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STANDARD

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9973

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**Information technology — Computer
graphics and image processing —
Procedures for registration of graphical
items**
iTeh STANDARD PREVIEW
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*Technologies de l'information — Traitement informatisé des graphiques
et de l'image — Procédures pour l'enregistrement des items graphiques*
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Contents	Page
1 Scope	1
2 Normative references	2
3 The Registration Authority	4
3.1 Appointment of a Registration Authority	4
3.2 Register of graphical items	4
3.3 Initial assignments and additions	4
3.4 Deletions	7
3.5 Modifications of proposals	7
3.6 Future standards	7
3.7 Additional Classes of Graphical Items	8
4 Sponsoring Authorities	9
4.1 Definition of Sponsoring Authority	9
4.2 Responsibilities of Sponsoring Authorities	9
4.3 Registration form	9
Annexes	
A Information needed to submit proposals	10
B Example forms for proposals and registered items	11
C Defined classes of graphical items	29
D Language Binding Guidelines	30
E Encoding Guidelines	32

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75% of the national bodies casting a vote.

International Standard ISO/IEC 9973 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 24, *Computer graphics and image processing*.

This first edition cancels and replaces ISO/TR 9973:1990.

Annex A forms an integral part of this International Standard. Annexes B to E are for information only.

Introduction

This International Standard has been published to provide a set of procedures for the registration of graphical items. In this context graphical items refers to all registered graphical items defined within the standards developed by ISO/IEC JTC1/SC24. These procedures were originally processed by ISO TC97/SC21/WG2 (now ISO/IEC JTC1/SC24) as a Technical Report. Although it was originally published as a Technical Report because its prompt availability was critical to the utilization of existing International Standards, it is now recognized that the importance of this material merits its publication as an International Standard.

Responsibility for preparing standards for interchange of information involving computer graphics is assigned to subcommittee ISO/IEC JTC1/SC24 - Computer Graphics and Image Processing.

All proposed and anticipated standards in this area share certain classes of graphical items that are allowed to vary across implementations of the standard: linetype is an example of such a class. Nevertheless, there is a strong incentive for implementations using the same graphical items to reference them in the same way. Each standard developed by ISO/IEC JTC1/SC24, therefore, provides for registration of certain graphical items. For example, in the Graphical Kernel System, linetype values 1,2,3, and 4 are defined in the International Standard; linetype values 5 and greater are reserved for registration, and negative values are used for implementation dependent linetypes.

This International Standard specifies procedures to be followed in preparing, maintaining and publishing the ISO/IEC International Register of Graphical Items, containing the identifiers and meanings assigned to particular items. The purpose of the register is to inform all concerned of items already registered and of the specific identifiers assigned to them. The register includes current classes of graphical items and registered graphical items for relevant International Standards developed by ISO/IEC JTC1/SC24. It will be updated as necessary for future computer graphic standards developed by ISO/IEC JTC1/SC24.

Publication of the register promotes compatibility of international information exchange and avoids duplication of effort in development of application-oriented graphical items. Registration provides identification for a graphical item but should not be regarded as a standardization procedure. However, as a matter apart from registration, the graphical items may, but need not, be the subject of an international, national, or other standard. In these cases the register will reference the applicable standard. When such a standard is prepared subsequent to registration of a graphical item, it would be appropriate for the registered identifier of the graphical item to be indicated in the standard.

Information technology - Computer graphics and image processing - Procedures for registration of graphical items

1 Scope

This International Standard specifies procedures to be followed in preparing, maintaining, and publishing a register of identifiers and meanings that, under the direction of ISO/IEC JTC1/SC24, are assigned to graphical items.

Registration procedures will not assign values of identifiers for graphical items that are defined as being workstation- or implementation-dependent by specific graphics standards. The register of font appearance in the ISO/IEC JTC1/SC24 register of graphical items is not intended to address the broader issues of general purpose font registration as provided by ISO/IEC JTC1/SC18. The procedures apply to registration of individual items within classes of graphical items as reserved for registration in the International Standards developed by ISO/IEC JTC1/SC24.

