# GUIDELINES FOR REVISION OF THE IPC

*adopted by the Committee on Experts of the IPC Union at its thirty-seventh session and modified at its forty-fourth to fifty-seventh sessions*

## INTRODUCTION

1. A basic description of the IPC and its classification rules is given in the "Guide to the IPC". The purpose of the present document and its Appendices is to give complementary information for revising the IPC, particularly in regard of drafting classification schemes and Definitions.

2. *[Deleted]*

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## SECTION I – GENERAL GOALS OF THE IPC

4. The primary purpose of the IPC is to serve as an effective search tool for the retrieval of patent documents by intellectual property offices or other users, in order to establish the novelty or evaluate the non-obviousness or inventive step of patent applications.

5. The IPC, furthermore, has the important purposes of serving as:

– an instrument for the orderly arrangement of patent documents in order to facilitate access to their technological and legal information;

– a basis for selective dissemination of information to all users of patent information;

– a basis for investigating the state of the art in given fields of technology;

– a basis for the preparation of industrial property statistics which in turn permit the assessment of technological development in various areas.

6. The structure of the IPC must be such that its classification places enable searches to be conducted in the most efficient way possible.

7. In order to achieve this purpose, the IPC has to be devised in such a way that a given technical subject matter will be classified in a consistent way, and thus can be retrieved in a consistent way by using a corresponding search statement.

8. Accurate and consistent classification can only be achieved if there is no doubt over the scope of the classification places. Clear and correct wording of the texts of the classification is therefore of crucial importance.

9. Classification places should as far as possible be mutually exclusive, with no overlap therebetween.

10. The IPC should as far as possible enable classification of inventive things as a whole, and not by separate classification of their constituent parts.

11. In order that the IPC may remain a valid and viable classification system and an effective search tool, it has to be dynamic. The IPC must be constantly improved, for example in order to:

– provide for the development of new technology;

– alleviate errors, inconsistencies and conflicts between different places;

– further refine the existing classification, e.g. by subdivision of existing groups;

– conform to international classification practice.

## SECTION II – FEATURES OF THE IPC

### TERMINOLOGY

12. The wording used in a classification place must indicate, as clearly as possible, the scope of the place. Titles and references of the schemes should give the information necessary for the correct interpretation of the scope of the places. Besides, the wording adopted should also cater for future technology development that would require more subdivisions.

13. Multipart titles are used when it is considered desirable to cover distinct kinds of subject matter, which cannot conveniently be covered by a single phrase, in a single classification place. Each part of a multipart title should be interpreted as if it stood alone as a separate title. Multipart titles should be preferred over sentences with “or”, in particular to avoid situations where the use of modifiers would make a one-part title ambiguous. For example, “Iron or aluminium alloys” is ambiguous and should be replaced by either “Iron alloys; Aluminium alloys” or “Iron; Aluminium alloys”, depending on the intended meaning.

14. Multipart titles should not be used where the different title parts are merely alternative expressions for the same subject matter.

15. When necessary, the scope of a place can be restricted by limiting references (see paragraphs 37 and 38, below). However, titles that positively state the scope in a way that makes references unnecessary are preferable. For example, it is better to say “1/00 Electric motors” rather than “1/00 Motors (non-electric motors 3/00)”, even though both wordings define the same scope.

16. If there is any doubt over the scope of a place, then the scope should be further clarified by a note or by the Definitions.

17. The Definitions are intended for giving a more detailed explanation of the scope, for example by giving illustrations or definitions of terms or by describing the relationship between related places. Definitions should also be used for information that can be of use when searching places for related technical fields.

17*bis*. Definitions must never enlarge or modify the scope of the place in question as outlined by its title and hierarchy as well as by notes and references (if any).

17*ter*. Further information about Definitions can be found in Appendix VI (Guidelines for Drafting Classification Definitions; Definition Template).

18. A limited number of terms or expressions are used in the IPC with standardized meanings that might be different from their common usage. These terms and their meanings are given in paragraphs 53 to 65 of the Guide and in the "Glossary" contained in Chapter XVI of the Guide. When the terms and expressions given in these parts of the Guide are used in classification schemes their standardized meaning should be assumed. Synonyms or alternative terminology with the same meaning as the standardized terminology should only be used if the standardized terminology is deemed unsuitable in a particular case.

19. If the Guide does not give any guidance on which terminology to use, the terms or expressions used and their spelling and punctuation should be checked for consistency with existing classification places for similar technology.

20. Titles should normally be in plural form, except when it might confuse users as to the scope of a place.

20*bis*. Titles specifying numbers of elements or features should be exact and unambiguous. The Glossary of the IPC contains specific definitions of terms and expressions such as "multiple", "multi-", "multiplicity of", "plural" and "plurality of", which are by default understood as "two or more" of the things in consideration. Where required, titles should be more specific, e.g. "three or more" would be preferred to "multiple" if the minimum number of things required is three.

21. If different technical terms or expressions are used in a particular technical field for expressing one and the same thing, only one of them should be selected for use in the classification scheme in order to avoid confusion. The other can be mentioned in the Definitions. However, if alternative terms or expressions have been linked together in the title of a hierarchically higher place, the same terms or expressions should be used together in all dependent places.

22. When abbreviations are used, those standardized by the International Organization for Standardization (ISO) are recommended.

23. If abbreviations (e.g. acronyms) are used that might not be familiar to IPC users, the corresponding full text that they replace should be given together with the abbreviation at the hierarchically highest place where it appears in the scheme. Either the full text or its abbreviation could be in square brackets, for example "AC [alternating current]" or "alternating current [AC]", depending on their readability or on the industrial practices in certain technical fields. Abbreviations should not be pluralized in such explanations. For example, the form "light emitting diodes [LED]" should be used instead of "light emitting diodes [LEDs]". Pluralization of abbreviations is acceptable when used in running text in subsequent group titles. For example, "LEDs" can be pluralized in the title of group H05B 45/60, which follows the explanation of the abbreviation "LED" offered at group H05B 45/00. Abbreviations that are used in the scheme should also be included, along with the full text that they replace, in the "Glossary of terms" section of the Definitions.

24. When appropriate, the IUPAC (International Union of Pure and Applied Chemistry) nomenclature should be followed for the presentation of chemical terms.

25. The full names of chemical elements should be used whenever possible. When groupings of elements are given in the IPC, they should follow the definitions given in the Note at the beginning of section C of the IPC.

26. Except in chemical formulae, Greek letters should be spelt out, e.g. "alpha" instead of "$\alpha$", in order to facilitate text searching.

27. Classification symbols should always be given in their complete form, for example "A22C 21/00" and not "21/00". When two or more classification places are listed together, their classification symbols should also be written in their complete form, for example "B21C, B21D" and not "B21C, D" or "A22C 21/00, A22C 25/00" and not "A22C 21/00, 25/00".

27*bis*. A place (e.g. a subclass or a main group) in the IPC always includes its subdivisions, as described in paragraph 41*ter* of the Guide and clarified by the examples provided therein.

28. Expressions within brackets should be avoided in schemes, except for references (which are placed within round brackets), explanations or abbreviations [which are placed within square brackets] and chemical formulae and compound names (for which round brackets, square brackets or a combination thereof may be used when necessary).

29. The use of marks (trademarks, registered marks, service marks, etc.) is strongly discouraged. If the use of a mark is absolutely indispensable, the mark should only be presented in examples and acknowledged with the relevant symbol (™, ®, ℠, etc.).

30. Other preferred terms and expressions:

– The term "apparatus" should be used rather than "machines", since it is more generic. Exceptions can be made when it is accepted practice in a particular art to use the term "machines", for example in expressions such as "dynamo-electric machines" or "sewing machines".

– The term "functional" may be used only if its meaning is clear in the context given, for example as in "Computing devices characterised by the combination of hydraulic or pneumatic functional elements with at least one other type of functional element". Otherwise, it should be replaced by a clearer wording.

– The term "material" should normally be used only in its singular form, except when the plural form is required for accuracy.

– The terms "invention(s)" and "inventive" should be avoided, with the exception of the expressions "invention information" and "inventive thing(s)" that are used with the meanings defined in the Guide.

– The expression "characterised by …" should be used rather than alternative expressions such as "having special …" when a group is intended to provide for things distinguished by a particular detail or feature. Example:

> In a main group for balls, the subgroup title "characterised by their coverings" should be preferred over "special coverings" (A63B 39/06).

– The expression "arrangement of …" should be used rather than alternative expressions such as "mounting or disposition of …" when a group is intended to provide for things distinguished by a particular way of incorporating a part or detail. Example:

> "Arrangement of motors in, or adjacent to, traction wheels" should be used rather than "Disposition of motor in, or adjacent to, traction wheel" (B60K 7/00).

– The broader expression “arrangements for …” should be used rather than alternative expressions such as “devices for …” or “apparatus for …”, except when a restricted meaning is intended. Example:

“Arrangements for mounting spades or shields” is a broader expression than “tools”, “devices” or “apparatus” for the same purpose (F41C 27/04).

