallization, intended for use in optical systems specified by its index of refraction, transmission of light, optical and material properties
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA002-001
Preferred name of superclass	optical material
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.15 ISOTC172-AAA014-001: optical system

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA014-001.019**
Preferred name*	**optical system**
Short name	
Synonymous name	
Definition*	optical functional elements that follow one another, which describe optical imaging in its entirety
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA003-001
Preferred name of superclass	37 image technology
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.16 ISOTC172-AAA007-001: optically used surface

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA007-001.017**
Preferred name*	**optically used surface**
Short name	
Synonymous name	
Definition*	surface which separates two optically used media from each other
Source document of definition	
Note	
Remark	form element of an optical element which influences the optical reproduction by reflection and diffraction
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA003-001
Preferred name of superclass	37 image technology
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.17 ISOTC172-AAA017-001: diffractive surface

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA017-001.023**
Preferred name*	**diffractive surface**
Short name	
Synonymous name	
Definition*	structured surface with diffractive power
Source document of definition	
Note	
Remark	ISO 25297-1:2012, NODIF: diffractive_surface_description
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA007-001
Preferred name of superclass	optically used surface
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

5.18 ISOTC172-AAA006-001: dioptric surface

Hierarchy	Definition classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA006-001.016**
Preferred name*	**dioptric surface**
Short name	
Synonymous name	
Definition*	optical surface with refractive or reflective power
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA007-001
Preferred name of superclass	optically used surface
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

6 Properties

6.1 ISOTC172-AAA036-001: Abbe number referred to d-line

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA036-001.027**
Preferred name*	**Abbe number referred to d-line**
Short name	νd
Synonymous name	
Preferred symbol	νd
Synonymous symbol	
Definition*	mathematical expression for determining the correction for chromatic aberration of an optical material or component referred to d-line, given as $\nu d = (nd-1) / (nF-nC)$
Source document of definition	adapted from ISO 9802:1996
Note	Ratio of the refractive index at the d-line subtracted by 1 to the principal dispersion between F- and C-line $\nu d = (nd-1) / (nF-nC)$
Remark	ISO 25297-1:2012, NODIF: Abbe_number
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.2 ISOTC172-AAA055-001: Abbe number referred to e-line

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA055-001.024**
Preferred name*	**Abbe number referred to e-line**
Short name	νe
Synonymous name	
Preferred symbol	νe
Synonymous symbol	
Definition*	mathematical expression for determining the correction for chromatic aberration of an optical material or component refered to e-line, given as $\nu e = (ne-1) / (nF'-nC')$
Source document of definition	adapted from ISO 9802:1996
Note	ratio of the refractive index at the e-line subtracted by 1 to the principal dispersion between F'- and C'-line $\nu e = (ne-1) / (nF'-nC')$
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.3 ISOTC172-AAA075-001: acid resistance

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA075-001.027**
Preferred name*	**acid resistance**
Short name	SR
Synonymous name	
Preferred symbol	SR
Synonymous symbol	
Definition*	information about the behaviour of the surface of optical glasses that come into contact with large quantities of acidic solutions (from a practical standpoint, for example perspiration, laminating substances, carbonated water)
Source document of definition	ISO 8424: 1996
Note	Acid Resistance is classified by the Acid Resistance Class number and the Identification of Visible Surface Changes number separated by "." If no Identification of Visible Surface Changes has been done, only the Acid Resistance Class number is given.
Remark	example 53.2
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A57
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA069-001 ISOTC172-AAA072-001
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.4 ISOTC172-AAA069-001: acid resistance class

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA069-001.058**
Preferred name*	**acid resistance class**
Short name	SR
Synonymous name	
Preferred symbol	SR
Synonymous symbol	
Definition*	of optical glasses is determined on the basis of the time required to remove a layer thickness of glass of 0,1 µm in an acidic solution of a given pH value at a temperature of 25 °C
Source document of definition	adapted from ISO 8424:1996
Note	Two aggressive solutions are used in determining the resistance to acids: A strong acid (nitric acid, c = 0,5 mol/l, pH = 0,3) at 25 °C is used for the more resistant glass types. For glasses with less acid resistance, a weakly acidic solution with a pH value of 4,6 (standard acetate) is used, also at 25 °C.
Remark	The acid resistance class 5 forms the transition point between the two groups. Included in it are glasses, for which the time for removal of a layer thickness of 0,1 µm at a pH value of 0,3 is less than 0,1 h and at a pH value of 4,6 is greater than 10 h.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A52
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Integer
Value specification	EXPLICIT
List of values	1 2 3 4 5 51 52 53
List of value names	SR 1 SR 2 SR 3 SR 4 SR 5 SR 51 SR 52 SR 53

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA069-001.058**
Preferred name*	**acid resistance class**
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.5 ISOTC172-AAA074-001: alkali resistance

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA074-001.027**
Preferred name*	**alkali resistance**
Short name	AR
Synonymous name	
Preferred symbol	AR
Synonymous symbol	
Definition*	information about the behaviour of the surface of optical glasses that come in contact with warm, alkaline liquids, such as cooling liquids in grinding and polishing processes
Source document of definition	ISO 10629:1996
Note	Alkali Resistance is classified by the Alkali Resistance Class number and the Identification of Visible Surface Changes number separated by “.” If no Identification of Visible Surface Changes has been done, only the Alkali Resistance Class number is given.
Remark	example 2.1
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A57
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA070-001 ISOTC172-AAA072-001
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.6 ISOTC172-AAA070-001: alkali resistance class

