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GUIDELINES FOR THE EXECUTION AND PRESENTATION OF DRAWINGS

The present document contains, in its Annex, Chapter X of the Guidelines for Formalities Examination in the European Patent Office, which relates to the drawings.

[Annex follows]

DRAWINGS

This Chapter of the Guidelines deals with the requirements to be met by drawings contained in the application or patent.

1. Graphic forms of presentation considered as drawings

Rule 32(3)

All types of technical drawings are considered drawings within the meaning of the Convention; this includes, for instance, perspectives, exploded views, sections and cross-sections, details on a different scale, etc. Drawings also cover "*flow sheets and diagrams*", under which are subsumed functional diagrams and graphic representations of a given phenomenon which express the relationship between two or more magnitudes.

Rule 35(11)

There are also other graphic forms of presentation which may be included in the description, claims or abstract, in which case they are not subject to the same requirements as drawings. The forms concerned are chemical and mathematical formulae and tables. These are dealt with in X,11. They may nevertheless be submitted as drawings, in which case they are subject to the same requirements as drawings.

2. Presentation of drawings

Rule 35(11)

2.1 All drawings must be grouped together on the sheets specifically for drawings and may in no event be included in the description, claims or abstract, even if these finish at the top of a page or leave sufficient room, and even if there is only one figure.

Rule 35(2)

2.2 In accordance with Rule 35, paragraphs 2 and 3, the drawings "shall be filed in three copies" and must be "so presented as to admit of direct reproduction by photography, electrostatic processes, photo offset and micro-filming, in an unlimited number of copies."

Rule 35(3)

2.3 As regards the figure, or exceptionally figures, to accompany the abstract, where a European patent application contains drawings, reference should be made to III, 11.3 and B-XI, 4(f) and 5. The figure(s) illustrating the abstract must be the figure(s) most representative of the invention and must be chosen from the drawings accompanying the application. It is therefore not permissible to draw a special figure for the abstract which differs from the other figures in the application.

3. Conditions regarding the paper used

Rule 35(4)

Drawings must be on sheets of "A4 paper (29.7 cm x 21 cm) which shall be pliable, strong, white, smooth, matt and durable". "All sheets shall be free from cracks, creases and folds. Only one side of the sheet shall be used."

Rule 35(3)

Rule 35(14)

"Each sheet shall be reasonably free from erasures and shall be free from alterations, over-writings and interlineations. Non-compliance with this rule may be authorised if the authenticity of the content is not in question and the requirements for good reproduction are not in jeopardy."

PART A

CHAPTER X

Any corrections made must be durable and permanent, so that they cannot give rise to any doubt. They must be made on all copies of the application. Special products for corrections, such as white masking fluid, may be used, provided they are indelible and comply with the other requirements under Rule 35, paragraph 14.

Rule 35(5)

"... The sheets shall be connected in such a way that they can easily be turned over, separated and joined together again".

Permanent fastenings (for example, crimped eyelets) are not permitted. Only temporary fastenings (staples, paper clips and grips, etc.), which leave only slight marks in the margin, may be used.

4. Presentation of the sheets of drawings

4.1 Usable surface area of sheets

Rule 32(1)

"On sheets containing drawings, the usable surface area shall not exceed 26.2 cm x 17 cm. These sheets shall not contain frames round the usable or used surface. The minimum margins shall be as follows: top side: 2.5 cm; left side: 2.5 cm; right side: 1.5 cm; bottom: 1 cm."

Rule 35(7)

Under Rule 35, paragraph 7, no entries may be made in the margins. The drawings must be so set out that they do not overlap into the minimum margin defined in Rule 32, paragraph 1.

4.2 Numbering of sheets of drawings

Rule 35(8)

"All the sheets contained in the European patent application shall be numbered in consecutive arabic numerals. These shall be placed at the top of the sheet, in the middle, but not in the top margin".

Rule 32(1)

The sheets of drawings must be numbered within the maximum usable surface area as defined in Rule 32, paragraph 1. Instead of numbering the sheet in the middle, it will, however, be acceptable for it to be numbered towards the right-hand side, if the drawing comes too close to the middle of the edge of the usable surface. This numbering should be clear, for example in numbers larger than those used for reference numbers.

Rule 35(5)

Rule 35, paragraph 8, requires all application sheets to be numbered consecutively. According to paragraph 5 of Rule 35, the application consists of all the following documents: the request, the description, the claims, the drawings and the abstract. Taking these two paragraphs of Rule 35 together it might appear, therefore, that all the sheets making up the application must be numbered consecutively. However, what is really meant is that all the sheets making up one and the same document should be numbered consecutively and that each document should be numbered from 1.