– The expression “specially adapted for …” should be used instead of “peculiar to …” or similar alternative expressions when a group is intended to provide for things that have been modified or specially designed for a certain application or for solving a particular problem. Examples:

– “Furniture specially adapted for vessels” should be preferred over “Furniture peculiar to vessels” (B63B 29/04).

– “Arrangement or operation of ventilating devices, specially adapted for lavatories” should be preferred over “Special arrangement or operation of ventilating devices” (E03D 9/04).

30*bis*. British English spelling and terminology must be used in the classification schemes. For example, “tyre”, “aluminium”, “colour”, “travelling” and “characterised” must be used instead of “tire”, “aluminum”, “color”, “traveling” and “characterized”.

30*ter.* Corresponding American English spelling and terminology may be added to the Definitions to provide further support for classification and search.

**REFERENCES**

31. References should be as specific as possible, as to both the subject matter referred to and the place where it is covered.

32. References should as accurately as possible identify the subject matter that is actually referred out of the place where they stand. In some cases, a mere repetition of the title of the place that the reference points to does not give a clear indication of what is referred out.

33. References must be carefully checked as regards the scope of the place referred to. In particular, it is not allowed to refer out subject matter that is not clearly covered by the place referred to, since the wording of a reference to a place should never appear to affect the scope of that place.

33*bis*. References have a context-sensitive nature. Each reference must be read and understood in the context of the place under consideration – be it a subclass, a main group or a subgroup.

34. References must include the classification symbol(s) of at least one place where the subject matter that is referred out should be classified. Non-specific references, for example of the type “- - - specially adapted to a particular field of use, see the relevant places”, giving no examples of such places, are not allowed. Existing references of this type will be progressively removed or clarified in the course of the revision and maintenance program of the IPC.

35. References should point to the most specific place (i.e. at the hierarchically lowest level) where the subject matter referred out is covered, rather than pointing to a non-specific subclass or main group.

36. A reference should be placed at the most relevant place in the scheme, for example in the single group where it applies rather than at subclass level.

37. Limiting references should be presented in the classification schemes and, additionally, in the Definitions, if available. There are two types of limiting references:

– **Scope-limitation references** exclude specified subject matter from the scope of a classification place, which subject matter would otherwise be covered by that place, and indicate the place(s) where this subject matter is classified.

– **Precedence references** are used when subject matter is classifiable in two places, or when different aspects of the subject matter are classifiable in two places, and it is desired that the subject matter should be classified in only one of those places.

37*bis*. A precedence reference can act either as a form of scope-limitation reference or as a classification rule for combination-type subject matter, depending on the relationship between the affected places:

(i) A precedence reference to a place which is a subset of the place where the reference stands has the same function as a scope-limitation reference.

(ii) A precedence reference to a place which has partially overlapping scope with the place where the reference stands also has the same function as a scope-limitation reference.

(iii) A precedence reference to a place which has no overlapping scope with the place where the reference stands serves as a classification rule for combination-type subject matter.

Example (hypothetical):

10/00 Mechanical means (20/00, 30/00 take precedence)
20/00 Hydraulic means
30/00 Chemical means

– The precedence reference from 10/00 to 20/00 has the same function as a scope-limitation reference saying “(hydraulic means 20/00)”. Since hydraulic means are a type of mechanical means, it excludes a subset of the matter covered by 10/00 and places it in a different place.

– The precedence reference from 10/00 to 30/00 does not exclude chemical means per se, since chemical means per se are not covered by 10/00. It can therefore not be replaced by a reference saying “(chemical means 30/00)”, since this would be an informative reference. The function of the precedence reference from 10/00 to 30/00 is to exclude subject matter that would otherwise be classified in both places, i.e. combinations of mechanical means and chemical means. To this extent, the precedence reference is establishing a rule for classification in these places.

In the Definitions, precedence references are listed in tabular form under the heading “Limiting references”, using the full description of the excluded subject matter in question, regardless of which of the three cases above applies.

38. Precedence references are only allowed between places in close proximity to each other, for example simultaneously visible on the same page or screen. As far as possible, scope-limitation references should be preferred to precedence references, unless the context is very clear.

38*bis*. Due to their scope-limitation nature, limiting references in different classification places pointing to each other (so called “looping limiting references”) are not allowed.

39. [*Deleted]*

40. Informative references have no effect on the scope of the place where they stand. They should only be presented in the Definitions, under the heading “Informative references”, and not in the schemes. Examples of such references are:

– References from application-oriented places to general places:

A01C 3/04 Manure loaders

Definition

Informative References

Loaders in general B65G

– References between different application places for related subject matter (hypothetical example):

B60H ARRANGEMENTS OF HEATING, COOLING, VENTILATING OR OTHER AIR-TREATING DEVICES, SPECIALLY ADAPTED FOR PASSENGER OR GOODS SPACES OF VEHICLES

Definition

Informative References

| | |
|---|---|
| Heating, cooling, ventilating or air-conditioning, specially adapted for rail vehicles | B61D 27/00 |
| Arrangements of ventilation, heating, cooling or air-conditioning, specially adapted for ships or other waterborne vessels | B63J 2/00 |

– References to related places which do not overlap:

A61B 5/06 Devices, other than using radiation, for detecting or locating foreign bodies

Definition

Informative References

Instruments for removing foreign bodies from the human body A61B 17/50

– References pointing downwards in schemes where last place priority rule applies or upwards in schemes where first place priority rule applies.

41. References in an application-oriented place pointing to a function-oriented place are always informative.

Example:

F01L Cyclically operating valves for machines or engines

Definition

Informative References

Valves in general F16K

41*bis*. Non-limiting references, as defined in paragraphs 39 and 48 of the Guide, are progressively being removed from schemes and transferred to the Definitions.

41*ter*. Limiting references are listed in the Definitions in tabular form under the subheading "Limiting references". Precedence references must be listed using the full description of the subject matter excluded, be it a subset or a combination in the sense of paragraph 37*bis*, above. Definitions are not required if the only content is a table of limiting references. For detailed instructions on drafting definitions, see Appendix VI.

41*quater*. Non-limiting references are presented only in the Definitions under the heading "References" (see Appendix VI, "REFERENCES", for details).

42. If a reference does not relate to all parts of a multipart title, it should be placed after the last title part that it relates to. If it is not obvious to which title part(s) a reference relates (e.g. when it relates to only two of three title parts), the order of title parts should be chosen so that the applicability of references is clear. Otherwise, the wording of a reference should make clear to which part of the title it refers. Alternatively, a note could be introduced instead of a reference.

43. When a classification place has more than one reference, they must be listed in the following order, separated by semicolons, with the first letter of each reference in lower case:

(1) precedence references, in their alphanumeric order;

(2) limiting references pointing to groups within the same subclass where they appear, in their alphanumeric order;

(3) limiting references pointing to other subclasses or groups thereunder, in their alphanumeric order.

44. References that are presented at a higher hierarchical level should not be repeated at a lower hierarchical level. However, references at lower levels are acceptable when they point to more specific places within a broader area that is indicated by a reference in a hierarchically higher place.

45. Different references in one place or references in closely related places (e.g. in hierarchically dependent groups) should be worded consistently with one another.

46. References should normally be in plural form. In exceptional cases where the use of the plural form might lead to confusion, the singular form can be used.

**EXAMPLES USED IN TITLES**

47. Examples should if possible exemplify the subject matter as a whole covered by the place where they stand, rather than single words of titles.

47*bis*. Trivial examples, indicating subject matter that is obvious to a person skilled in the field, should be avoided. Such examples, if considered useful, may however be placed in Definitions.

47*ter*. Subject matter that is explicitly identified by the title of a subgroup of the place in question should not be used as examples.

48. The use of examples should be preferred over titles which have a main part that actually serves as an example. For example, “Cutting tools, e.g. knives” should be preferred over “Knives or other cutting tools” or “Knives; Other cutting tools”.

49. In places with multipart titles, each example should be placed after the part to which the example applies.

50. Examples should preferably be given in the plural form, for example “wheels” rather than “wheel” or “fungi” rather than “fungus”.

51. Long lists of examples should be avoided. If many examples are needed, they should be placed in Definitions. In lists of two or more examples, the last two should be separated by “or”, and the previous by commas.

51*bis*. When giving more than one example, ambiguous use of modifiers or of expressions consisting of two or more words should be avoided. For example, “e.g. iron or aluminium alloys” is ambiguous and should be replaced by either “e.g. iron alloys or aluminium alloys” or “e.g. aluminium alloys or iron”, depending on the intended meaning.

**NOTES**

52. The purpose of notes is to give information that is of particular relevance to a distinct part of the classification, for example about the scope of a place or about specific classification rules applied in the place under consideration.

52*bis*. Instructions, rules or explanations given in notes override any general guidance given in hierarchically higher places, in case of conflict or similar guidance. For example, a last place priority rule for a main group would overrule the common rule at subclass level.