2 Normative references

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

ISO 7942:1985, *Information processing systems - Computer graphics - Graphical Kernel System (GKS) functional description*.

ISO 8632-1:1992, *Information technology - Computer graphics - Metafile for the storage and transfer of picture description information - Part 1: Functional specification*.

ISO 8632-2:1992, *Information technology - Computer graphics - Metafile for the storage and transfer of picture description information - Part 2: Character encoding*.

ISO 8632-3:1992, *Information technology - Computer graphics - Metafile for the storage and transfer of picture description information - Part 3: Binary encoding*.

ISO 8632-4:1992, *Information technology - Computer graphics - Metafile for the storage and transfer of picture description information - Part 4: Clear text encoding*.

ISO 8651-1:1988, *Information processing - Computer graphics - Graphical Kernel System (GKS) language bindings - Part 1: FORTRAN*.

ISO 8651-2:1988, *Information processing systems - Computer graphics - Graphical Kernel System (GKS) language bindings - Part 2: Pascal*.

ISO 8651-3:1988, *Information processing systems - Computer graphics - Graphical Kernel System (GKS) language bindings - Part 3: Ada*.

ISO 8651-4:1991, *Information processing systems - Computer graphics - Graphical Kernel System (GKS) language bindings - Part 4: C*.

ISO 8805:1988, *Information processing systems - Computer graphics - Graphical Kernel System 3D (GKS-3D) functional description*.

ISO/IEC 8806-1:⁻¹⁾1989, *Information processing systems - Computer graphics - Graphical Kernel System for Three Dimensions (GKS-3D) language bindings - Part 1: FORTRAN*.

ISO/IEC 8806-4:1991, *Information technology - Computer graphics - Graphical Kernel System for Three Dimensions (GKS-3D) language bindings - Part 4: C*.

ISO/IEC 9592-1:1989, *Information processing systems - Computer graphics - Programmer's Hierarchical Interactive Graphics System (PHIGS) - Part 1: Functional specification*.

ISO/IEC 9592-2:1989/Amd.1:1992, *Information processing systems - Computer graphics - Programmer's Hierarchical Interactive Graphics System (PHIGS) - Part 2: Archive file format*.

ISO/IEC 9592-3:1989/Amd.1:1992, *Information processing systems - Computer graphics - Programmer's Hierarchical Interactive Graphics System (PHIGS) - Part 3: Clear text encoding of archive file*.

ISO/IEC 9592-4:1992, *Information processing systems - Computer graphics - Programmer's Hierarchical Interactive Graphics System (PHIGS) - Part 4: Plus Lumière und Surfaces. PHIGS PLUS*.

⁻¹⁾To be published

ISO/IEC 9593-1:1990, *Information processing systems - Computer graphics - Programmer's Hierarchical Interactive Graphics System (PHIGS) language bindings - Part 1: FORTRAN.*

ISO/IEC 9593-3:1990, *Information processing systems - Computer graphics - Programmer's Hierarchical Interactive Graphics System (PHIGS) language bindings - Part 3: Ada.*

ISO/IEC 9593-4:1990, *Information processing systems - Computer graphics - Programmer's Hierarchical Interactive Graphics System (PHIGS) language bindings - Part 4: C.*

ISO/IEC 9636-1:1991, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Functional specification - Part 1: Overview, profiles and conformance.*

ISO/IEC 9636-2:1991, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Functional specification - Part 2: Control.*

ISO/IEC 9636-3:1991, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Functional specification - Part 3: Output.*

ISO/IEC 9636-4:1991, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Functional specification - Part 4: Segments.*

ISO/IEC 9636-5:1991, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Functional specification - Part 5: Input and echoing.*

ISO/IEC 9636-6:1991, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Functional specification - Part 6: Raster.*

ISO/IEC 9637-1:1994, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Data stream binding - Part 1: Character encoding.*

