

Learning path for patent examiners

Clarity: Advanced level

Version: May 2024



Introduction

This publication, "Clarity, Advanced level", is part of the "Learning path for patent examiners" series edited and published by the European Patent Academy. The series is intended for patent examiners at national patent offices who are taking part in training organised by the European Patent Office (EPO). It is also freely available to the public for independent learning.

Topics covered include novelty, inventive step, clarity, unity of invention, sufficiency of disclosure, amendments and search. Also addressed are patenting issues specific to certain technical fields:

- patentability exceptions and exclusions in biotechnology
- assessment of novelty, inventive step, clarity, sufficiency of disclosure and unity of invention for chemical inventions
- the patentability of computer-implemented inventions, business methods, game rules, mathematics and its applications, presentations of information, graphical user interfaces and programs for computers
- claim formulation for computer-implemented inventions

Each publication focuses on one topic at entry, intermediate or advanced level. The explanations and examples are based on the European Patent Convention, the Guidelines for Examination in the EPO and selected decisions of the EPO's boards of appeal. References are made to the Patent Cooperation Treaty and its Regulations whenever appropriate.

The series will be revised annually to ensure it remains up to date.

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All references to natural persons are to be understood as applying to all genders.

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1. Learning objectives

Participants to this course will learn:

- the relevance of clarity in opposition proceedings
- advanced reasons for raising a lack of clarity
- the criteria to assess support by the description
- the criteria to assess conciseness

2. Clarity in post-grant proceedings

Clarity is not a ground for opposition. Opposition proceedings are not designed as a procedure for generally amending (or revoking) patents that contain any kind of defect, and therefore opposition proceedings are not to be regarded as a continuation of examination proceedings. As a general rule, this means that a granted claim has to be lived with even if new facts (e.g. new prior art) demonstrate that the claim is unclear (G 3/14).

In considering whether, for the purpose of Article 101(3) EPC, a patent as amended meets the requirements of the EPC, the claims of the patent may be examined for compliance with the requirements of Article 84 EPC only when, and then only to the extent that, an amendment introduces non-compliance with Article 84 EPC (G 3/14). An amendment cannot be deemed to have introduced a lack of compliance with Article 84 EPC if it merely highlights or makes visible a clarity problem already present in the claims as granted.

Under G 3/14, amending one claim or part of a patent cannot lead to a re-examination of other parts of the patent which have not been amended. Therefore, deleting an independent claim with its dependent claims or deleting a dependent claim leaving the independent claims and other dependent claims intact does not open the remaining claims up to examination for compliance with Article 84 EPC.

Limitation is not an opportunity to re-examine the whole patent; only the amended claims are to be examined with regard to Article 84 EPC, i.e. what needs to be considered is whether the requested amendments introduce a deficiency within the meaning of those provisions. Claims as granted or as maintained are not examined anew.

To assess conformity with Article 84 EPC in limitation proceedings, the usual standards apply.

Examples

A claim amended during opposition proceedings is not subject to examination for compliance with Article 84 EPC if it results from:

- inserting a complete dependent claim as granted into an independent claim
- combining one of several alternative embodiments of the dependent claim as granted with the independent claim as granted
- deleting wording from a granted claim (whether independent or dependent), whereby its scope is narrowed but a pre-existing lack of compliance with Article 84 EPC is left intact or
- deleting optional features from a granted claim (whether independent or dependent)

However, an amended claim is to be examined for compliance with Article 84 EPC if:

- features are taken from the description and inserted into a granted claim by way of amendment or
- a feature from a dependent claim as granted is introduced into an independent claim as granted and this feature was previously connected with other features of that dependent claim and an alleged lack of compliance with Article 84 EPC is introduced by the amendment

Legal references:

Art. 100 EPC, Art. 101(3) EPC, Art. 105b(1) EPC, GL D-V. 5. G 3/14

3. The clarity of parameters

Parameters are characteristic values, which may be values of directly measurable properties (e.g. the melting point of a substance, the flexural strength of a steel, the resistance of an electrical conductor) or may be defined as more or less complicated mathematical combinations of several variables in the form of formulae.