52*ter*. The information given in the notes in the scheme, particularly specific instructions and classification rules, must be made available in the Definitions as well.

53. Within classification schemes, only the term “Note(s)” is allowed. Synonyms for “Note” are not allowed.

54. For each note, the area of the IPC where it is valid should be indicated. The subdivisions of the indicated places are implicitly included in this “scope”.

55. If the scope of a note is a single place the note will be displayed after the place. If the scope is a range of places the note will be displayed before the first place of the range. In the hierarchical mode, the note will be displayed before the highest place belonging to the range.

56. Notes that are presented at a higher hierarchical level should not be repeated in hierarchically dependent places. However, if deemed desirable, a reference to a note at a higher hierarchical level may be introduced, for example, in the form “Attention is drawn to Note - - -”.

57. Further instructions on the presentation of notes can be found in Appendix I.

## CLASS AND SUBCLASS INDEXES

58. Class and subclass indexes are not an obligatory feature of the IPC but may be introduced in order to simplify the understanding of the structure of a scheme. The indexes only serve an informative purpose and cannot be used for modifying the scope of any classification places.

59. Only main group symbols should be used in the indexes.

60. *[Deleted]*

## GUIDANCE HEADINGS

61. In situations where several main groups of a subclass can be grouped in intervals that relate to common subject matter and it is helpful for users to get an indication of this, guidance headings may be used. In exceptional cases, a guidance heading may be provided for a single main group. A guidance heading should consist of a short statement that broadly relates to the common subject matter.

61*bis*. Guidance headings are not an obligatory feature of the IPC unless they precede indexing schemes (see paragraph 99, below).

62. Guidance headings do not define any scope and hence must not limit or modify the scope of the groups to which they relate. The groups must define their scope on their own, without reference to the guidance heading.

63. Wherever the scope of existing groups is apparently modified by their guidance headings, this must be corrected by modifying the group titles and/or the guidance headings. References are not allowed in guidance headings.

64. For each guidance heading, the interval of main groups where it is valid should be indicated. Guidance headings are displayed before the first main group of the interval. If there is no new guidance heading at the end of an interval, a horizontal line is presented after the last subgroup of the interval.

## SECTION III – STRATEGIES AND SPECIFIC INSTRUCTIONS FOR REVISION

65. Revision of the IPC should be carried out in a manner fully consistent with the documents identified in paragraph 1, above.

*66. [Deleted]*

67. Revision of the IPC should as far as possible make use of the experiences and solutions of other existing classification schemes, such as the CPC and FI (see also Appendix VII).

67*bis*. Due care should be taken about the possible impact of IPC changes on IPC-based classification schemes, such as the CPC and FI.

## GENERAL STRATEGIES FOR REVISION

68. The overall cost and benefits for the system as a whole must be considered when determining the desirability of a particular revision project. For example, when a particular technology can be effectively searched by language-independent means other than classification, such as chemical structure searching, it is normally not useful to revise the corresponding part of the IPC.

Subdivision or Reorganization?

69. Revision of the IPC follows the two basic strategies:

– "subdivision", namely the addition of subgroups to an existing classification place;

– "reorganization" of an area of the IPC, namely the introduction of new classes, subclasses or main groups, and/or the change of the relationship between existing classification places by modifying their scope.

70. Many revision projects require a mixture of the basic strategies described above. Caution must be exercised when choosing strategies. Before proposing further subdivision of an area of the IPC, the suitability for search needs of the existing subdivision should be investigated in order to assess whether more extensive revision is required. If relevant documents can be easily found but groups contain a high number of documents, mere subdivision may be acceptable. If it is difficult to locate relevant patent documents in the existing classification places, then the scopes of existing classification places may need to be modified.

70*bis*. When a subdivision is envisioned on a multipart title group (see paragraph 37*bis* of the Guide), two different approaches should be used, depending on the nature of the multipart title:

– for case (a) of paragraph 37*bis* of the Guide, for example for multipart titles of the kind "Product A; Product B", if the subdivision starts with the exact wording of one part of that multipart title group, the exact-wording part of the multipart title should be removed from that multipart title and a new group should be created at the same hierarchical level – with its title being the exact wording of the excised part – which would then incorporate the proposed subdivision;

– for case (b) of paragraph 37*bis* of the Guide, for example for multipart titles of the kind "Product; Details thereof", the original multipart title should be kept, whether or not the subdivision uses the exact wording of a part of the multipart title and the subdivision should be incorporated in the group branch of the multipart title group.

71. In some situations, it may not be efficient for search purposes to merely add subdivisions to an existing scheme. For example, if an existing subdivision is not efficient for searches because it does not cover the technological development in the field, it should be considered to replace the available subdivision by one or more new appropriate subdivisions.

72. On the other hand, a major reorganization of an area of the IPC may not be cost-effective when considering the costs involved in reclassification, familiarization with new schemes and reassignment of technical fields to examiners.

73. Accordingly, revision work should be restricted to necessary changes and should pay due regard to the cost of the work involved. In other terms, a sound justification, which outlines the reasons for the changes as well as the expected costs and benefits, should always be provided.

74. Normally, for each group proposed to be subdivided, either the file should contain at least an average of 500 families of the PCT Minimum Documentation or the rate of growth of the PCT Minimum Documentation should be at least 100 families for the most recent year for which statistics are considered.

75. When proposing new groups, it should be expected that as an average 100-200 families from the PCT Minimum Documentation should be covered by each such new group, for fields that heavily rely on classification for searching.

76. The quantitative criteria indicated in paragraphs 74 and 75, above, should be applied in a flexible manner. Departure from these criteria is permitted when it is sufficiently justified.

## SELECTION OF GENERAL CLASSIFICATION RULES

77. The default classification rule in the IPC is the common rule, which is outlined in paragraphs 141 to145 of the Guide.

77*bis*. When creating a new subclass, it should be carefully considered whether a rule other than the common rule should be preferred. When revising a minor part of an existing scheme where a particular general classification rule is used, introduction of a different general classification rule should only be considered if it will not cause confusion for users.

78. Indexing may be used if it is considered particularly advantageous for search purposes.

### Subdividing Schemes According to Function-Oriented or Application-Oriented Aspects

79. When revising the IPC, both the function-oriented and the application-oriented principles of classification should be considered. It has been determined that the function-oriented principle, which subdivides technology according to functional features, embraces wider concepts than the application-oriented principle, which subdivides technology according to its specific uses and applications. Experience has furthermore shown that scope defined by functional features is more clearly defined, since applications change over time and scatter over many fields.

79*bis*. Therefore, creating more function-oriented places is normally preferred over creating application-oriented places, since this increases the potential to cover future innovations in the technology. Revision of an area of the IPC according to the application-oriented principle should not, however, be excluded and all aspects should be thoroughly considered.

80. For example, it is often better for search purposes to subdivide a technical field by creating function-oriented groups that cover related technical features. The creation of application-oriented groups often leads to splitting of technically related art between several groups, based on less important application aspects. However, in some cases when it is difficult to find an efficient subdivision according to functional features, or the applications are of great importance, it might be more efficient for search to create groups for important application aspects.

81. The primary motivation for expanding the coverage of a classification place must be to improve search quality while containing classification cost. The scope of a classification place should be finally chosen only after an extensive review of the related arts and the patent documents within the revision project area by experts in the technology.

81*bis*. When creating new subdivisions, attention should be paid that the scope of each new classification place (e.g. a subgroup) is clearly defined within the scope of its hierarchically superior place (e.g. the main group), in the sense of paragraphs 67 and 68 of the Guide.

82. It should be noted that, just as with the terms “combination” and “subcombination”, the distinction between the expressions “function-oriented” and “application-oriented” can only be determined in relation to other related classification places.

83. When selecting aspects to be used for subdivision, one should primarily be concerned with the relationships between existing places that are at the same hierarchical level and under the same higher-level hierarchical place.

84. Since the purpose of the classification is to enable search, the selection of aspects should be based on technical features and problems/solutions that are claimed and disclosed in patent documents.

85. In schemes using the common rule, a mixture of function-oriented and application-oriented groups at the same hierarchical level inherently leads to groups that are not mutually exclusive.

86. When revising an area according to the function-oriented principle, finer subdivision according to application should normally be avoided, unless application aspects are considered very important and no other places for them exist. An alternative strategy in particular cases might be to allow or prescribe parallel classification in areas for both function-oriented and application-oriented aspects.

86*bis*. In the frame of revision projects, when discussing new groups, it is desirable to provide illustrative patent examples for each new envisaged group to assist the other offices involved in the revision to better identify and understand the intended scope.

Hybrid Systems; Indexing Schemes

87. A hybrid system includes one or more classification groups and one or more indexing codes for specified aspects that are associated with these groups.