It is therefore recommended that the sheets of drawings be paginated from 1 onwards as follows:

.../...

The number of each sheet should be shown by two arabic numerals placed either side of an oblique line, the first being the sheet number, and the second being the total number of sheets of drawings, with no other marking. For example, "2/5" would be written for the second sheet of drawings of a file containing 5 sheets and "1/1" would be written in the case of a single sheet.

5. General lay-out of drawings

The various figures on the same sheet of drawings must be laid out according to certain requirements as to page-setting and numbering, and figures divided into several parts must comply with particular requirements.

5.1 Page-setting

Rule 32(2)(h) As far as possible all figures of the drawings should be set out upright on the sheets. If a figure is broader than it is high, it may be set out so that the top and bottom of the figure lie along the sides of the sheet.

In this case, if other figures are drawn on the same sheet, they should be set out in the same way, so that all the figures on a single sheet lie along parallel axes.

.../...

Where the sheet has to be turned in order to read the figures, the numbering should appear on the right-hand side of the sheet.

5.2 Numbering of figures

Rule 32(2)(h) *"The different figures shall be numbered consecutively in arabic numerals, independently of the numbering of the sheets".*

Rule 32(2)(d) This numbering should be preceded by the abbreviation "FIG", whatever the official language of the application. Where a single figure is sufficient to illustrate the invention, it should not be numbered and the abbreviation "FIG" must not appear. Rule 32, paragraph 2(d), also applies to numbers and letters identifying the figures, i.e. they must be simple and clear and may not be used in association with brackets, circles, or inverted commas. They should also be larger than the numbers used for reference signs.

An exception to Rule 32, paragraph 2(h), referred to above may be permitted only as regards partial figures intended to form one whole figure, irrespective of whether they appear on one or several sheets. In this case the whole figure may be identified by the same number followed by a capital letter (e.g. figures 7A, 7B).

5.3 Whole figure

Rule 32(2)(h)

"Where figures drawn on two or more sheets are intended to form one whole figure, the figures on the several sheets shall be so arranged that the whole figure can be assembled without concealing any part of the partial figures".

Partial figures drawn on separate sheets must always be capable of being linked edge to edge, that is to say no figure may contain parts of another.

The case may arise where the parts of a whole figure are drawn on a single sheet following a layout different from that of the whole figure, e.g. a very long figure divided into several parts placed one above the other and not next to one another on a sheet. This practice is permitted. However, the relationship between the different figures must be clear and unambiguous. It is therefore recommended that a scaled-down figure be included showing the whole formed by the partial figures and indicating the positions of the sections shown.

6. Prohibited matter

Rule 34(1)

Rule 34(2)

The provisions as to the omission of prohibited matter within the meaning of Rule 34, paragraph 1(a), (see III, 8.1 and C-II, 7.1) apply also to drawings.

.../...

Rule 34(1)(c) Statements or other matter of the type referred to under Rule 34, paragraph 1(c) (see C-II, 7.3) which are likely to appear in drawings are in particular various kinds of advertising, e.g. where the applicant includes in the drawing obvious business or departmental markings or a reference to an industrial design or model, whether registered or not. By so doing, matter would be introduced which is clearly irrelevant or unnecessary, which is expressly prohibited by Rule 34.

7. Execution of drawings

7.1 Drawing of lines and strokes

Rule 32(2)(a) Rule 32, paragraph 2(a), sets certain standards for lines and strokes in the drawing, to permit of satisfactory reproduction by the various means described in Rule 35, paragraph 3.

Rule 35(3)

The drawings must be executed in black or blue. Either of these colours may be used, but not together. Although permissible, the use of blue should, for technical reasons, be avoided as far as possible.

Blue-prints seldom satisfy the other requirements for drawings and it is therefore strongly advised that copies of this type are not filed.

In all cases the thickness of the lines and strokes must take into account the scale, nature, execution and perfect legibility of the drawing and of the reproductions.

Rule 32(2)(1) All lines must be drawn with the aid of drafting instruments save those for which no instrument exists, e.g. irregular diagrams and structures.

7.2 Shading

The use of shading in figures is allowed provided this assists in their understanding and is not so extensive as to impede legibility.

7.3 Cross-sections

7.3.1 Sectional diagrams

Where the figure is a cross-section on another figure, the latter should indicate the position of the section and may indicate the viewing direction.

Each sectional figure should be capable of being quickly identified, especially where several cross-sections are made on the same figure, e.g. by inscribing the words "Section on AB", or to avoid the use of lettering, by marking each end of the cross-section line on the diagram with a single Roman numeral. This

number will be the same as the (arabic) numeral identifying the figure where the section is illustrated. For example, figure 22 illustrates a section taken along the line XXII - XXII of figure 21.