The characteristics of a product may be specified by parameters related to the physical structure of the product, provided that those parameters can be clearly and reliably determined by objective procedures which are usual in the art. Where the characteristics of the product are defined by a mathematical relationship between parameters, each parameter needs to be clearly and reliably determined.

The same applies to process-related features defined by parameters.

The requirements of Article 84 EPC with regard to the characterisation of a product by parameters can be summarised as follows:

- The claims must be clear in themselves when read by the skilled person (not including knowledge derived from the description).
- The method for measuring a parameter (or at least a reference thereto) must appear completely in the claim itself.
- An applicant who chooses to define the scope of the claim by parameters needs to ensure that the skilled person can easily and unambiguously verify whether they are working inside or outside the scope of the claim.

If the description of the method for measuring a parameter is so long that its inclusion makes the claim unclear through lack of conciseness or difficult to understand, the requirement under point (ii) can be met by including in the claim a reference to the description, in accordance with Rule 43(6) EPC.

Furthermore, the requirement under point (ii) can still be met if it can be convincingly shown that:

- a. the measurement method to be employed belongs to the skilled person's common general knowledge, e.g. because there is only one method or because a particular method is commonly used, or
- b. all the measurement methodologies known in the relevant technical field for determining this parameter yield the same result within the appropriate limit of measurement accuracy

Unusual parameters are parameters not commonly used in the field of the invention. Two main situations can present themselves:

- The unusual parameter measures a property of the product/process for which another generally recognised parameter is used in the field of the invention.
- The unusual parameter measures a property of the product/process that has not been measured before in the field of the invention.

Cases in which an unusual parameter of type (i) is employed and no straightforward conversion from the unusual parameter to the parameter generally recognised in the art is possible or a non-accessible apparatus for measuring the unusual parameter is used are *prima facie* objectionable on grounds of lack of clarity, as no meaningful comparison with the prior art can be made.

The use of unusual parameters of type (ii) is allowable if it is evident from the application that the skilled person would face no difficulty in carrying out the presented tests and would thereby be able to establish the exact meaning of the parameter and to make a meaningful comparison with the prior art. In addition, the onus of proof that an unusual parameter is a genuine distinctive feature vis-à-vis the prior art lies with the applicant. No benefit of doubt can be accorded in this respect.

Examples

Example 1

The application explains that the abrasive action of very fine-grade sandpaper is improved if strips with abrasive grain are alternated with strips without abrasive grain. Claim 1 contains an unusual parameter of type (ii), measuring the relationship between the widths of the abrasive strips and the non-abrasive strips within a certain length of the sandpaper.

The skilled person has no problem in establishing the exact meaning of the parameter or in measuring the parameter and determining if it is a genuine distinctive feature over the prior art.

Example 2

Claim: champagne characterised in that the bouquet index B has a value between 6 and 12.

The parameter "bouquet index B" is not defined in the claim, nor does it have a well-defined meaning for the skilled person. Therefore, the claim lacks clarity.

Example 3

Claim: a propylene homopolymer characterised by three parameters α , β , γ ..., where α is an intrinsic viscosity over a specific range.

Viscosity η describes a fluid's internal resistance to flow and may be thought of as a measure of fluid friction. Intrinsic viscosity is a measure of the contribution of a solute S (in this case the polymer) to the viscosity η of a solution (a solvent). Intrinsic viscosity measurements depend on the solvent and temperature used to take the measurement. Failing to mention the conditions under which intrinsic viscosity is measured renders the parameter meaningless.

Example 4

Claim: a method for transferring water with a capillary tube having a predetermined length L and a predetermined internal radius r from a first container holding a first volume of water to a second

container, the method comprising the steps ... wherein the volumetric flow rate Q is exercised as described in

Equation 1: $Q = \pi \Delta p r^4 / 8L$, wherein Δp is the differential pressure between the two ends of the capillary

Although the parameter could be measured, the subject-matter cannot be compared with the prior art. A novelty objection should be raised.