88. The reasoning behind hybrid systems is that it is often useful to be able to make “and”-type search statements combining two different aspects. A classification scheme should normally be based on as few aspects as possible, in order to reduce conflicts between classification places. The aspects chosen should be the ones that serve best for the purpose of subdividing the particular technical field. As stated above, the function-oriented aspect is most

often the one that should be selected. Sometimes other aspects can be identified as particularly relevant for search in combination with the aspects selected as basis for the classification scheme. In such cases, these aspects may be considered for creation of indexing schemes, particularly when the aspects are difficult to text search or do not in itself reflect invention-type information.

*89. [Deleted]*

90. Indexing codes should identify elements of information about the technical subjects in addition to the information covered by their corresponding classification places. For example, a main group that is subdivided according to structural aspects could have an indexing scheme that identifies specific applications or specific problems to be solved that are useful for limiting a search.

91. Indexing schemes shall therefore not be created to cover aspects of subject matter that are already provided for by the classification schemes they are associated with. New entries that are based on the same principles as existing subdivisions of a classification scheme should only be created as classification groups. In particular, indexing schemes should never be created that merely specify:

– further variations of a general concept already covered by the classification scheme;

– details of the subject matter covered in existing classification groups.

92. For example, an indexing code for “steam engines” is not proper for a subclass with groups covering different functional types of engines, since the indexing code is a further example of an aspect that is already used for subdivision of the classification groups. If needed, a classification place covering “steam engines” should be created instead.

93. Indexing schemes should normally not be created when existing groups in other parts of the IPC already explicitly identify the same subject matter. In these situations, additional information classification in those groups could be recommended instead.

94. *[Deleted]*

95. Each indexing scheme must be associated with a particular identified part of the IPC.

96. Indexing schemes may have Definitions, similar to those of classification schemes.

96*bis*. Definitions will repeat any guidance or instructions given by notes (see also paragraph 100, below) and also clarify the envisaged classification practice with indexing codes by way of examples.

96*ter*. As the nature of indexing codes is for “additional information” only, the usage of scope-limiting references or precedence rules from/to/within indexing schemes is not allowed.

Presentation of Indexing Schemes

97. Whenever possible, the layout of the indexing schemes should be hierarchical, in order to facilitate their presentation.

98. For indexing schemes, alphanumerical symbols are used, similarly to classification symbols. In the case of an indexing scheme that forms part of a classification subclass, the indexing scheme should be placed at the end. Numbering of indexing main groups starts, as a rule, with the number 101/00. For detailed instructions about numbering, see Appendix IV.

99. An indexing scheme that forms part of a classification subclass must always be preceded by a guidance heading.

100. At each area with which an indexing scheme is associated, a note explaining the use of the indexing scheme should be presented.

## SPECIFIC INSTRUCTIONS FOR REVISION OF THE IPC

First Place Priority Rule, Last Place Priority Rule

101. In schemes where a general priority rule is applied instead of the common rule that is the "default" classification rule in the IPC, the ordering of groups must be carefully considered. The main groups should be arranged in a sequence that ensures the desired placement of subject matter covered by each. When the first place priority rule is applied, the main groups should generally be arranged in sequence from more complex to less complex subject matter and from specialized to non-specialized subject matter. When the last place priority rule is applied, the order should normally be the opposite.

Common Rule

102. When revising an area of the IPC where the common rule is applied, the order of the new and revised main groups and subgroups should be based on the guidelines of Appendix II, except when it would cause confusion in relation to existing groups.

103. *[Deleted]*

104. *[Deleted]*

105. *[Deleted]*

106. *[Deleted]*

Residual Places

107. Classes or subclasses should normally not be of residual character.

107*bis*. When creating new subclasses, multipart titles with a mixture of specific subject matter and residual one should be avoided because these titles bring a problem in defining the exact boundaries of the subclass in question.

108. Whenever existing subclasses are revised, or new subclasses are created, care must be taken to ensure that any necessary residual main groups are provided, so that the scheme is exhaustive for the subject matter concerned.

109. There are two kinds of residual main groups:

(a) Main groups that are residual to an entire subclass have the standard title “Subject matter not provided for in other main groups of this subclass”. Such main groups should be placed at the end of the scheme and have the standard symbol 99/00 whenever possible. When this is not possible, for example when there are already classification main groups in the subclass with numbers higher than 99/00, the symbol 999/00 should be used.

(b) Main groups that are only residual to a part of a subclass, for example in subclasses with multi-part titles, have a specific title. Main groups of this kind should, if possible, be placed immediately after all the groups to which they are residual. The group numbering should be different from 99/00 or 999/00. For example, group A01B 76/00, “Parts, details or accessories of agricultural machines or implements, not provided for in groups A01B 51/00-A01B 75/00”, is only residual to the second part of the A01B subclass title and is placed immediately after the groups related to that title part.

109*bis*. Residual main groups of the type (a), above, must not be subdivided and must not contain references in the scheme.

109*ter*. Residual main groups of the type (b), above, may be subdivided and may contain references in the scheme (see, for example, main groups A63B 71/00 and C21C 7/00). It is recommended to reorganize the subdivided subgroups from such residual main groups into new main groups, wherever possible.

110. Residual subgroups must be avoided and hierarchy should be used instead. As an example, a subdivision of this type:

1/08 . Movable tools
1/10 . . Rotating tools
1/12 . . Reciprocating tools

is a correct alternative to the following one:

1/08 . Rotating tools
1/10 . Reciprocating tools
1/12 . Other movable tools

Check List

111. When subdivisions of subclasses are created, or when commenting on proposals for such elaborations, the check list appearing in Appendix III should be borne in mind.

Chemical Structural Formulae and Other Figures

112. When revising a chemical area of the IPC, consideration should be given to the desirability of presenting chemical structural formulae, either in the scheme itself or in the Definitions. Such consideration should take into account the needs of the user and should not lead to the introduction of chemical formulae for very well-known chemical structures.

113. In the following cases, formulae should be included in the schemes, because their inclusion is necessary in order to achieve consistent classification:

– when the numbering of ring atoms in cyclic compounds is inconsistent in practice, because, for example, two different systems of chemical nomenclature are applied;

– when a group covering cyclic compounds contains subordinated groups referring to the numbering system.

114. In most other cases, the formulae should be presented in the Definitions.

115. Illustrating chemical formulae should serve only as examples of subject matter classified in subgroups. General formulae for main groups should only be given in exceptional cases.

116. The number of examples should be limited. One example should normally be sufficient for each group.

117. For facilitating understanding of the examples, simple specific formulae should be used. Three-dimensional formulae may be used where necessary.

118. With respect to substituents, their structural presentation should be used as far as possible, and not their chemical names or trivial names.

119. When there is doubt over which part of the title of a group that a formula relates to, additional indications should be made.

120. In polymer areas of the IPC, polymers should normally be used for illustrating purposes. When this is not sufficient for describing the contents of a group, monomers may be selected for illustration.

121. Other figures, for example mechanical drawings, may also be added to the Definitions, when necessary for correct classification or helpful for the user.

Indications, Transfers and Revision Concordance Data

122. When indicating the status of an entry during the working phase of a project, for example, when submitting a proposal, the following indications should be used:

– “N” for new entries;

– “C” for entries with modified specific scope and serving as source entries for reclassification;

– “T” for entries with modified specific scope, but not serving as source entries for reclassification, i.e. target entries;

– “M” for entries where changes do not impact the specific scope, and do not require reclassification;

– “D” for deleted entries;

– “U” for entries that remain unchanged, but are displayed to improve the readability of the proposal;

– “L” for entries which remain unchanged only in one of the two authentic languages of the IPC while the other authentic language is modified and marked as “M”.

In case of “N” “C” or “T”, the entry will get a new version indicator.

123. For the purpose of establishing the Revision Concordance List (RCL), the rapporteurs appointed for the revision projects concerned must submit and, if needed, amend a proposal indicating how subject matter will be transferred between places in the IPC as a result of the approved amendments. This data should include the following:

– for new places: an indication of the source of the subject matter covered;

– for existing places whose specific scope has changed: indication of the source of subject matter added to the specific scope of the place or the destination of subject matter removed from the specific scope of the place; when the place works as a destination of subject matter, a transfer from this place to the same place should also be indicated;

– for deleted places: an indication of the destination of the original subject matter.

124. Entries in the RCL referring to entire classes or subclasses are not allowed.

125. The inclusion of a group as source of subject matter in the RCL indicates that documents classified in that group only, excluding its subgroups, should be reclassified. When subject matter of several consecutive groups is transferred to one and the same place, the first and the last groups transferred should always be indicated, even when the last group is a subgroup of the first.

126. As a result of the approval of the RCL relating to a revision project, an indication of modification of specific scope (“C”) should be added to those existing places which were included in the RCL, even though their title was not modified. On the other hand, the “C” should be removed from those places that were approved with a “C” in the revision project but which were not included in the RCL.