7.3.2 Hatching

Rule 32(2)(b) A cross-section must be set out and drawn in the same manner as a normal view whose parts in cross-section are hatched with regularly spaced strokes, the space between strokes being chosen on the basis of the total area to be hatched.

Hatching should not impede the clear reading of the reference signs and leading lines. Consequently, if it is not possible to place references outside the hatched area, the hatching may be broken off wherever references are inserted. Certain types of hatching may be given a specific meaning.

7.4 Scale of drawings

Rule 32(2)(c) If the scale of the figure is such that all the essential details would not be clearly distinguished from a photographic reduction in size to two-thirds then the figure must be redrawn to a larger scale, and if necessary the figure should be split up into partial figures so that a linear reduction in size to two-thirds is still intelligible.

The graphic representation of the scale of drawings in cases where its inclusion is considered useful must be such that it is still usable when the drawing is reproduced in reduced format. This excludes indications of size

such as "actual size" or "scale 1/2", both on the drawings and in the description, in favour of graphic representations of the scale.

7.5 Numbers, letters and reference signs

Rule 32(2)(d) Numbers, letters and reference signs and any other data given on the sheets of drawing, such as the numbering of figures, pages of the drawing, acceptable text matter, graduations on scales, etc., must be simple and clear, and not used in association with any brackets, inverted commas, circles or outlines whatsoever. Signs such as 6' and 35" are not regarded as including inverted commas and are therefore permitted.

Numbers, letters and reference signs should preferably all be laid out the same way up as the diagram so as to avoid having to rotate the page.

7.5.1 Leading lines

This means the lines between reference signs and the details referred to. Such lines may be straight or curved and should be as short as possible. They must originate in the immediate proximity of the reference sign and extend at least as far as the features indicated.

.../...

Leading lines must be executed in the same way as lines in the drawing, viz. in accordance with Rule 32, paragraph 2(a).

7.5.2 Arrows

Arrows may be used at the end of the leading lines provided that their meaning is clear. They may indicate a number of points:

(a) a freestanding arrow indicates the entire section towards which it points;

(b) an arrow touching a line indicates the surface shown by the line looking along the direction of the arrow.

7.5.3 Height of the numbers and letters in the drawings

Under Rule 32, paragraph 2(g), a minimum size of 0.32 cm is required for all numbers and letters used on the drawings so that their reduction in size to twothirds remains easily legible.

The Latin alphabet should normally be used for letters. The Greek alphabet is to be accepted however where it is customarily used, e.g. to indicated angles, wavelengths, etc.

7.5.4 Consistent use of reference signs as between description, claims and drawings

Rule 32(2)(i) *"Reference signs not mentioned in the description and claims shall not appear in the drawing, and vice versa."*

PART A

CHAPTER X

Reference signs appearing in the drawing must be given in the description and the claims taken as a whole. As regards use of these signs in the claims, reference should be made to C-III, 4.11.

Features of a drawing should not be designated by a reference in cases where the feature itself has not been described. This situation may arise as a result of amendments to the description involving the deletion of pages or whole paragraphs. One solution would be to strike out on the drawing reference signs which have been deleted in the description. Such corrections would have to be made in accordance with Rule 35, paragraph 14.

Rule 35(14)

Where for any reason a figure is deleted then of course the applicant or proprietor ought to delete all reference signs relating solely to that figure appearing in the description and claims.

In the case of applications dealing with complex subjects and incorporating a large number of drawings, a reference key may be attached to the end of the description. This key may take whatever form is appropriate and contain all the reference signs together with

.../...

the designation of the features which they indicate. This method could have the advantage of standardising the terminology used in the description.

7.5.5 Consistent use of reference signs as between drawings

Rule 32(2)(i) *"The same features, when denoted by reference signs, shall, throughout the application, be denoted by the same signs."*

There would be considerable confusion if a single feature were allocated different reference signs in the various drawings. However, where several variants of an invention are described, each with reference to a particular figure, and where each variant contains features whose function is the same or basically the same, the features may, if this is indicated in the description, be identified by reference numbers made up of the number of the figure to which it relates followed by the number of the feature, which is the same for all variants, so that a single number is formed, e.g. the common feature "15" would be indicated by "115" in Fig. 1 while the corresponding feature would be indicated by "215" in Fig. 2. This system has the advantage that an individual feature and the figure on which it is to be considered can be indicated at the same time. It can also make complex cases involving many pages of drawings easier to read. Instead of the common reference sign being prefixed by the number of a figure, it may, when the individual variants are described with reference to particular groups of figures, be prefixed by the number of the particular variant to which it relates; this should be explained in the description.