Legal references:

GL F-IV. 4.11

4. Support over the whole scope

"Support" means that there must be a basis in the description for the subject-matter of every claim and that the scope of the claims must not be broader than is justified by the extent of the description and drawings and also the contribution to the art.

The extent of generalisation permissible is a matter that must be judged in each particular case in the light of the relevant prior art. Thus, an invention which opens up a whole new field is entitled to more generality in the claims than one which is concerned with advances in a known technology. A fair statement of claim is one which is not so broad that it goes beyond the invention nor yet so narrow as to deprive applicants of a just reward for the disclosure of their invention.

Applicants are allowed to cover all obvious modifications of, equivalents to and uses of that which they have described. In particular, if it is reasonable to predict that all the variants covered by the claims have the properties or uses the applicants ascribe to them in the description, they are allowed to draw the claims accordingly.

As a general rule, a claim is regarded as supported by the description unless there are well-founded reasons for believing that the skilled person would be unable, on the basis of the information given in the application as filed, to extend the particular teaching of the description to the whole of the field claimed by using routine methods of experimentation or analysis.

Support must, however, be of a technical character; vague statements or assertions having no technical content provide no basis.

A claim in generic form, i.e. relating to a whole class, e.g. of materials or machines, may be acceptable even if of broad scope if there is fair support in the description and there is no reason to suppose that the invention cannot be worked through the whole of the field claimed.

Where the information given appears insufficient to enable a person skilled in the art to extend the teaching of the description to parts of the field claimed but not explicitly described by using routine methods of experimentation or analysis, a reasoned objection should be raised and the applicant invited to establish, by suitable response, that the invention can in fact be readily applied on the basis of the information given over the whole field claimed or, failing this, to restrict the claim accordingly.

Examples

- A claim relates to a process for treating all kinds of "plant seedlings" by subjecting them to a controlled cold shock so as to produce specified results, whereas the description discloses the process applied to one kind of plant only. Since it is well known that plants vary widely in their properties, there are well-founded reasons for believing that the process is not applicable to all plant seedlings. Unless the applicants can provide convincing evidence that the process is nevertheless generally applicable, they must restrict their claim to the particular kind of plant referred to in the description. A mere assertion that the process is applicable to all plant seedlings is not sufficient.
- A claim relates to a specified method of treating "synthetic resin mouldings" to obtain certain changes in physical characteristics. All the examples described relate to thermoplastic resins and the method is such as to appear inappropriate to thermosetting resins. Unless the applicants can provide evidence that the method is nevertheless applicable to thermosetting resins, they must restrict their claim to thermoplastic resins.
- A claim relates to improved fuel oil compositions which have a given desired property. The description provides support for one way of obtaining fuel oils having this property, which is by the presence of defined amounts of a certain additive. No other ways of obtaining fuel oils having the desired property are disclosed. The claim makes no mention of the additive. The claim is not supported over the whole of its breadth, resulting in an objection.

Legal references:

Art. 84 EPC, GL F-IV. 6.1, GL F-IV. 6.2, GL F-IV. 6.3

5. Link between clarity and support and sufficiency of disclosure

Although an objection of lack of support is an objection under Article 84 EPC, it can often also be considered an objection of insufficient disclosure of the invention under Article 83 EPC, the objection being that the disclosure is insufficient to enable the skilled person to carry out the "invention" over the whole of the broad field claimed (although sufficient in respect of a narrow "invention").

Both requirements are designed to reflect the principle that the terms of a claim must be commensurate with, or be justified by, the invention's technical contribution to the art.

Therefore, the extent to which an invention is sufficiently disclosed is also highly relevant to the issue of support. The reasons for failure to meet the requirements of Article 83 EPC may in effect be the same as those that lead to the infringement of Article 84 EPC as well, namely that the invention, over the whole range claimed, extends to technical subject-matter not made available to the person skilled in the art by the application as filed.

As a general principle, Art. 84 EPC is concerned with the claims only and with the scope of protection defined by the claims, whereas Art. 83 EPC is concerned with the whole content of the patent application or granted patent, i.e. taking into account the information disclosed not only in the claims but also in the description and drawings, if any.