126*bis*. Concurrently with the establishment of the RCL, the rapporteurs should also prepare a Default Transfer Symbols (DTS). This list decides how documents in deleted groups or groups with changed specific scope (“source groups”) that have not been reclassified at the end of a revision cycle will be automatically transferred. If possible, the default transfer should be made to a single destination group but, in some cases, a default transfer to two or more groups will be necessary. Depending on the type of revision many different situations can arise. This is a list of typical cases:

| Situation | Destination group |
|---|---|
| (a) The source group gets new subgroups. | The source group |
| (b) The source group is deleted and replaced by a new group with identical or broader scope. | The new group |
| (c) The source group is deleted and replaced by more than one new group. | The parent group of the new groups, if there is a single one. If there isn't a single one, all the most likely parent groups. |
| (d) The specific scope of the source group is broadened, e.g. by a modified title. | The source group |
| (e) The specific scope of the source group is narrowed otherwise than by subdivision, e.g. by the addition of a limiting reference. | The source group, and the group to which subject matter is transferred. If there isn't a single group, all the most likely groups (or their parent groups, if such exist). |

In other situations, the rapporteurs should use their judgment in order to find the best places for the default transfer. For example, statistics of actual transfers, if available, could be used for finding destination groups.

Checking of References, Class Indexes and Subclass Indexes

127. At the end of each revision project, the rapporteur should check all references that point to a revised area and make sure that those affected by the amendments are updated. This check may be carried out with the aid of the Cross Reference List (CRL), a reversed list of references prepared by the International Bureau, listing for a given place in the IPC all places in schemes and Definitions where reference is made to that place.

128. At the end of each revision project, class and subclass indexes should be checked, and those affected by amendments should be updated.

Changing the Symbols of Existing Classification Places

129. If the scope of a group is substantially changed, such group should receive a new number with a corresponding transfer of the scope from the old group to the new group in the RCL, except when the scope of the group is modified solely by the creation, deletion or amendment of one or more of its subgroups.

130. If the scope of a group is not substantially changed, such group may receive a new number only if it is necessitated by the change of position of a group in the scheme. See also paragraph 10 of Appendix VII.

131. Changing the scope of a class or a subclass does not normally require changing the symbol of that class or subclass.

132. Classification symbols which have been used in earlier editions of the IPC should not be reused when creating or renumbering classification places. However, in exceptional cases and when no alternative exists, numbers which have been used in the Classification published by the Council of Europe in the years 1963 to 1967 may be used.

133. Detailed instructions for the selection of classification symbols can be found in Appendix IV.

## SECTION IV – ROLES OF OFFICES IN THE REVISION PROGRAM

134. Over the years, and with regard to the two authentic languages (English and French) of the IPC, the following roles have been identified for offices participating in the IPC revision program.

135. Rapporteur (R) is the office appointed by the IPC Revision Working Group (WG) which is entrusted with the task to pursue the progress of a specific project – be it a revision (C, F), a definition (D), a maintenance (M) or other IPC project (e.g. CE type).

136. Rapporteur must ensure that initial proposals are submitted, which satisfy the rules for revision of the IPC, comments on the initial proposals are analyzed and summarized in Rapporteur reports and modified proposals are prepared, based on the results of the former round of comments, in order to improve the understanding or propose adequate definitions. Besides, at any stage of the project, Rapporteur must explore solutions for the issues (if any) raised in the project.

137. Translator (T) is the office appointed by the Working Group which is entrusted with the task to provide the translation from the one authentic language of the IPC used in the project at stake into the other authentic language – i.e. from English to French, or vice-versa.

138. Editorial Board (EB) is the office appointed by the Working Group which is entrusted with the following tasks: to check proposals submitted by the Rapporteur and decisions of the Working Group, to suggest “light” maintenance (if required), e.g. in order to improve consistency in terminology, to undertake editorial and formal checks at various stages, but in any case right before and right after a session of the Working Group, and to undertake the final checks before early publication of the new version of the IPC.

139. There is one Editorial Board office associated to the default authentic language of the project and another Editorial Board office for the other authentic language. Hence the two sub-roles EB and EB-T.

[Appendices follow]

**APPENDIX I**

## PRESENTATION AND LAYOUT OF NOTES IN THE IPC

1. The notes in the IPC should be categorized and presented in the following order:

(a) Notes relating to the subject matter covered by the place in question (see also paragraph 2, below)

(i) explaining subject matter which is covered;

(ii) explaining subject matter which is not covered.

(iii) *[Deleted]*

(b) Notes defining terms or expressions (see also paragraph 3, below)

(c) Notes drawing attention to other notes

(i) drawing attention to notes appearing in other sections, subsections, classes or subclasses;

(ii) drawing attention to other notes appearing in the section, subsection, class or subclass.

(d) Notes drawing attention to other places in the IPC

(e) Notes stating classification rules (see also paragraphs 4 to 6, below)

(i) precedence rules;

(ii) first place priority rule;

(iii) last place priority rule;

(iv) multiple classification;

(v) other rules.

(f) Notes relating to recommendations

(g) Notes drawing attention to indexing schemes

(h) Other notes

2. Notes relating to the subject matter covered by the place in question (referred to under 1(a), above) should be presented as follows:

(a) “This subclass covers:

“– apparatus which are not provided for in - - -;

"– the working of materials which - - -;

"– features specific to - - -".

(b) "This subclass does not cover:

"– multi-step processes, which are covered by class - - -;

"– details or accessories which form part of - - -, e.g. - - -, which are covered by subclass - - -".

3. Notes defining terms or expressions (referred to under 1(b), above) should be presented as follows:

"In this subclass, the following terms or expressions are used with the meaning indicated:

"– "working" covers also - - -;

"– "combined operation" means - - -".

4. Notes stating general priority rules (referred to under 1(e)(ii) and 1(e)(iii), above) should be presented as follows:

(a) First place priority rule:

"In this subclass / main group(s) / group(s), the first place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the first appropriate place."

(b) Last place priority rule:

"In this subclass / main group(s) / group(s), the last place priority rule is applied, i.e. at each hierarchical level, in the absence of an indication to the contrary, classification is made in the last appropriate place."

5. Notes prescribing multiple classification (referred to under 1(e)(iv), above) should be presented as follows:

(a) Obligatory multiple classification:

"- - -, when it is determined to be novel and non-obvious, must also be classified in - - -".

In case of obligatory multiple classification:

"In this subclass / main group / group, it is obligatory to classify all aspects of xxx that are represented in groups yyy. This obligation extends to information that would normally only be considered as additional information."

(b) Non-obligatory multiple classification:

"- - -, which is considered to represent information of interest for search, may also be classified in - - -".

6. Notes stating other classification rules (referred to under 1(e)(v), above) can, for example, be presented as follows:

"In this subclass:

"– groups - - - to - - - are limited to - - -;

"– after-treatment of materials is classified in groups - - -;

"– subject matter relating to both - - - is classified in groups - - -".

7. The following model wordings of the different notes relating to indexing schemes (referred to under 1(g), above) should be observed:

(a) Note for a class containing a subclass which constitutes an indexing scheme:

"The codes of subclass - - - are only for use as indexing codes associated with subclass(es) - - -, so as to provide information concerning - - -".

(b) Note for an area to which an indexing scheme is associated:

"In this subclass / main group / group, it is desirable to add the indexing codes of subclass / group(s) - - -".

[Appendix II follows]

**APPENDIX II**

## GUIDELINES FOR THE ORDERING OF GROUPS

*adopted by the Committee of Experts of the IPC Union at its forty-fifth session (document IPC/CE/45/2, Annex VII)*

1. In parts of the IPC where a general priority rule is used, the groups must by necessity be ordered in a way that ensures a useful and coherent content of each group. This usually requires careful analysis and testing.

2. In parts of the IPC where the common rule is used, the ordering of groups has no immediate effect on classification. In those parts, the main object should be to order the groups in a way that is logic, predictable and easy to navigate. This can often be achieved by following the general philosophy of the standardized sequence of groups used in schemes where the first place priority rule is applied. This order starts with the most specialized or complex matter, for example groups for specially adapted matter and combination groups. Then follow groups for less specialized or complex matter, such as the basic types of the subject matter. Groups for general details are placed at the end of the schemes and residual places, if necessary, are placed last.

3. However, the most important principle is that groups for technically similar matter should be placed close to each other. If groups for similar matter are placed in sequence, it is easy to improve the structure of a long scheme by adding a common parent group, if desirable. It also makes it easier for users to navigate the scheme. The following guidelines apply both to main groups and subgroups.

4. When adding new groups to an existing scheme, the placement of the groups should be carefully considered. New groups should be placed in the best place and not routinely added at the end of the scheme, or where there happens to be a gap in the numbering. If there is no place for a new group in its best place, or if the existing ordering of groups is inadequate, a complete renumbering should be considered.

5. If the title of the hierarchically higher place is of multipart type, and each title part can be considered to stand alone without overlap with the other parts, groups relating to each title part should be placed together. The portions of the scheme that relate to the different title parts should be placed in the same order as the title parts.