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA070-001.038**
Preferred name*	**alkali resistance class**
Short name	AR
Synonymous name	
Preferred symbol	AR
Synonymous symbol	
Definition*	of optical glasses is determined on the basis of the time required to remove a layer thickness of glass of 0,1 µm in an aqueous alkaline solution (sodium hydroxide, c = 0,01 mol/l, pH = 12) at a temperature of 50 °C
Source document of definition	ISO 10629:1996
Note	The removed layer thickness is calculated from the weight loss per surface area and the density of the glass.
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A52
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Integer
Value specification	EXPLICIT
List of values	1 2 3 4
List of value names	AR 1 AR 2 AR 3 AR 4
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA070-001.038**
Preferred name*	**alkali resistance class**
liaisonTCSC	TC172
ebXML URI	

6.7 ISOTC172-AAA057-001: categories of optics

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA057-001.029**
Preferred name*	**categories of optics**
Short name	category
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	subdivision of the area of optics into various sub-areas
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A91
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	A B C F M S
List of value names	cemented assembly functional coating optical element optically used surface optical material optical system
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA003-001
Preferred name of definition class	37 image technology
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA057-001.029**
Preferred name*	**categories of optics**
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

6.8 ISOTC172-AAA053-001: coefficient B1 of Sellmeier-equation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA053-001.020**
Preferred name*	**coefficient B1 of Sellmeier-equation**
Short name	B1
Synonymous name	
Preferred symbol	B1
Synonymous symbol	
Definition*	one out of a total of six coefficients that, for a specific glass type, are determined on the basis of precision measurements by fitting of the Sellmeier-equation to the measured values
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.9 ISOTC172-AAA054-001: coefficient B2 of Sellmeier-equation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA054-001.019**
Preferred name*	**coefficient B2 of Sellmeier-equation**
Short name	B2
Synonymous name	
Preferred symbol	B2
Synonymous symbol	
Definition*	one out of a total of six coefficients that, for a specific glass type, are determined on the basis of precision measurements by fitting of the Sellmeier-equation to the measured values
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.10 ISOTC172-AAA035-001: coefficient B3 of Sellmeier-equation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA035-001.019**
Preferred name*	**coefficient B3 of Sellmeier-equation**
Short name	B3
Synonymous name	
Preferred symbol	B3
Synonymous symbol	
Definition*	one out of a total of six coefficients that, for a specific glass type, are determined on the basis of precision measurements by fitting of the Sellmeier-equation to the measured values
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.11 ISOTC172-AAA056-001: coefficient C1 of Sellmeier-equation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA056-001.020**
Preferred name*	**coefficient C1 of Sellmeier-equation**
Short name	C1
Synonymous name	
Preferred symbol	C1
Synonymous symbol	
Definition*	one out of a total of six coefficients that, for a specific glass type, are determined on the basis of precision measurements by fitting of the Sellmeier-equation to the measured values
Source document of definition	
Note	In data sheets the coefficients of the Sellmeier-equation are usually given dimensionless; therefore, for correct calculation using this equation, the wavelength shall be in micrometres.
Remark	
Formula	
Unit of measure*	μm^2
UN ECE code for unit	
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.12 ISOTC172-AAA038-001: coefficient C2 of Sellmeier-equation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA038-001.020**
Preferred name*	**coefficient C2 of Sellmeier-equation**
Short name	C2
Synonymous name	
Preferred symbol	C2
Synonymous symbol	
Definition*	one out of a total of six coefficients that, for a specific glass type, are determined on the basis of precision measurements by fitting of the Sellmeier-equation to the measured values
Source document of definition	
Note	In data sheets the coefficients of the Sellmeier-equation are usually given dimensionless; therefore, for correct calculation using this equation, the wavelength shall be in micrometres.
Remark	
Formula	
Unit of measure*	μm^2
UN ECE code for unit	
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.13 ISOTC172-AAA059-001: coefficient C3 of Sellmeier-equation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA059-001.020**
Preferred name*	**coefficient C3 of Sellmeier-equation**
Short name	C3
Synonymous name	
Preferred symbol	C3
Synonymous symbol	
Definition*	one out of a total of six coefficients that, for a specific glass type, are determined on the basis of precision measurements by fitting of the Sellmeier-equation to the measured values
Source document of definition	
Note	In data sheets the coefficients of the Sellmeier-equation are usually given dimensionless; therefore, for correct calculation using this equation, the wavelength shall be in micrometres.
Remark	
Formula	
Unit of measure*	μm^2
UN ECE code for unit	
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.14 ISOTC172-AAA085-001: coefficient of mean linear thermal expansion α (–30°C;+70°C)

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA085-001.029**
Preferred name*	**coefficient of mean linear thermal expansion α (–30°C;+70°C)**
Short name	α (–30°C;+70°C)
Synonymous name	
Preferred symbol	α
Synonymous symbol	
Definition*	is the ratio of the relative change in length of a glass sample when heated from -30°C to +70°C to the corresponding temperature difference of 100 K
Source document of definition	
Note	
Remark	α (–30°C;+70°C) is important information for the typical behaviour of thermal expansion at room temperature.
Formula	
Unit of measure*	10^{-6} K^{-1}
UN ECE code for unit	M20
Alternative unit	
IEC classification	H03
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	thermal expansion\linear expansion
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.15 ISOTC172-AAA077-001: colour code