ISO/IEC 9637-2:1994, *Information technology - Computer graphics - Interfacing techniques for dialogues with graphical devices (CGI) - Data stream binding - Part 2: Binary encoding.*

ISO/IEC 11072:1992, *Information technology - Computer graphics - Computer Graphics Reference Model.*

ISO/IEC Guide 2:1991, *General terms and their definitions concerning standardization and related activities.*

ISO/IEC Guide 23:1982, *Methods of indicating conformity with standards for third-party certification systems.*

ISO/IEC Guide 25:1990, *General requirements for the competence of calibration and testing laboratories.*

ISO/IEC Guide 28:1982, *General rules for a model third-party certification system for products.*

3 The Registration Authority

3.1 Appointment of a Registration Authority

A qualified and internationally acceptable body concerned with computer graphics is recommended by ISO/IEC/JTC1/SC24 to ISO/IEC JTC1 for acceptance by Council to act as the Registration Authority for the purposes of this International Standard. Currently, the Registration Authority is the National Institute of Standards and Technology (NIST). An agreement has been signed at a previous time setting terms and conditions between NIST and ISO/IEC. A Registration Information Pack is available from the Registration Authority. The address is:

NIST Registration Authority
National Institute of Standards and Technology
Building 225, Room A266
Gaithersburg, MD 20899
USA
+ 1 301 975 3265
FAX +1 301 948 6213

3.2 Register of graphical items

The Registration Authority shall maintain a register of identifiers and meanings assigned to graphical items. The contents of this register shall be available to the public under the terms and conditions set by the Registration Authority. Upon request, the Registration Authority will distribute an information pack containing a description of the register and how to submit proposals. Annex A contains the information needed to propose a graphical item for registration. Annex B contains example proposal and register forms. Portions of the Register may be obtained by standards developers at no charge under the terms and conditions set by the Registration Authority.

3.3 Initial assignments and additions (standards.iteh.ai)

With regard to initial assignment of identifiers and meanings to graphical items and subsequent additions to the register, the responsibilities of the Registration Authority shall be as follows:

- a) to receive proposals from Sponsoring Authorities (see 4),
- b) to ascertain, by referring proposals to the Secretariat of ISO/IEC JTC1/SC24 or by a vote within the subcommittee, whether each proposal should be accepted, accepted subject to amendment, or rejected. Criteria for rejection of a proposal include:
 - 1) incomplete or incomprehensible definition of the graphical item,
 - 2) incorrect or incomplete language binding or data encoding (see Annex D),
 - 3) existence of an identical item in the register,
 - 4) graphical item class does not exist,
 - 5) non-applicable to any of the International Standards developed by ISO/IEC JTC1/SC24,
 - 6) inadequate justification for inclusion in the register.

Voting discrepancies shall be resolved following attempts to meet objections raised by negative votes.

- c) to assign a proposal identifier to each accepted graphical item,

- d) to assign a register identifier to each accepted graphical item. The register identifier shall consist of a section name followed by a unique registration number within the section which is:
 - 1) the value of the identifier of the graphical item, if this is a number or,
 - 2) some appropriate number assigned by the Registration Authority, if the value of identifier of graphical item is not a number,
- e) to announce to all Member Bodies, Category A liaison organizations of ISO and IEC National Committees and the ISO/IEC JTC1/SC24 the graphical items accepted for registration. This is accomplished by sending the table of contents and a cross reference list matching the proposal number with the registered item,
- f) to inform the appropriate Sponsoring Authority of the results when processing of a proposal has been completed,
- g) to add new classes of graphical items to the current list of classes of graphical items (see 3.7),
- h) to provide copies of the register and associated documents to members of the public on request,
- i) to distribute the current list of classes of graphical items upon request.

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Figure 1 below explains the steps necessary to register a graphical item.