6. Groups that are residual to only a part of a scheme should be placed as the last group of that part of the scheme.

7. Where a proposed scheme covers different categories of subject matter, organizing its groups by category of subject matter is preferred. If this is found to be unsuitable, arranging groups relating to similar technologies together may be considered instead. Where a scheme is organized by category, the relevant categories should be ordered on the following basis:

- Methods of use (of products)
- Products (of manufacture)
- Processes for making products
- Apparatus for producing products
- Materials used for making products

8. Highly specialized groups, for example particular application-type places, should be placed towards the top of the scheme and should not be mixed with groups for functional types of matter.

9. Groups for complex systems, such as combinations involving several subsystems, should be placed towards the top of the scheme.

10. Groups for different aspects of the same type of subject matter should be placed together, for example control aspects, electrical aspects, chemical aspects, material aspects, mechanical aspects, safety aspects and property aspects.

11. Groups for details that are only applicable with a particular type of matter should be placed together with other groups for that type of matter, for example as subgroups.

12. Groups for details of more general applicability should be placed towards the end of the scheme.

13. Groups that are given precedence should be placed above the groups from which precedence is given.

[Appendix III follows]

**APPENDIX III**

## CHECK LIST FOR USE WHEN REVISING THE IPC

1. This check list does not purport to be complete but is intended as a guide to various points which should be considered.

2. It should also be borne in mind that the various items listed in the check list cannot be dealt with independently but, on the contrary, are highly interrelated.

## GENERAL ASPECTS

3. All wordings should be checked for clarity, possible ambiguity, uniform use of terms or expressions, and concordance between the English and French versions of the IPC. In addition, attention should be paid to Chapters VI and XVI of the Guide.

4. Every reference and note should be checked for accuracy and for uniformity with other references and notes used for similar purposes. The placement of all references in the schemes and in the Definitions should be checked.

5. A check should be made to determine whether the titles, references notes and Definitions correctly define the necessary borderlines with other classification places. Special care should be taken with the borderlines between entries determined by application and entries determined by function.

6. A check should be made to determine whether all relevant categories of invention, e.g. products, processes or apparatus, are clearly provided for.

7. When general classification rules (e.g. first place priority) are introduced, test classification of actual documents should be made in order to verify that the rules produce the desired distribution of subject matter.

## KINDS OF REVISION

<u>Subclass Revision</u>

8. Consideration should be given to the following questions:

(a) Whether the scope of the subclass is clearly defined; particular reference being given to:

– the subclass title;

– notes in different places in the subclass;

– references in different places in the subclass;

– the subclass definition, including the glossary therein;

– the class title with associated notes.

(b) Whether the subdivision into main groups enables efficient searches.

(c) Whether there is subject matter falling within the scope of the subclass which is not provided for or is not specifically referred out.

(d) The existence or necessity of residual groups, application-oriented groups or "details" groups.

(e) Whether each main group falls within the scope of the subclass.

(f) The possible overlap between main groups.

(g) The usefulness of subdividing the subclass scheme into distinct parts using guidance headings.

(h) Whether any corrections are needed in the Catchword Index.

Group Revision

9. Consideration should be given to the following questions:

(a) Whether the scope of the group is clearly defined; particular reference being given to:

– the group title;

– notes in different places in the subclass;

– references in different places in the subclass;

– group definition, if any;

– class and subclass titles with references and notes.

(b) Whether the subdivision into subgroups enables efficient searches.

(c) Whether each subgroup falls within the scope of its hierarchically higher group.

(d) The possible overlap between subgroups.

(e) The accuracy of the hierarchy of the subdivisions.

(f) Whether the number of documents and the activity is sufficient to justify the existence of every group.

(g) Whether any corrections are needed in the subclass index.

(h) Whether any corrections are needed in the Catchword Index.

[Appendix IV follows]

**APPENDIX IV**

## CLASSIFICATION SYMBOLS FOR NEW CLASSIFICATION PLACES

### SUBCLASS SYMBOLS

1. The last letter of a subclass symbol should be a consonant. However, in cases where special reasons so require, the use of vowels, with the exception of "I" and "O", is acceptable.

### NUMBERING OF MAIN GROUPS IN NEW SUBCLASSES

2. In new subclasses containing less than 20 main groups, the numbers of the main groups should be spaced between 1 and 98, leaving room for addition of future main groups both between groups and at the beginning and the end of the scheme. If a residual main group is needed it should be numbered 99/00. If an indexing scheme is introduced the first main group number should be 101/00.

2*bis*. In new subclasses containing more than 20 main groups, numbers above 100/00 may be used, leaving room for addition of future main groups both between groups and at the beginning and the end of the scheme. If a residual main group is needed, it should be numbered 999/00. If an indexing scheme is introduced the first main group number should be 1001/00.

### NUMBERING OF INDEXING SCHEMES

3. If an indexing scheme is added to an existing subclass, its numbering should be chosen on a case by case basis, but whenever possible the number of its first main group should be 101/00.

### NUMBERING OF SUBGROUPS

4. Subgroup numbering should, as far as possible, be limited to four digits after the oblique stroke. The maximum number of digits after the oblique stroke is six.

5. Group numbers with a final 0 are not allowed, except for groups having only two digits after the oblique stroke.

6. When subdivisions are created under a new main group, e.g. 10/00, the intended number of one-dot groups is less than ten and the whole of the scheme will not reach the /99 group, the one-dot groups should be numbered 10/10, 10/20, 10/30 and so on. In this way, each main subject of the technology covered by the main group will have subgroups with the same first digit.

7. When more than ten one-dot groups are created under a new main group, or when one-dot groups are otherwise added to an existing main group and the principle of paragraph 6, above, cannot be applied, the group numbers should as far as possible be chosen so that the

intervals between the new groups are similar. The same applies when new subdivisions are inserted in an existing scheme. In the light of that, for the addition of further subdivisions, the numbering of each subdivision should be the rounded result of:

$n_x = A + (x * r)$

where:

$n_x$ is the subgroup number of the xth new group ($1 \leq x \leq N$)
A is the subgroup number of the group before the interval
B is the subgroup number of the group after the interval
$r = (B - A) / (N + 1)$
N is the number of desired subdivisions

For example:

(a) When adding two-dot subgroups between 10/10 and 10/20 in a scheme arranged according to paragraph 6, above, the following numbers will result from the formula above, respectively for each total number of subgroups:

| | |
|---|---|
| one subgroup (r = 5, x = 1) | 10/15 |
| two subgroups (r ≈ 3.3, x = 1, 2) | 10/13, 10/17 |
| three subgroups (r = 2.5, x = 1, 2, 3) | 10/12, 10/15, 10/18 |
| four subgroups (r = 2, x = 1, 2, 3, 4) | 10/12, 10/14, 10/16, 10/18 |
| five subgroups (r ≈ 1.7, x = 1, 2, 3, 4, 5) | 10/12, 10/13, 10/15, 10/17, 10/18 |
| six subgroups (r ≈ 1.4, x = 1, 2, 3, 4, 5, 6) | 10/11, 10/13, 10/14, 10/16, 10/17, 10/19 |
| seven subgroups (r = 1.25, x = 1, 2, 3, 4, 5, 6, 7) | 10/11, 10/12, 10/14, 10/15, 10/16, 10/18, 10/19 |
| eight subgroups (r ≈ 1.1, x = 1, 2, 3, 4, 5, 6, 7, 8) | 10/11, 10/12, 10/13, 10/14, 10/16, 10/17, 10/18, 10/19 |
| nine subgroups (r = 1, x = 1, 2, 3, 4, 5, 6, 7, 8, 9) | 10/11, 10/12, 10/13, 10/14, 10/15, 10/16, 10/17, 10/18, 10/19 |

(b) When adding groups to an existing sequence separated by 02, for example between groups 1/02 and 1/04, the following numbers would result, respectively for each total number of subgroups:

| | |
|---|---|
| one subgroup (r = 1, x = 1) | 1/03 |
| two subgroups (r ≈ 0.67, x = 1, 2) | 1/027, 1/033 |
| three subgroups (r = 0.5, x = 1, 2, 3) | 1/025, 1/03, 1/035 |
| four subgroups (r = 0.4, x = 1, 2, 3, 4) | 1/024, 1/028, 1/032, 1/036 |
| five subgroups (r ≈ 0.33, x = 1, 2, 3, 4, 5) | 1/023, 1/027, 1/03, 1/033, 1/037 |
| six subgroups (r ≈ 0.28, x = 1, 2, 3, 4, 5, 6) | 1/023, 1/026, 1/029, 1/031, 1/034, 1/037 |
| seven subgroups (r = 0.25, x = 1, 2, 3, 4, 5, 6, 7) | 1/022, 1/025, 1/028, 1/03, 1/032, 1/035, 1/038 |
| eight subgroups (r ≈ 0.22, x = 1, 2, 3, 4, 5, 6, 7, 8) | 1/022, 1/024, 1/027, 1/029, 1/031, 1/033, 1/036, 1/038 |
| nine subgroups (r = 0.2, x = 1, 2, 3, 4, 5, 6, 7, 8, 9) | 1/022, 1/024, 1/026, 1/028, 1/03, 1/032, 1/034, 1/036, 1/038 |

**EXCEPTIONS**

8. The numbering rules presented above should generally be followed. The departure is allowed when a compelling reason is provided, for example in order to take into account any foreseen future revisions by leaving empty intervals where it is likely that further groups will be added, or in order to avoid changing group symbols when groups with the same specific scope from another scheme are introduced into the IPC.