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA077-001.018**
Preferred name*	**colour code**
Short name	
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	position and slope of the transmittance cut-off edge in the short wavelength range, given by the wavelengths at 80 % and 5 % transmittance including reflection losses
Source document of definition	ISO 12123:2010
Note	The colour code lists the wavelengths $\lambda 80$ and $\lambda 5$, at which the transmittance (including reflection losses) is 0,80 and 0,05 at 10 mm thickness. The values are rounded to 10 nm and are written by eliminating the last digit. For example, colour code 33/30 indicates $\lambda 80 = 330$ nm and $\lambda 5 = 300$ nm.
Remark	The limit of the transmittance ranges of optical glasses towards the UV area is of special interest in high index glasses as it shifts closer to the visible spectral range with increasing refractive index. A simple description of the position and slope of the UV absorption curve is described by the colour code.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A57
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.16 ISOTC172-AAA033-001: direction of curvature of an optical surface

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA033-001.023**
Preferred name*	**direction of curvature of an optical surface**
Short name	
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	characteristic of the curvature of an optical surface
Source document of definition	adapted from ISO 10110-1:2006
Note	For drawings the plane surfaces are indicated by the symbol R_{∞}.
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A58
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	CC CX ∞
List of value names	concave convex planar
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA007-001
Preferred name of definition class	optically used surface
Keyword	convex\concave\planar
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.17 ISOTC172-AAA072-001: identification of visible surface changes

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA072-001.031**
Preferred name*	**identification of visible surface changes**
Short name	
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	representation of visible surface changes in the form of digits that follows the class number for alkali, acid and phosphate resistance
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Integer
Value specification	EXPLICIT
List of values	0 1 2 3 4
List of value names	no visible changes clear, but irregular surface interference colours (light, selective leaching) firmly adhered thin white layer (stronger, selective leaching, cloudy surface) loosely adhering, thicker layers, for example insoluble reaction products on the surface
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA072-001.031**
Preferred name*	**identification of visible surface changes**
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.18 ISOTC172-AAA076-001: internal transmittance

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA076-001.026**
Preferred name*	**internal transmittance**
Short name	τi
Synonymous name	
Preferred symbol	τi
Synonymous symbol	
Definition*	ratio of the radiant flux reaching the exit internal surface of the optical glass to the flux that enters into the glass after crossing the entry surface
Source document of definition	
Note	Thus internal transmittance is independent of reflection losses at the boundary surfaces air-glass and glass-air. Internal transmittance is closely related to the optical position of the glass type according to general dispersion theory. The information in the data section comprises median values from several melts of a glass type.
Remark	Upon special request optimized values for internal transmittance can be maintained. Prior clarification of the delivery situation is required. ISO 25297-1:2012, NODIF: transmittance
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L40
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA047-001 ISOTC172-AAA086-001
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.19 ISOTC172-AAA078-001: Knoop hardness per ISO 9385:1990

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA078-001.023**
Preferred name*	**Knoop hardness per ISO 9385:1990**
Short name	HK 0,1/20
Synonymous name	
Preferred symbol	HK 0,1/20
Synonymous symbol	
Definition*	measure for remaining surface changes after applying pressure with a test diamond
Source document of definition	ISO 9385:1990
Note	The test is performed on polished glass surfaces at temperature from 18 °C to 28 °C. The values for Knoop hardness HK are listed in the data sheets for a test force of 0,9807 N and an effective test period of 20 s. The data for hardness values are rounded to 10 HK 0,1/20.
Remark	The microhardness is a function of the magnitude of the test force and decreases with increasing test force.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A57
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Integer
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.20 ISOTC172-AAA046-001: manipulation of light

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA046-001.026**
Preferred name*	**manipulation of light**
Short name	manipulation
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	kind of manipulation of light spread at optical surfaces
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A56
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	CODED
List of values	10 20
List of value names	dioptric diffractive
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA007-001
Preferred name of definition class	optically used surface
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

6.21 ISOTC172-AAA029-001: manufacturer of optical glass

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA029-001.039**
Preferred name*	**manufacturer of optical glass**
Short name	manufacturer
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	company name of the manufacturer of optical glass
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A21
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA010-001
Preferred name of definition class	optical glass
Keyword	manufacturer\company\supplier
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.22 ISOTC172-AAA088-001: material imperfection

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA088-001.017**
Preferred name*	**material imperfection**
Short name	2/
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	indication in drawings of material imperfections in complete form started with the string 2/
Source document of definition	adapted from ISO 10110-4
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA042-001 ISOTC172-AAA067-001
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.23 ISOTC172-AAA037-001: material imperfection in terms of bubbles and inclusions

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA037-001.022**
Preferred name*	**material imperfection in terms of bubbles and inclusions**
Short name	1/
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	specification for bubbles and other inclusions which are permissible in the element given in the form N×A, where N is the number of bubbles and inclusions of maximal permitted size allowed, and the grade number A is the measure of their size and is equal to the square root of the projected area of the largest permissible bubble and/or inclusion, expressed in millimetres
Source document of definition	ISO 10110-3:1996
Note	This property refers to optical elements.
Remark	ISO 25297-1:2012, NODIF: bubbles_and_inclusions
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	bubble\inclusion\material imperfection
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.24 ISOTC172-AAA060-001: material imperfection in terms of stress birefringence