Thus a deficiency under Art. 84 EPC generally affects the boundaries of the claimed scope. However, if this problem is so severe that it permeates through the whole scope of the claimed invention, this problem also gives rise to an objection under Art. 83 EPC, i.e. an insufficient disclosure. This may be the case for instance when an essential feature is missing not only from the

claims but also from the description or under certain circumstances when the lack of information on the method for measuring a parameter present in a claim would prevent the skilled person from reproducing the invention.

For example, where a technical feature is described and highlighted in the description as being an essential feature of the invention, to comply with Article 84 EPC this feature must also be part of the independent claim(s) defining the invention. By the same token, if the (essential) technical feature in question is absent from the claims, and no information is given on how to perform the claimed invention successfully without the use of said feature, the description does not disclose the invention defined in the claim(s) in the manner prescribed by Article 83 EPC.

An objection under both Articles 84 and 83 EPC may also be justified. An example would be a claim relating to a known class of chemical compounds defined by measurable parameters, when the description does not disclose a technical teaching allowing the skilled person to manufacture those compounds complying with the parametric definition, and this is not otherwise feasible by the application of common general knowledge or routine experimentation. Such a claim would be both technically not supported and not sufficiently disclosed, regardless of whether the parametric definition meets the clarity requirement of Article 84 EPC.

Whether the objection is raised as lack of support or as insufficiency is not important in examination proceedings, but it is important in opposition proceedings since there only the latter ground is available.

Legal references:

Art. 84 EPC, Art. 83 EPC, GL F-IV, 6.4

6. Number of claims in the same category

Under Rule 43(2) EPC, the number of independent claims is limited to one independent claim in each category.

The only exceptions are:

- a. a plurality of interrelated products
- b. different uses of a product or apparatus
- c. alternative solutions to a particular problem, where it is inappropriate to cover these alternatives by a single claim

The goal is to avoid different formulations for the same subject-matter for which protection is sought.

Note, however, that when several independent claims are directed to equivalent embodiments that are not sufficiently different (e.g. computer program adapted to perform said method, optionally carried on an electric carrier signal – computer program comprising software code adapted to perform method steps A, B, etc.), the exceptions under Rule 43(2) EPC usually do not apply.

The term "interrelated" is interpreted to mean "different objects that complement each other or work together". In addition, Rule 43(2)(a) EPC can be interpreted as covering apparatus claims since the term "products" is considered to include apparatuses. Likewise, it may include systems, sub-systems and sub-units of such systems, as long as these entities are interrelated. Interrelated method claims may also fall under the exception of Rule 43(2)(a) EPC.

For the purpose of Rule 43(2)(c) EPC, the term "alternative solutions" can be interpreted as "different or mutually exclusive possibilities".

Moreover, if it is possible to cover alternative solutions by a single claim, the applicant should do so. For example, overlaps and similarities in the features of the independent claims of the same category are an indication that it would be appropriate to replace any such claims with a single independent claim, e.g. by selecting a common wording for the essential features.

Examples

The following are examples of typical situations falling within the scope of the exceptions from the principle of one independent claim per category:

- Examples of a plurality of interrelated products
 - plug and socket
 - transmitter – receiver
 - intermediate(s) and final chemical product
 - gene – gene construct – host – protein – medicament
- Examples of a plurality of different inventive uses of a product or apparatus
 - claims directed to further medical uses when a first medical use is known
 - claims directed to the use of compound X for multiple purposes, e.g. for cosmetically fortifying hair and for promoting hair growth
- Examples of alternative solutions to a particular problem
 - a group of chemical compounds
 - two or more processes for the manufacture of such compounds
- Examples of allowable claim types
 - claims directed to multiple methods involving a novel and inventive polypeptide P, e.g. an enzyme that controls a specific step in the synthesis of a compound; *"a method for manufacturing the polypeptide P – a method for manufacturing the compound by using either the isolated polypeptide or host cells expressing said polypeptide – a method for selecting a host cell on the basis of whether or not it expresses the polypeptide of the invention"*
 - a data-sending method for sending a data packet between a plurality of devices coupled to a bus – a data-receiving method for receiving a data packet between a plurality of devices coupled to a bus
 - a certain circuit – apparatus comprising that circuit (the apparatus claim may also be considered to be dependent on the circuit claim because it comprises all the features of the circuit claim)
 - methods of operating a data-processing system comprising steps A, B, etc. – a data-processing apparatus/system comprising means for carrying out said method – a computer program [product] adapted to perform said method – a computer-readable storage medium/data carrier comprising said program