8*bis*. The numbering of IPC symbols must take into account the existing numbering in other IPC-based classification systems, e.g. the CPC or FI, to avoid possible confusion with symbols having a different scope. See also Appendix VII.

**PROVISIONAL NUMBERING OF PROVISIONAL GROUPS DURING THE REVISION PROCESS**

9. During technical discussions and commenting in revision projects, provisional group numbers should be used. These do not have to conform to the rules mentioned above. The provisional numbers should be replaced by finalized numbers at the end of each revision project before its final adoption. Provisional numbers that have once been used within a project should never be reused within the same project for other (e.g. new) proposed groups.

[Appendix V follows]

**APPENDIX V**

## REQUEST FOR REVISION OF THE IPC

Class(es) or subclass(es):

1. Description of the area to be revised:

2. The request will be evaluated according to the following criteria:

| | | | | |
|---|---|---|---|---|
| | | Reasons for revision | | |
| ☐ | a1 | Subdivision of IPC groups having an excessive file size | Average file size | |
| ☐ | a2 | Subdivision of IPC groups receiving a high number of patent applications, i.e. with a high rate of growth in file size | Number / year | |
| ☐ | a3 | Subdivision of IPC groups identified in the List of candidate areas for revision (see project CE 456) | Yes ☐ | No ☐ |
| ☐ | b | New emerging technologies (NET) not specifically covered in the current IPC | Statistics (optional) | |
| ☐ | c | Due to changes in technology, the classification structure has become inefficient for searching. A gain in efficiency is expected with the proposed new scheme. | Yes ☐ | No ☐ |
| ☐ | d | Clarification of wording in order to improve consistency in classifying or to avoid overlap with other places of the IPC | Yes ☐ | No ☐ |
| | | Factors influencing the cost and effort of the project | | |
| | e | Appropriate subdivisions already exist in a local classification scheme and can be easily brought into the IPC. | Scheme(s) | No. of subgroups |
| | f | Reclassification effort: No. of families to reclassify: | Mechanically, using existing data | Intellectually |

Additional Remarks

| |
|---|
| |

Proposing Office:

Date: Signature:

[Appendix VI follows]

**APPENDIX VI**

## GUIDELINES FOR DRAFTING CLASSIFICATION DEFINITIONS

### GENERAL RECOMMENDATIONS

Users are expecting to find in Definitions additional explanation and guidance that are not available in the scheme. If such additional material is not available, there is no need to draft Definitions which would merely repeat information already available in the scheme.

The paragraphs in the different sections of the Definitions should not be numbered. Numbered lists should be replaced by bulleted lists. Care should be taken in the text to avoid references to such numbered paragraphs.

Numbers should be avoided to indicate different items in a phrase. In the case of long phrases, bulleted paragraphs should be used instead.

Definitions should not contain references to example patent documents.

The template for drafting Definitions can be found at the end of this Appendix.

### USAGE OF GRAPHICS

Graphics, e.g. chemical formulae or drawings, can be introduced in the Definitions where appropriate, possibly accompanied by explanatory annotations.

Drawings from patent documents can be edited by adding distinguishing elements like arrows or pointers.

Numbers on graphics should be avoided. However, if graphics are taken from patent documents, numbers should be removed only if this is a straightforward task. Attention should be also given to the clarity of the graphics.

Graphics can be foreseen with a clarifying title and/or caption. In case of a plurality of graphics, they are preferably numbered by adding successive numbers completed with a dot ending (1., 2., …). For example, see the graphics used for the Definition of group F24F 8/00.

Care should be taken to avoid the use of images which might be interpreted as limiting or broadening the scope of the classification place.

### DEFINITION STATEMENT

The definition statement is a more detailed explanation of the subject matter appropriate for the classification place.

The definition statement clarifies the scope defined by the title by providing supplementary information useful for classification and search, without expanding such a scope. The statement should not merely restate or paraphrase the title.

Therefore, where the scope of the classification place is sufficiently defined by the title and would not benefit from further explanation, then the whole definition statement can be omitted.

Where a classification place also covers categories of invention – i.e. processes, products, apparatus or materials (see paragraph 81 of the Guide) – not explicitly mentioned by its title, these should be mentioned in the definition statement (see paragraph 92 of the Guide).

The definition statement should provide the user with a clear and essential picture of the subject matter covered by the classification place, preferably by using terms and expressions of the art or found in patent documents.

The definition statement is not meant to offer a comprehensive explanation of the art underlying the classification place. Therefore, long definition statements, which just reproduce information available in technology textbooks, should be avoided because they might discourage users from reading the whole content. Likewise, long and complicated phrases should be avoided, e.g. phrases containing many of the following items at the same time: i.e., e.g., ordered lists, items between brackets.

The definition statement should provide a positive description of the subject matter appropriate for the classification place, rather than a negative description of the subject matter excluded from that place.

The statement is preceded by the following standard expression (preamble):

> “This place covers:”.

Classification places (if any) for excluded subject matter are then listed under “Limiting references” (see below).

In the case of subclasses with a large number of main groups, or of subclasses with a multipart title covering distinct technical fields, the definition statement should reflect the structure of the subclass. When parts of the title or scheme correspond to distinct technical subject matters, then each part should be defined by a separate statement.

A complete technical explanation should be used to define the scope of a classification place, instead of referring back to (sub)groups by just using their symbols in the definition statement.

The definition statement may include graphics, e.g. chemical formulae or drawings, which represent subject matter covered by the classification place, possibly accompanied by explanatory annotations. The graphics can be useful to more fully illustrate the subject matter of a classification place and are positioned where useful to aid comprehension.

Graphics in the definition statement are preceded by the sentence:

> “Illustrative example(s) of subject matter classified in this place:”.

More general guidance about the usage of graphics is outlined in the section “General Recommendations”, above.

If there is a detailed explanation of technical terms in the definition statement, it could be moved to the section “Glossary of terms”.

## RELATIONSHIPS WITH OTHER CLASSIFICATION PLACES

This section explains the relationship and borderline between classification places, particularly when these cannot be easily expressed in the form of references or notes in the scheme. The relationships to be clarified may exist between classification places at the same or different hierarchical levels, e.g. between main groups of the same subclass or between a main group and another subclass.

Typical examples are:

- relationships between function-oriented and application-oriented places;
- relationships between a residual place and other related places.

Numbering of paragraphs should be avoided. Subheadings are allowed.

Graphics may be used where needed according to the guidance outlined in the section “General Recommendations”, above.

## REFERENCES

In this section of a subclass Definition, only references concerning the whole subclass or several main groups are mentioned. A reference concerning only a particular main group or subgroup appears in the corresponding section of the Definition of that particular group.

In case of large number of references or in case of references concerning distinct subject matters (e.g. in subclasses with multipart titles covering distinct technical fields), the references concerning the same subject matter should be grouped together under a common technical subheading.

References within subheadings and groupings should be listed in the alphanumeric order of the referenced symbols. However, any references pointing to places in the same subclass should be listed first. This ordering requirement applies in particular to the four standard subheadings illustrated below: “Limiting references”, “Application-oriented references”, “References out of a residual place” and “Informative references”.

References are presented in two-column tables; in the left column appears the wording of the reference and in the right one the place to which the reference points.

Wording of the reference should be as precise, complete and self-contained as possible to correctly define the subject matter excluded. Differently from the practice in the schemes, where hierarchy of the place is visible and therefore the context is clear, the wording of the references should not be shortened.

For example, the expression “Machines, appliances or methods for setting buttons on garments | A41H 37/10” should be used rather than shortened expressions such as “Setting on garments | A41H 37/10”, to indicate to the reader the full scope of the referred group.

Besides, differently from the practice in the scheme where lowercase is used, the reference wording should be presented in sentence case (i.e. with capitalized first letter): “Cleaning by …” rather than “cleaning by …”.

References should indicate the most specific place where the subject matter is classified, e.g. if the subject matter is covered by a particular group only, this group should be indicated and not the complete subclass. References to sections and classes should be avoided.

While defining the category of a reference in one of the subsections illustrated below, due attention must be given to the "contextual" nature of the reference in consideration (see paragraph 33*bis*, above).

Besides, it follows from the basic definitions that the main category of a reference can be either limiting or non-limiting (application-oriented, out-of-residual place, informative), these two main categories being mutually exclusive.