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA060-001.022**
Preferred name*	**material imperfection in terms of stress birefringence**
Short name	0/
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	result of residual stresses within a glass blank following differential cooling during the forming and/or annealing process, or of certain fabrication processes carried out on the optical element
Source document of definition	ISO 10110-2:1996
Note	The residual stress-induced birefringence is specified in terms of optical path differences per unit path length, in nanometres per centimetre. The indication is given in the form 0/A, where A is the maximum permissible stress birefringence in nanometres per centimetre of optical path length. This property refers to optical elements.
Remark	ISO 25297-1:2012, NODIF: stress_birefringence
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	material homogeneity\birefringence\polarization\anisotropy\material isotropy
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.25 ISOTC172-AAA042-001: material imperfections in terms of striae

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA042-001.023**
Preferred name*	**material imperfections in terms of striae**
Short name	2/, B
Synonymous name	
Preferred symbol	B
Synonymous symbol	
Definition*	class of striae according to ISO 10110-4
Source document of definition	ISO 10110-4:1997
Note	The striae classes describe the density of striae causing an optical path difference of at least 30 nm. This property refers to optical elements.
Remark	ISO 25297-1:2012, NODIF: inhomogeneity_and_striae
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	- 1 2 3 4 5
List of value names	no specification required ≤ 10 % ≤ 5 % ≤ 2 % ≤ 1 % extremely free of striae
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	material imperfection\striae
Status	60.60 released

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA042-001.023**
Preferred name*	**material imperfections in terms of striae**
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.26 ISOTC172-AAA067-001: material imperfections of refractive index

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA067-001.029**
Preferred name*	**material imperfections of refractive index**
Short name	2/ A
Synonymous name	
Preferred symbol	A
Synonymous symbol	
Definition*	inhomogeneity class number according ISO 10110-4 describing the maximum permissible variation of the refractive index within an optical element
Source document of definition	
Note	This property refers to optical elements.
Remark	Inhomogeneity as defined by ISO 10110-4:1997 is: gradual variation of the refractive index within an optical element, defined as the difference between maximum and minimum values of the refractive index within the element.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	- 0 1 2 3 4 5
List of value names	no specification required +- 50 E-6 +- 20 E-6 +- 5 E-6 +- 2 E-6 +- 1 E-6 +- 0,5 E-6
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA067-001.029**
Preferred name*	**material imperfections of refractive index**
Keyword	homogeneity\inhomogeneity\material imperfection
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.27 ISOTC172-AAA050-001: mathematical description of surface

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA050-001.035**
Preferred name*	**mathematical description of surface**
Short name	
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	designation in an analytic definition of the surface or the wavefront
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A58
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	CODED
List of values	10 20
List of value names	analytical not analytical
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA006-001
Preferred name of definition class	dioptric surface
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.28 ISOTC172-AAA058-001: n(λ) as per Sellmeier-equation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA058-001.019**
Preferred name*	**n(λ) as per Sellmeier-equation**
Short name	n(λ) Sellm
Synonymous name	
Preferred symbol	n(λ)
Synonymous symbol	
Definition*	refractive index as per the Sellmeier-equation $n^2(\lambda) = 1 + B1\ \lambda^2/(\lambda^2 - C1) + B2\ \lambda^2/(\lambda^2 - C2) + B3\ \lambda^2/(\lambda^2 - C3)$ using the coefficients B1 to B3 and C1 to C3 of the Sellmeier-equation
Source document of definition	
Note	In data sheets the coefficients of the Sellmeier-equation are usually given dimensionless; therefore, for correct calculation using this equation, the wavelength shall be in micrometres.
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA056-001 ISOTC172-AAA035-001 ISOTC172-AAA054-001 ISOTC172-AAA053-001 ISOTC172-AAA038-001 ISOTC172-AAA059-001 ISOTC172-AAA047-001
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	dispersion equation\dispersion\refractive index
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA058-001.019**
Preferred name*	**n(λ) as per Sellmeier-equation**
liaisonTCSC	TC172
ebXML URI	

6.29 ISOTC172-AAA048-001: name of an optical coating

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA048-001.019**
Preferred name*	**name of an optical coating**
Short name	
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	distinguishing mark of a coating which is usually formed of a standard number and the standard designation or the name of the company and a common description of the coating
Source document of definition	
Note	
Remark	This could be a proprietary designation e.g. a brand name such as T*.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A57
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA013-001
Preferred name of definition class	functional coating
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.30 ISOTC172-AAA066-001: glass type

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA066-001.023**
Preferred name*	**glass type**
Short name	glass type
Synonymous name	glass type
Preferred symbol	
Synonymous symbol	
Definition*	usually a letter/number designation used in the manufacturer's catalogue to designate or characterize the glasses offered
Source document of definition	ISO 12123:2010
Note	The letter/number designation is at the manufacturer's discretion and is usually a proprietary trade name and therefore indeterminate. For example, borosilicate crown glass is designated N-BK7, S-BSL7, BSC7, J-BK7, H-K9 and so on by individual glass manufacturers.
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A57
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA010-001
Preferred name of definition class	optical glass
Keyword	material\glass
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC3
liaisonTCSC	TC172
ebXML URI	

6.31 ISOTC172-AAA043-001: optically effective diameter

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA043-001.019**
Preferred name*	**optically effective diameter**
Short name	
Synonymous name	
Preferred symbol	Øe
Synonymous symbol	
Definition*	optically usable diameter of a surface
Source document of definition	
Note	Optically effective diameter defines the region of the component surface which has optical significance.
Remark	ISO 25297-1:2012, NODIF: effective_diameter
Formula	
Unit of measure*	mm
UN ECE code for unit	MMT
Alternative unit	
IEC classification	T03
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.32 ISOTC172-AAA040-001: partial dispersion