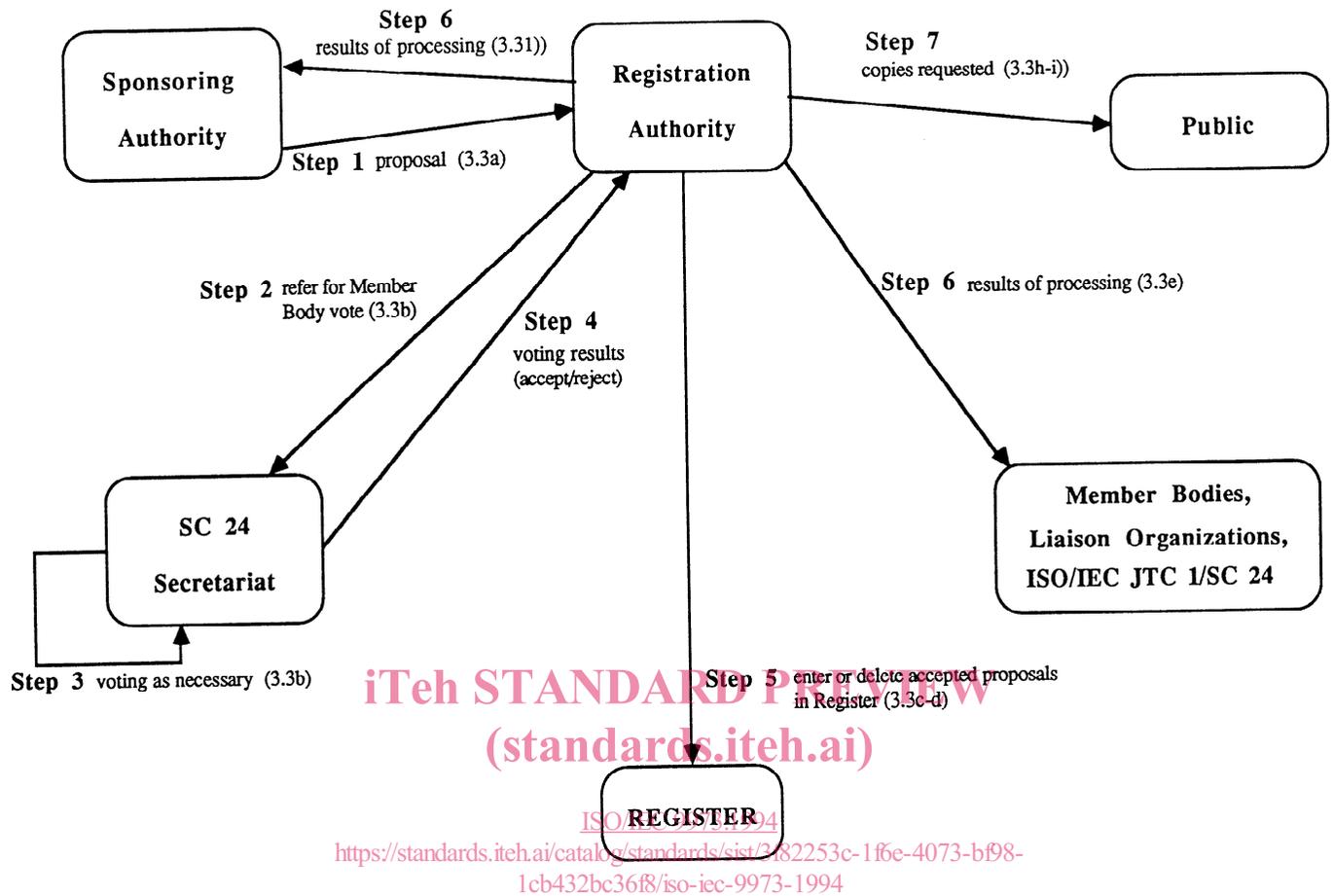


Figure 1 - Steps to register a graphical item

- Step 1 - A sponsoring authority submits a proposal for a graphical item to be registered to the Registration Authority, after insuring it is complete,
- Step 2 - The Registration Authority forwards this proposal to the SC24 secretariat for member body vote,
- Step 3 - SC24 conducts a letter ballot vote,
- Step 4 - SC24 processes the results of the letter ballot and decides if the proposal is accepted or rejected,
- Step 5 - The register is updated to reflect the results of the letter ballot,
- Step 6 - The Registration Authority distributes the results of the votes to the member body, sponsoring authority, and the liaison organizations of ISO/IEC JTC1/SC24,
- Step 7 - Copies of the register are available to the public according to the terms and conditions defined by the Registration Authority.

3.4 Deletions

With regard to deletions, the responsibilities of the Registration Authority shall be as follows:

- a) to receive proposals from the Sponsoring Authorities (see 4),
- b) to inform the Sponsoring Authority that originally submitted the item for registration of the proposed deletion. Any comments that a Sponsoring Authority may desire to make concerning a proposed deletion shall be directed to the Secretariat of ISO/IEC JTC1/SC24 for consideration,
- c) to ascertain whether each proposal should be accepted or rejected by referring proposals to the Secretariat of ISO/IEC JTC1/SC24 for a Member Body vote within the subcommittee,
- d) to announce items deleted from the register to all Member Bodies, Category A liaisons of ISO and IEC National Committees (identifiers of items that have been deleted shall not be reused),
- e) to inform the Sponsoring Authority of the results when processing of a proposal has been completed.

3.5 Modifications of proposals

Once a proposal for registration of a particular graphical item has been accepted and distributed, no proposals for modification of that graphical item will be considered. However, proposals for additional language bindings and encodings may be submitted for inclusion. These proposals are handled the same way as new proposals. The language binding or encoding will be added to the existing Registered Items without change to the existing information. Requests for clarifications may be submitted by Sponsoring Authorities to ISO/IEC JTC1/SC24 for approval. Approved clarifications shall be promulgated by the Registration Authority.

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3.6 Future standards

The Registration Authority shall update the register to include relationships to additional standards or parts of standards in the area of computer graphics developed by the subcommittee.

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3.7 Additional Classes of Graphical Items

The current set of graphical item classes is listed in Annex C. The most recent list of classes of graphical items is maintained by the Registration Authority. Additional classes of graphical items may be added to the register according to Figure 2 below.