Limiting references

Limiting references are grouped together under the subheading:

"Limiting references"

They are preceded by the following standard expression (preamble):

"This place does not cover:".

Precedence references must be added to the table using the full description of the subject matter excluded, be it a subset or a combination in the sense of paragraph 37*bis*, above.

When the borderline between a certain place and a reference cannot be easily expressed in the form of a limiting reference, then it might be desirable to describe the borderline using the section "Relationships with other classification places" (see above).

Application-oriented references

References from general (function-oriented) to application-oriented places are grouped under the subheading:

"Application-oriented references"

They are preceded by the following standard expression (preamble):

"Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:".

When the borderline between a certain place and a reference cannot be easily expressed in the form of an application-oriented reference, then it might be desirable to describe the borderline using the section "Relationships with other classification places" (see above).

References out of a residual place

References from residual places to non-residual places are grouped under the subheading:

"References out of a residual place"

They are preceded by the following standard expression (preamble):

"Examples of places in relation to which this place is residual:".

Informative references

Informative references indicate the location of subject matter that could be of interest for searching, but is not covered by the place where the reference occurs, i.e. they are "not in scope". References from application-oriented places to general (function-oriented) places are informative references.

References to places that are of no interest for search must be avoided.

Informative references are grouped under the subheading:

"Informative references"

They are preceded by the following standard expression (preamble):

"Attention is drawn to the following places, which may be of interest for search:".

Graphics may be used where needed according to the guidance outlined in the section "General Recommendations", above.

**SPECIAL RULES OF CLASSIFICATION**

This section provides guidance for the allocation of symbols according to local rules other than the default common rule of classification. Although the first place priority rule (FPPR) and the last place priority rule (LPPR) are not special rules of classification, they are also covered here because they do not apply by default.

Accordingly, the following rules require notice of application:

- the first place priority rule (FPPR) and the last place priority rule (LPPR);
- obligatory multiple classification;
- secondary classification;
- usage of indexing schemes;
- other deviations from general practice or convention.

Examples of the situation described by the last bullet point above can be found in:

- Note (1) after subclass C08F and related "Special rules of classification", in particular the instruction that, in subclass C08F, silicon and boron are to be regarded as metals;

- Note (2) after subclass C08L and related “Special rules of Classification”, in particular the instruction that, in subclass C08L, compositions are classified according to the mutual proportions by weight of the macromolecular constituents.

Numbering of paragraphs should be avoided. Subheadings are allowed.

## GLOSSARY OF TERMS

This section consists of definitions for abbreviations (e.g. acronyms), significant words or phrases found in the scheme or in the Definition statements. This is particularly useful when the terms or expressions are used in a more precise or restricted manner than their common usage. The terms or expressions in this section should exist in the scheme or in the Definitions to which they pertain and correspond to the terminology used in its particular language version.

The explanations are preceded by the following standard expression (preamble):

> “In this place, the following acronyms, terms or expressions are used with the meanings indicated:”.

Terms or expressions found exclusively in patent documents or in technical literature, but not in the scheme or the Definition statement, should normally appear in the next section “Synonyms and keywords”.

Terms or expressions in the glossary should be preferably in the singular (e.g. “apple” rather than “apples”), unless there is a compelling reason to put them in plural. They should also be presented in lowercase (e.g. “orange” rather than “Orange”), unless they are abbreviations (e.g. acronyms).

Graphics may be used where needed according to the guidance outlined in the section “General Recommendations”, above.

## SYNONYMS AND KEYWORDS

This is an optional section intended to be used for establishing synonyms, keywords, abbreviations or special meanings of terms used in the patent documents themselves or in technical literature. This will aid in formulating search queries in electronic searching in this technical field. For example, in group B60T 8/00, the keywords “anti-lock” and “anti-skid” would be useful to a searcher.

This section may include definitions of such terms when they do not appear in the scheme or the definition statement.

Terms or expressions in this section should be in the singular (e.g. “boot” and “trunk” rather than “boots” and “trunks”), unless there is a compelling reason to put them in plural. They should also be presented in lowercase (e.g. “trunk” rather than “Trunk”), unless they are abbreviations (e.g. acronyms).

The following standardized wordings may be used in the official publication of the IPC for the presentation of synonyms, keywords, abbreviations or special meanings of terms:

– In patent documents, the words/expressions “---”, “---” and “---” are often used as synonyms.

– In patent documents, the word/expression “---” is often used instead of “---” which is used in the classification scheme of this place.

– In patent documents, the word/expression “---” is often used with the meaning “---”.

– In patent documents, the following abbreviations are often used:
<abbreviation> = <full wording>.

**DEFINITION TEMPLATE**

## Definition statement

*This place covers:*

## Relationships with other classification places

## References

### Limiting references

*This place does not cover:*

| | |
|---|---|
| | |

### Application-oriented references

*Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:*

| | |
|---|---|
| | |

### References out of a residual place

*Examples of places in relation to which this place is residual:*

| | |
|---|---|
| | |

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

| | |
|---|---|
| | |

## Special rules of classification

## Glossary of terms

*In this place, the following acronyms, terms or expressions are used with the meaning indicated:*

| | |
|---|---|
| | |

## Synonyms and Keywords

*Abbreviations:*

| | |
|---|---|
| [Abbreviation] | [Term] |

*Synonyms:*

| | |
|---|---|
| [Term] | [Term] |

*Instead-of words:*

| | |
|---|---|
| [Term used in patent document] | [Term used in scheme] |

*Special meanings:*

| | |
|---|---|
| [Term] | [Special meaning] |

[Appendix VII follows]

**APPENDIX VII**

## GUIDELINES FOR CONVERTING EXISTING CLASSIFICATION SCHEMES TO THE IPC

When adapting pre-existing classification schemes, for example from the CPC or FI, for inclusion in the IPC, attention should be given to the following points:

### THE NEED FOR NEW MAIN GROUPS

1. The schemes have often been restricted by a requirement for new groups to fit inside existing IPC main groups. The possibility of creating new main groups, rather than expanding the scope of an existing main group, should be considered.

2. The schemes have sometimes been developed as subgroups of a residual place. In such cases, the possibility of creating new main groups should always be considered.

### ORDERING OF GROUPS

3. The schemes have often been developed gradually over time. Under such circumstances, groups might not have been added in a logical sequence, but in chronological order or alphabetic order according to their titles.

4. Subgroups have often, for numbering reasons, been added immediately after their hierarchically superior group and not in the most logical place among other similar groups.

5. When converting existing classification schemes, the ordering of their groups should be reviewed in order to comply with Appendix II of the Guidelines for Revision of the IPC. Due care should, however, be taken not to therewith generate unnecessary reclassification work.

### HIERARCHICAL STRUCTURE

6. Schemes that have been developed gradually over time are sometimes “flat”, with many parallel groups that are not hierarchically arranged.

7. Some schemes contain residual subgroups, which should be avoided.

8. When converting existing classification schemes, the hierarchy of their groups should be reviewed in order to comply with the principles of hierarchy as defined in the Guide to the IPC, item III, and in paragraph 110 of the Guidelines for Revision of the IPC. Due care should, however, be taken not to therewith generate unnecessary reclassification work.

### CLARITY OF WORDING

9. The schemes may have been developed by experts in narrow technical fields, who are familiar with the special expressions, abbreviations and jargon used in such fields. The IPC is also used by non-experts from different language backgrounds and must be understandable and unambiguous for non-experts.

10. The schemes may have been developed by people who are not native speakers of one of the IPC authentic languages, or have been translated from a non-IPC language, and might, therefore, need linguistic corrections.

11. The schemes may have been developed by technical experts who have not been required to know or apply the details of the Guidelines for Revision of the IPC and might, therefore, contain non-standard constructions and expressions.

12. When converting existing classification schemes, the wording of their titles should be reviewed to ensure that they clearly indicate the scopes of their places, see paragraphs 12 to 30*bis* of the Guidelines for Revision of the IPC. If necessary, additional explanations can be given in Definitions.

**REFERENCES**

13. Non-limiting references must be removed from the scheme before their introduction into the IPC. Such references may be introduced into Definitions for the relevant places.

14. If the schemes contain precedence references, it should be considered whether they are useful or could be removed in favour of multiple classification.

15. Precedence references between places which are not in close proximity to each other, for example not simultaneously visible on the same page or screen, should be replaced by scope-limitation references.

16. If the interpretation of a precedence reference is not immediately obvious, for example if it requires the user to make an analysis of the overlap between the affected groups, then the precedence reference should be replaced by a scope-limitation reference.

17. When converting existing classification schemes, their references should be reviewed to ensure that they comply with paragraphs 31 to 46 of the Guidelines for Revision of the IPC.

**EXAMPLES**

18. The schemes may contain long lists of examples, which often fit better in group Definitions.

19. When converting existing classification schemes, their examples should be reviewed to ensure that they comply with paragraphs 47 to 51*bis* of the Guidelines for Revision of the IPC.

[End of Appendix VII and of document]