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA040-001.018**
Preferred name*	**partial dispersion**
Short name	n(1)-n(2)
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	difference between the refractive indices of wavelength combinations other than those for the principal dispersions
Source document of definition	ISO 9802:1996
Note	
Remark	According to ISO 9802:1996, nF'-nC' and nF-nC are designated as principal dispersion.
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	principal dispersion\partial dispersion
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.33 ISOTC172-AAA039-001: principal dispersion (nF' - nC')

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA039-001.027**
Preferred name*	**principal dispersion (nF' - nC')**
Short name	nF'-nC'
Synonymous name	principal dispersion F' - C'
Preferred symbol	
Synonymous symbol	
Definition*	difference between refractive indices represented by (nF'-nC'), where nF' is the refractive index at the blue cadmium F'-line (479,99 nm wavelength), and nC' is the refractive index at the red cadmium C'-line (643,85 nm wavelength)
Source document of definition	ISO 9802:1996
Note	
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	partial dispersion\principal dispersion\refractive index
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.34 ISOTC172-AAA062-001: principal dispersion (nF - nC)

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA062-001.027**
Preferred name*	**principal dispersion (nF - nC)**
Short name	nF-nC
Synonymous name	principal dispersion F-C
Preferred symbol	nF-nC
Synonymous symbol	
Definition*	difference between refractive indices represented by (nF-nC), where nF is the refractive index at the blue hydrogen F-line (486,13 nm wavelength), and nC is the refractive index at the red hydrogen C-line (656,27 nm wavelength)
Source document of definition	ISO 9802:1996
Note	
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	partial dispersion\principal dispersion\refractive index
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.35 ISOTC172-AAA073-001: phosphate resistance

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA073-001.023**
Preferred name*	**phosphate resistance**
Short name	PR
Synonymous name	
Preferred symbol	PR
Synonymous symbol	
Definition*	information about the behaviour of the surface of optical glasses during cleaning with phosphate containing washing solutions (detergents)
Source document of definition	ISO 9689:1990
Note	Phosphate Resistance is classified by the Phosphate Resistance Class number and the Identification of Visible Surface Changes number separated by "." If no Identification of Visible Surface Changes has been done, only the Phosphate Resistance Class number is given.
Remark	Example 2.1
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A57
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA071-001 ISOTC172-AAA072-001
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.36 ISOTC172-AAA071-001: phosphate resistance class

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA071-001.040**
Preferred name*	**phosphate resistance class**
Short name	PR
Synonymous name	
Preferred symbol	PR
Synonymous symbol	
Definition*	of optical glasses is determined on the basis of the time required to remove a layer thickness of glass of 0,1 µm in an alkaline phosphate containing solution (pentasodium triphosphate Na5P3O10, c = 0,01 mol/l, pH = 10) at a temperature of 50 °C
Source document of definition	ISO 9689:1990
Note	The layer thickness is calculated from the mass loss per surface area and the density of the glass.
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A52
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Integer
Value specification	EXPLICIT
List of values	1 2 3 4
List of value names	PR 1 PR 2 PR 3 PR 4
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA071-001.040**
Preferred name*	**phosphate resistance class**
liaisonTCSC	TC172
ebXML URI	

6.37 ISOTC172-AAA030-001: primary function of the coating

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA030-001.045**
Preferred name*	**primary function of the coating**
Short name	function
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	the nature of the principal modification to the surface properties that they bring about
Source document of definition	ISO 9211-1:2010
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A56
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	AB BS FI PC PO AT RE AR SC SU
List of value names	absorbing beam splitting filtering phase changing polarizing attenuating reflecting antireflecting selecting or combining supplementary
Value format	

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA030-001.045**
Preferred name*	**primary function of the coating**
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA013-001
Preferred name of definition class	functional coating
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.38 ISOTC172-AAA061-001: refractive index

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA061-001.014**
Preferred name*	**refractive index**
Short name	
Synonymous name	
Preferred symbol	n
Synonymous symbol	
Definition*	ratio of the velocity of the electromagnetic waves in a vacuum to the phase velocity of the waves of the monochromatic radiation in the medium
Source document of definition	IEC 60050(845-04-101):1987
Note	depends on the wavelength
Remark	
Formula	
Unit of measure*	1
UN ECE code for unit	C62
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA008-001
Preferred name of definition class	quantities of light and related electromagnetic radiations
Keyword	refractive index
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

6.39 ISOTC172-AAA068-001: refractive index at spectral wavelength

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA068-001.020**
Preferred name*	**refractive index at spectral wavelength**
Short name	
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	refractive index at special wavelength of spectral lines
Source document of definition	
Note	
Remark	ISO 25297-1:2012, NODIF: refractive_index
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	L44
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA031-001
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

6.40 ISOTC172-AAA052-001: scope according to ICS

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA052-001.041**
Preferred name*	**scope according to ICS**
Short name	scope
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	designation in accordance with ICS 5 which is used as general indication of the scope into which an entity falls
Source document of definition	
Note	
Remark	For the time being, only an extract from the overall ICS 5 has been included in the value list. The remainder of ICS classes may be added at a later stage.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A91
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	01 07 11 13 17 21 31 37
List of value names	01 generalities, terminology, standardization, documentation 07 mathematics, natural sciences 11 health care technology 13 environment, health protection, safety 17 metrology and measurement 21 mechanical systems and components for general use 31 electronics 37 image technology
Value format	
Identification class instance types	
Figure	
Classification to ICS*	00.000

