INTERNATIONAL STANDARD

ISO 23584-2

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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
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Contents

Page

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	