7.6 Variations in proportions

Rule 32(2)(f) *"Elements of the same figure shall be in proportion to each other, unless a difference in proportion is indispensable for the clarity of the figure."*

As a preferred alternative to a difference in proportion within one figure for the purpose of achieving the necessary clarity, a supplementary figure may be added giving a larger scale illustration of the element of the initial figure. In such cases it is recommended that the enlarged element shown in the second figure be surrounded by a finely drawn or "dot-dash" circle in the first figure pinpointing its location without obscuring the figure.

8. Text matter on drawings

Rule 32(2)(d) It should first be noted that Rule 32,
Rule 32(2)(g) paragraph 2(d) and (g), also applies to text
matter on the drawings.

For indications of the type "section on AB" see X, 7.3.

Rule 32(2)(j) *"The drawings shall not contain text matter, except, when absolutely indispensable, a single word or a few words."*

Where text matter is deemed indispensable for understanding the drawing, a minimum of words should be used, and a space free of all lines of drawings should be left around them for the translation.

As regards the justification for text matter on drawings, see C-II, 5.1.

9. Conventional symbols

Rule 35(12)

Known devices may be illustrated by symbols which have a universally recognised conventional meaning, provided no further detail is essential for understanding the subject-matter of the invention. Other signs and symbols may be used on condition that they are not likely to be confused with existing conventional symbols, that they are readily identifiable, i.e. simple, and providing that they are clearly explained in the text of the description.

Different types of hatching may also have different conventional meanings as regards the nature of a material seen in cross-section.

10. Amendments to drawings

Amendments of the drawings is permitted, as well as of the other documents. These amendments may be made at the request of the party concerned or at the request of the European Patent Office. The amendments may concern either clerical errors or more substantial changes.

Amendments to drawings are, in general, subject to the same rules as apply in respect of amendments to other application documents and therefore do not require further analysis here. Reference may be made to III, 13, to V, 2, to C-VI, 3, 4.6, 4.7 and 5 and to E-II.

.../...

The general rule governing the admissibility of amendments, which the examiner must always bear in mind, is that they must not extend the content of the application as filed, i.e. they must not have the effect of introducing new material.

If drawings which depart substantially from the physical requirements laid down in the Rules are filed in order to establish a particular date of filing or retain a priority date, the Receiving Section will permit such drawings to be amended or replaced so as to provide drawings complying with the Rules, provided that it is clear that no new material is thereby introduced into the application. In view of this proviso, applicants should take care that any "informal" drawings which they file clearly show all the features necessary to illustrate the invention.

11. Graphic forms of presentation not considered as drawings

11.1 Chemical and mathematical formulae

Rule 35(10)

Chemical or mathematical formulae may be written by hand or drawn if necessary but it is recommended that appropriate aids such as stencils or transfers be used. For practical reasons formulae may be grouped together on one or more sheets annexed to the description and paginated with it. It is recommended in such cases that each formula be designated by a reference sign and the description should contain references to these formulae whenever necessary.

.../...

Rule 35(13) The chemical or mathematical formulae must employ symbols in general use and must be drawn in such a way that they are completely unambiguous. Figures, letters and signs which are not typed must be legible and identical in form in the various formulae, irrespective of the document in which they appear.

Rule 35(10) Chemical or mathematical formulae appearing in the text of the application or patent must have symbols the capital letters of which are at least 0.21 cm high. Where they appear on sheets of drawings, these symbols must be at least 0.32 cm high.

Rule 32(2)(g)

All mathematical symbols used in a formula which appears in a description, in an Annex or on sheets of drawings must be explained in the description, unless their significance is clear from the context. In any case the mathematical symbols used may be collated in a list.

11.2 Tables

i - In the description

Rule 35(11) For the sake of convenience, the tables may also be grouped together in one or more sheets annexed to the description and paginated with it.

If two or more tables are necessary, each should be identified by a Roman number, independently of the pagination of the description or drawings or of the figure numbering, or by a capital letter, or by a title indicating its contents, or by some other means.

.../...

Each line or column in a table must begin with an entry explaining what it represents and, if necessary, the units used.

It should be remembered that the characters must satisfy the requirements of Rule 35, paragraph 10, and that Rule 35, paragraph 6, regarding the maximum usable surface areas of sheets applies to tables as well.

Rule 35(10)
Rule 35(6)

ii - In the claims

The claims may include tables if this is desirable in view of the subject-matter involved. In this case, the tables must be included in the text of the relevant claim; they may not be annexed to the claims nor may reference be made to tables contained in or annexed to the description. Rule 29, paragraph 6 (see C-III, 4.10) stipulates that the claims may refer to other application documents only where this is absolutely necessary. The mere desire to eliminate the need to prepare further copies does not constitute absolute necessity.