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA052-001.041**
Preferred name*	**scope according to ICS**
Definition class*	ISOTC172-AAA004-001
Preferred name of definition class	Definition classes
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

6.41 ISOTC172-AAA049-001: surface adding characteristic

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA049-001.021**
Preferred name*	**surface adding characteristic**
Short name	surface adding
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	mark of an optical surface which will be added to another optical surface
Source document of definition	
Note	
Remark	Typically used for surfaces to be cemented or optically contacted.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	ce pa
List of value names	cemented surface optically contacted surface
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	cemented surface\optically contacted surface
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.42 ISOTC172-AAA044-001: surface form deviation - irregularity

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA044-001.020**
Preferred name*	**surface form deviation - irregularity**
Short name	3/ (B,)
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	peak-to-valley difference between the irregularity function and the plane which best approximates it
Source document of definition	ISO 10110-5:2007
Note	B is either the maximum permissible value of irregularity, expressed in fringe spacings, or a dash (—) indicating that no explicit irregularity tolerance is given. The wavelength shall be that of the green mercury e-line 546,07 nm in accordance with ISO 7944.
Remark	ISO 25297-1:2012, NODIF: irregularity
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.43 ISOTC172-AAA063-001: surface form deviation - rotationally invariant irregularity

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	I**SOTC172-AAA063-001.021**
Preferred name*	**surface form deviation - rotationally invariant irregularity**
Short name	3/ (/ C)
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	peak-to-valley difference between the approximating spherical surface and the plane which best approximates it
Source document of definition	ISO 10110-5:2007
Note	C is the permissible rotationally invariant irregularity expressed in fringe spacings. If no tolerance is given, the slash (/) is replaced by the final parenthesis, i.e. 3/A(B). The wavelength shall be that of the green mercury e-line 546,07nm in accordance with ISO 7944.
Remark	If no tolerance is given for C, the slash / and value of C are omitted, and the indication in the drawings just ends with the final parenthesis). ISO 25297-1:2012, NODIF: rotationally_symmetric_irregularity
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.44 ISOTC172-AAA065-001: surface form deviation - sagitta deviation

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA065-001.019**
Preferred name*	**surface form deviation - sagitta deviation**
Short name	3/ A
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	peak-to-valley difference between the approximating spherical surface and a plane
Source document of definition	ISO 10110-5:2007
Note	A is either the maximum permissible sagitta error, expressed in fringe spacings, (λ/2) or a dash (—) indicating that the total radius of curvature tolerance is given in the radius of curvature dimension (not applicable for planar surfaces). The wavelength shall be that of the green mercury e-line 546,07 nm in accordance with ISO 7944.
Remark	ISO 25297-1:2012, NODIF: sagitta_deviation
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.45 ISOTC172-AAA087-001: surface imperfections

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA087-001.018**
Preferred name*	**surface imperfections**
Short name	5/
Synonymous name	
Preferred symbol	5/
Synonymous symbol	
Definition*	indication in drawings of surface imperfections in complete form started with the string 5/
Source document of definition	adapted from ISO 10110-7
Note	
Remark	ISO 25297-1:2012, NODIF: surface_imperfection_tolerance
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA064-001 ISOTC172-AAA041-001 ISOTC172-AAA051-001 ISOTC172-AAA034-001
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.46 ISOTC172-AAA041-001: surface imperfections - coating blemishes

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA041-001.021**
Preferred name*	**surface imperfections - coating blemishes**
Short name	5/ ;C N'xA'
Synonymous name	
Preferred symbol	C
Synonymous symbol	
Definition*	indication of coating blemishes which are permissible within the effective aperture of a surface, where C is the designation for coating blemishes, N' is the number of allowed blemishes of maximal permitted size and A' the grade number
Source document of definition	ISO 10110-7:2008
Note	
Remark	If no separate indication for coating blemishes is given, it shall be included in the allowable general surface imperfection indication 5/ NxA.
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	surface imperfection
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.47 ISOTC172-AAA034-001: surface imperfections - edge chips

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA034-001.022**
Preferred name*	**surface imperfections - edge chips**
Short name	5/ ;;;EA”’
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	indication for permissible edge chips, where E is the designation for edge chips and the grade number A”’ specifies the maximum permissible extent of a chip from the physical edge of the surface, or cell in the case of an optical assembly, measured parallel to the surface, in millimetres
Source document of definition	ISO 10110-7:2008
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	surface imperfection\edge chip\chip
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.48 ISOTC172-AAA051-001: surface imperfections - long scratches

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA051-001.023**
Preferred name*	**surface imperfections - long scratches**
Short name	5/ ; ; LN”xA”
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	indication for long scratches (longer than 2 mm) which are permissible within the effective aperture of a surface, where L is the indication for long scratches, N” is the number of allowed long scratches and the grade number, A” specifies the maximum allowed width of the scratches, expressed in millimetres
Source document of definition	ISO 10110-7:2008
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	surface imperfection\scratch
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.49 ISOTC172-AAA064-001: surface imperfections-general surface imperfection

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA064-001.021**
Preferred name*	**surface imperfections-general surface imperfection**
Short name	5/ NxA
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	drawing indication for number and size of general surface imperfections, which are permissible within the effective aperture of a surface
Source document of definition	ISO 10110-7:2008
Note	The indication in the form NxA specifies the number, N, of allowed imperfections of maximal permitted size, and the grade number, A, which is equal to the square root of the surface area of the maximum allowed imperfection, expressed in millimetres.
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	A59
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	String
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	surface imperfection
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.50 ISOTC172-AAA084-001: temperature coefficient Δnabs/ΔT of refractive index