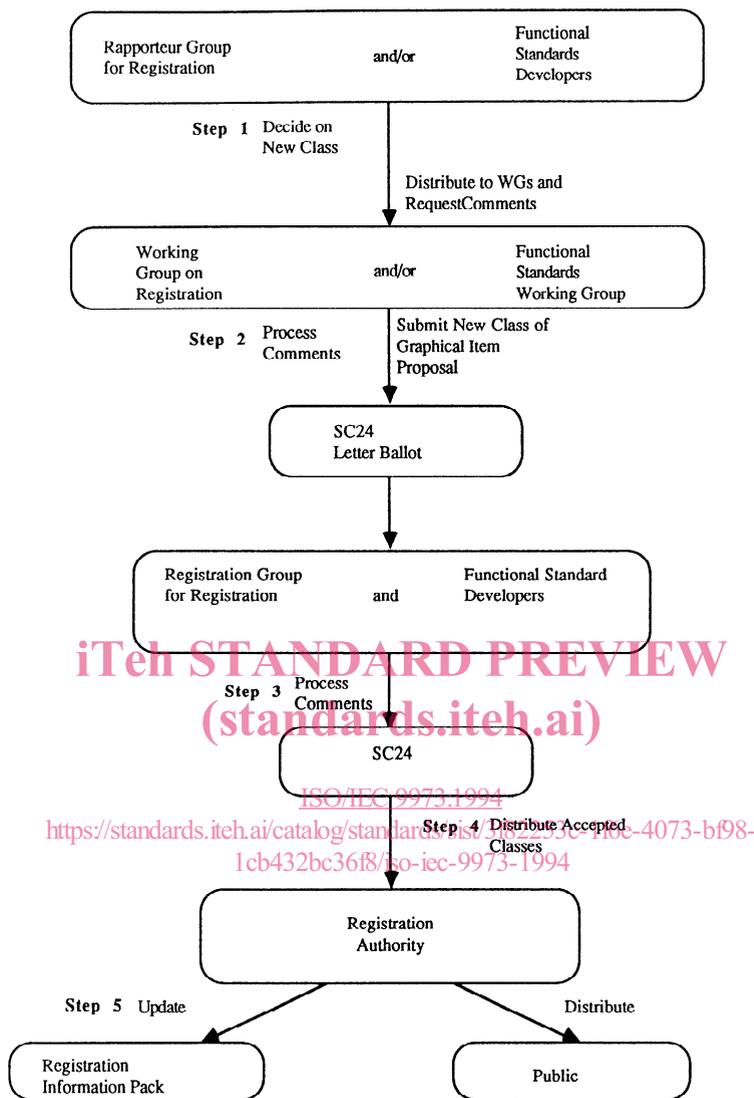


Figure 2 – Steps to Add a New Class of Graphical Item

- Step 1 - The Registration Rapporteur Group, in consultation with the functional standards Working Group, identifies the need for a new class of registered item. The group produces a document that describes the new class that it wishes to sponsor and circulates it to the Working Groups of ISO/IEC JTC1/SC24 for comment.
- Step 2 - The sponsoring Working Group, in collaboration with the Registration Rapporteur Group, processes the comments received and forwards the revised proposal to the Secretariat of ISO/IEC JTC1/SC24 for an SC24 letter ballot.
- Step 3 - The Registration Rapporteur Group, in consultation with the sponsoring Working Group, resolves any comments submitted with votes.
- Step 4 - The Secretariat of ISO/IEC JTC1/SC24 forwards the final proposal to the Registration Authority.
- Step 5 - The Registration Authority updates the Register, the Information Pack, and distributes the results to the public upon request.

4 Sponsoring Authorities

4.1 Definition of Sponsoring Authority

Proposals for adding, deleting, or adding language bindings or encodings may be made by the following organizations which, for purposes of this International Standard, are Sponsoring Authorities:

- a) any ISO or IEC Technical Committee or Subcommittee,
- b) any P-member or O-member of ISO/IEC JTC1 or ISO/IEC JTC1/SC24,
- c) any international organization having Category A liaison status with ISO/IEC JTC1 or ISO/IEC JTC1/SC24.

4.2 Responsibilities of Sponsoring Authorities

The responsibilities of Sponsoring Authorities shall be as follows:

- a) to receive proposals concerning graphical items from within their respective countries or organizations,
- b) to explain proposals and to coordinate multiple proposals if desired,
- c) to ensure that all proposals are completed. If a language binding and/or encoding is required, at least one language binding and/or data encoding for at least one standard developed by ISO/IEC JTC1/SC24 shall be included,
- d) to ascertain, by referring proposals to their members for a vote, whether each proposal should be accepted, accepted subject to amendment, or rejected. Criteria for rejection of a proposal include:
 - 1) incomplete or incomprehensible definition of the graphical item,
 - 2) incorrect or incomplete language binding or data encoding information (reference Annex D Language Binding Guidelines),
 - 3) existence of an identical item in the register,
 - 4) graphical item class does not exist,
 - 5) non-applicable to any of the International Standards developed by ISO/IEC JTC1/SC24,
 - 6) inadequate justification for inclusion in the register,
- e) to forward to the Registration Authority those proposals that have support of the Sponsoring Authority,
- f) to make known within their respective countries or organizations the decisions taken on proposals as transmitted to them by the Registration Authority.

4.3 Registration form

Annex A specifies general information necessary to submit a proposal to the Registration Authority. Detailed information for a particular class may be obtained from the Registration Authority.

Annex B contains example proposals and registration forms.