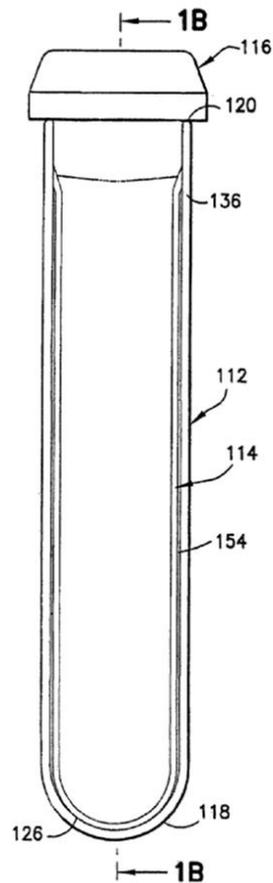
Another example:

Claim 1: "A container assembly comprising:

an outer container made of a first plastic material and having a closed bottom wall, an open top and a side wall extending therebetween, and

an inner container made of a second plastic material and having a closed bottom wall, an open top and a side wall extending therebetween,

the inner container being disposed within the outer container such that the bottom wall of the inner container abuts the bottom wall of the outer container and such that portions of the inner container adjacent to the open top engage the side wall of the outer container."



Claim 9: "A container assembly comprising:

an outer tube unitarily made of polyethylene terephthalate, the outer tube having a substantially spherically generated closed bottom wall, an open top and a cylindrical side wall extending therebetween, and

an inner tube unitarily made of polypropylene and having a substantially spherically generated closed bottom wall, an open top and a side wall extending therebetween, said inner tube being disposed within said outer tube such that said bottom wall of said inner tube abuts said bottom wall of said outer tube, said side wall of said inner tube having an enlarged top section adjacent to said open top disposed in secure sealing- and supporting-engagement with said side wall of said outer tube."

Remark: claims 1 and 9 are a typical example of US-type claims where separate independent claims are drafted in the same category and do not fall under the exceptions of Rule 43(2) EPC. The device described in independent claim 1 is not the same as the device described in independent claim 9. It is not possible to establish from the two sets of independent claims which technical features are essential to the invention.

Legal references:

R. 43(2) EPC, GL F-IV. 3.2

7. Overall number of claims

The requirement that the claims must be concise refers to the claims in their entirety as well as to the individual claims.

The number of claims must be considered in relation to the nature of the invention the applicant seeks to protect.

Undue repetition of wording, e.g. between one claim and another, is to be avoided by the use of the dependent form.

The conciseness requirement also applies to dependent claims in respect of both their number and their content. For example, repeating subject-matter that has already been claimed is unnecessary and negatively affects the conciseness of the claims.

Similarly, the number of dependent claims should be reasonable.

What is or what is not a reasonable number of claims depends on the facts and circumstances of each particular case. The interests of the relevant public must also be borne in mind. The presentation of the claims must not make it unduly burdensome to determine the matter for which protection is sought.

Objections may also arise where there is a multiplicity of alternatives within a single claim if this renders it unduly burdensome to determine the matter for which protection is sought.

Examples

Using the wording "and/or" in a claim amounts to having a plurality of claims:

"Device comprising feature A **and/or** B"

is the same as

"Device comprising feature A", "Device comprising feature B" and "Device comprising A and B"

This is allowed if the number and presentation of the alternatives in a single claim do not make the claim obscure or difficult to construe.

Legal references:

R. 43(4), (5) EPC, GL F-IV. 5

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