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA084-001.024**
Preferred name*	**temperature coefficient Δnabs/ΔT of refractive index**
Short name	Δnabs/ΔT
Synonymous name	
Preferred symbol	Δnabs/ΔT
Synonymous symbol	
Definition*	ratio of refractive index change in vacuum to temperature change at a selected wavelength
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	10^{-6} K^{-1}
UN ECE code for unit	M20
Alternative unit	
IEC classification	
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA082-001 ISOTC172-AAA031-001
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.51 ISOTC172-AAA083-001: temperature coefficient Δnrel/ΔT of refractive index

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA083-001.023**
Preferred name*	**temperature coefficient Δnrel/ΔT of refractive index**
Short name	Δnrel/ΔT
Synonymous name	
Preferred symbol	Δnrel/ΔT
Synonymous symbol	
Definition*	ratio of refractive index change at an air pressure of 0,10133·10^6 Pa to temperature change at a selected wavelength
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	10^{-6} K^{-1}
UN ECE code for unit	M20
Alternative unit	
IEC classification	
Type of property D = dependent; N = non-dependent; C = condition	D
Depends on	ISOTC172-AAA082-001 ISOTC172-AAA031-001
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.52 ISOTC172-AAA082-001: temperature interval

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA082-001.024**
Preferred name*	**temperature interval**
Short name	
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	description of temperature intervals for temperature coefficients of light refraction
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	
UN ECE code for unit	
Alternative unit	
IEC classification	
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	String
Value specification	CODED
List of values	10 20 30 40 50 60
List of value names	-40 °C up to -20 °C -20 °C up to 0 °C 0 °C up to +20 °C +20 °C up to +40 °C +40 °C up to +60 °C +60 °C up to +80 °C
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA082-001.024**
Preferred name*	**temperature interval**
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.53 ISOTC172-AAA081-001: annealing point

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA081-001.019**
Preferred name*	**annealing point**
Short name	T10^13
Synonymous name	
Preferred symbol	T10^13
Synonymous symbol	At
Definition*	temperature corresponding to a viscosity 10^13,2 dPa·s determined by the method described in ISO 7884-7
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	°C
UN ECE code for unit	CEL
Alternative unit	
IEC classification	H02
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.54 ISOTC172-AAA080-001: softening point

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA080-001.023**
Preferred name*	**softening point**
Short name	T10^7,6
Synonymous name	
Preferred symbol	T10^7,6
Synonymous symbol	SP
Definition*	temperature corresponding to a viscosity 10^7,6 dPa·s determined by one of the methods described in ISO 7884-2 or ISO 7884-6
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	°C
UN ECE code for unit	CEL
Alternative unit	
IEC classification	H02
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.55 ISOTC172-AAA086-001: thickness of a piece of material

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA086-001.021**
Preferred name*	**thickness of a piece of material**
Short name	thickness
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	thickness of a material piece for which the transmittance is specified
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	mm
UN ECE code for unit	MMT
Alternative unit	
IEC classification	T03
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	EXPLICIT
List of values	5 10 25
List of value names	test thickness of 5 mm test thickness of 10 mm test thickness of 25 mm
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.56 ISOTC172-AAA032-001: tilt angle of a spherical surface

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA032-001.022**
Preferred name*	**tilt angle of a spherical surface**
Short name	4/ o
Synonymous name	
Preferred symbol	
Synonymous symbol	
Definition*	maximum permissible angle between the datum axis and the normal to the surface at its intersection point with the datum axis
Source document of definition	ISO 10110-6:1996
Note	
Remark	
Formula	
Unit of measure*	‘
UN ECE code for unit	D61
Alternative unit	
IEC classification	T01
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA011-001
Preferred name of definition class	optical element
Keyword	centring tolerance
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC01
liaisonTCSC	TC172
ebXML URI	

6.57 ISOTC172-AAA079-001: transformation temperature

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA079-001.021**
Preferred name*	**transformation temperature**
Short name	Tg
Synonymous name	
Preferred symbol	Tg
Synonymous symbol	
Definition*	temperature defined according to ISO 7884-8, which characterizes the transition range from brittle to liquid behaviour of glasses (significant change in the rate of relative linear thermal expansion)
Source document of definition	adapted from ISO 7884-8
Note	
Remark	Transformation temperature generally lies right at approximately T10^13
Formula	
Unit of measure*	°C
UN ECE code for unit	CEL
Alternative unit	
IEC classification	H02
Type of property D = dependent; N = non-dependent; C = condition	N
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	37.020
Definition class*	ISOTC172-AAA002-001
Preferred name of definition class	optical material
Keyword	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172SC03
liaisonTCSC	TC172
ebXML URI	

6.58 ISOTC172-AAA047-001: wavelength

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA047-001.025**
Preferred name*	**wavelength**
Short name	wavelength
Synonymous name	
Preferred symbol	λ
Synonymous symbol	
Definition*	distance between two points of a periodic wave to follow each other with the same value of phase angle at the same point in time
Source document of definition	
Note	
Remark	
Formula	
Unit of measure*	nm
UN ECE code for unit	C45
Alternative unit	
IEC classification	L03
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	
List of values	
List of value names	
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA008-001
Preferred name of definition class	quantities of light and related electromagnetic radiations
Keyword	wavelength
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

6.59 ISOTC172-AAA031-001: wavelength for special spectral lines

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA031-001.062**
Preferred name*	**wavelength for special spectral lines**
Short name	spectral lines
Synonymous name	
Preferred symbol	λ
Synonymous symbol	
Definition*	defined values for the spectral wavelength of light that are sent out of atoms or molecules
Source document of definition	
Note	
Remark	the list of values contains the recommended wavelength given in ISO 7944:1998 and other used wavelengths for material specification ISO 25297-1:2012, NODIF: spectral_name
Formula	
Unit of measure*	nm
UN ECE code for unit	C45
Alternative unit	
IEC classification	L03
Type of property D = dependent; N = non-dependent; C = condition	C
Depends on	
Domain*:	
Property type classification	Real
Value specification	EXPLICIT

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA031-001.062**
Preferred name*	**wavelength for special spectral lines**
List of values	157,63 193,0 194,23 248,3 280,4 296,728 312,566 334,148 365,01 404,66 435,83 441,57 479,99 486,13 543,5 546,07 587,56 589,29 632,8 643,85 656,27 706,52 768,19 780,0 852,11 1013,98 1060,0 1064,1 1128,66 1395,1 1529,6 1813,1 1970,1 2325,4 10600,0

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA031-001.062**
Preferred name*	**wavelength for special spectral lines**
List of value names	157,63 nm 193,00 nm ArF excimer laser 194,23 nm 248,3 nm ultraviolet mercury line, KrF excimer laser 280,4 nm ultraviolet mercury line 296,728 nm ultraviolet mercury line 312,566 nm ultraviolet mercury line 334,148 nm ultraviolet mercury line 365,01 nm ultraviolet mercury i-line 404,66 nm violet mercury h-line 435,83 nm blue mercury g-line 441,57 nm He-Cd 479,99 nm blue cadmium F´-line 486,13 nm blue hydrogen F-line 543,5 nm He-Ne laser 546,07 nm green mercury e-line 587,56 nm yellow helium d-line 589,29 nm yellow natrium D-line 632,8 nm He-Ne gas laser 643,85 nm red cadmium C´-line 656,27 nm red hydrogen C-line 706,52 nm red helium r-line 768,19 nm, A´-line 780,0 nm infrared Rb line 852,11 nm infrared caesium s-line 1013,98 nm infrared mercury t-line 1060,00 nm Nd gas laser 1064,1 nm Nd: YAG laser 1128,66 nm 1395,1 nm infrared mercury line 1529,6 nm infrared mercury line 1813,1 nm infrared mercury line 1970,1 nm infrared mercury line 2325,4 nm infrared mercury line CO_2 Laser
Value format	
Identification class instance types	
Figure	
Classification to ICS*	01.060\17.180\37.020
Definition class*	ISOTC172-AAA008-001
Preferred name of definition class	quantities of light and related electromagnetic radiations
Keyword	reference wavelength\spectral line

Hierarchy	Properties
Identifier [Information supplier-Code*-Version*-Revision*]	**ISOTC172-AAA031-001.062**
Preferred name*	**wavelength for special spectral lines**
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7 Application classes

7.1 ISOTC172-AAA020-001: ISOTC172 optics and photonics

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA020-001.018**
Preferred name*	**ISOTC172 optics and photonics**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7.2 ISOTC172-AAA021-001: ISOTC172SC01 fundamental standards

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA021-001.016**
Preferred name*	**ISOTC172SC01 fundamental standards**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172/SC 1
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7.3 ISOTC172-AAA022-001: ISOTC172SC03 optical materials and components

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA022-001.024**
Preferred name*	**ISOTC172SC03 optical materials and components**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172/SC 3
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7.4 ISOTC172-AAA023-001: ISOTC172SC04 telescopic systems

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA023-001.013**
Preferred name*	**ISOTC172SC04 telescopic systems**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172/SC 4
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7.5 ISOTC172-AAA024-001: ISOTC172SC05 microscopes and endoscopes

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA024-001.018**
Preferred name*	**ISOTC172SC05 microscopes and endoscopes**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172/SC 5
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7.6 ISOTC172-AAA025-001: ISOTC172SC06 geodetic and surveying instruments

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA025-001.016**
Preferred name*	**ISOTC172SC06 geodetic and surveying instruments**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172/SC 6
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7.7 ISOTC172-AAA026-001: ISOTC172SC07 ophthalmic optics and instruments

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA026-001.017**
Preferred name*	**ISOTC172SC07 ophthalmic optics and instruments**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172/SC 7
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

7.8 ISOTC172-AAA027-001: ISOTC172SC09 electro-optical systems

Hierarchy	Application classes
Identifier [Information supplier*-Code*-Version*-Revision*]	**ISOTC172-AAA027-001.015**
Preferred name*	**ISOTC172SC09 electro-optical systems**
Short name	
Synonymous name	
Definition*	collection of application classes and properties used in ISO/TC 172/SC 9
Source document of definition	
Note	
Remark	
List of defined properties	
Figure	
Classification to ICS*	37.020\31
Its superclass	ISOTC172-AAA016-001
Preferred name of superclass	Application classes
Keyword	laser
Applicable properties	
Applicable types	
Subclass selectors	
Class selector values	
Status	60.60 released
Date of original definition*	2012-08-15
Date of current version*	2012-08-15
Date of current revision*	2012-08-15
ownerTCSC*	TC172
liaisonTCSC	
ebXML URI	

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