

Examiners' Report on Paper B

In Paper B it was expected that none of the claims presented in the application could be maintained as it stood due to lack of novelty. The examiners were of the opinion that the communication was based on a fair reading of the prior art. **Document II (DII)** and its example disclosed polymers which clearly fulfilled the requirements of claim 1 (components **c**, **a** and **b** in **DII** corresponded to **A**, **B** and **C** in the application). The known polymers were prepared in the same way as defined in claim 2. The polymer did not refer to contact lenses and the number of ethylenically unsaturated groups in the reactive siloxane was from 1 to 3 at a maximum of $(m + n)$ of 150.

Document III (DIII) referred to contact lenses made from a copolymer consisting of the same components as that in **DII**, except for the additional cross linking agent (**d**) which corresponded to component (**D**) in the application. There was one significant limitation in **DIII**, the number of R^1-X -groups in the reactive siloxane was 1 for $n = 100$ to 150, i.e. less than 1% of R^1-X - groups based on all the organic groups **R** and R^1-X -. The document also referred to hard lenses based in particular on methyl methacrylate.

In both documents, the copolymers were glass-clear, streak-free and cross linked. Their degree of swelling in water was at most 5 and less than 10 vol.%, their Shore D hardness varied from 70 to 85 and 50 to 80, respectively. In both polymerisation processes the amounts of initiator were the same as in the application. Reference is made to points 2 to 6 of the communication.

Document I (DI) differed in the degree of polymerisation of the siloxane, all the other components (monomers and initiator) including fluoroalkyl methacrylates were disclosed and therefore could not provide an argument to delimit the claimed subject-matter from the prior art (see the paragraph bridging pages 2 and 3 of **DI**).

The paper offered different ways to meet the objections raised. The candidates were expected to draw up claims for the subject-matter which could remain in the application and to provide arguments in support of their claims. Thus, the candidates were expected to draw up claims to a polymer for one of the two alternatives of the "1st solution", to the polymer of "2nd solution", and to maintain a claim to a contact lens in amended form.

"1st solution": In view of the disclosure on page 3, the claims could be limited to narrower embodiments disclosed in the application, i.e. to a degree of polymerisation of the reactive siloxane of 100 to 150 and an amount of R^1-X - groups of 5% to 25 % (see Decision T 02/81, OJ 10/1982, 394 - 402, in particular point 3.). -- Alternatively, it was considered possible to limit the claim in a different way and to argue that the new claim related to an inventive selection (see e.g. Case Law of the Boards of Appeal of the European Patent Office, 1996, ISBN 3-89605-014-1(DE)/-015-X (EN)/-016-8 (FR), chapter I.C.4.2). In this alternative, the degree of polymerisation of the reactive siloxane could be left unamended while the amount of the R^1-X - groups could be limited to 5% to 10 %. The application as filed contained examples 8 to 10 which could directly be compared to examples 2 to 4. These examples could be used to demonstrate that a purposive selection had been made. Page 3, lines 20 to 22 offered the basis for the generalisation of these results. It was also possible to claim contact lenses based on the polymer claimed.

Neither **DII** nor **DIII** disclosed a polymer having 5 to 10 % of R^1-X - groups in the reactive siloxane having a degree of polymerisation of up to 150 (there was an overlap with **DII**, but the only example in this document provided an amount of 3%; in **DIII** the amount was less than 1 %). In the other alternative (wherein the degree of polymerisation was 100 to 150) the minimum number of R^1-X - groups was 10 (5% based on a minimum amount of 206 organic groups bound to Si).

"2nd solution": The application referred to the fact that the choice of the groups **R** influences optical properties of the resulting polymer (page 3). In the passage referring to the desired properties of the contact lenses on page 1, the wearing comfort was one property to be achieved. These facts could be used as starting points for another approach to meet the objections in the communication. It should have been self-evident that the refractive index is one of, if not **the** optical key property for optical lenses in general. This applies, of course, also to a particular form of such lenses, i.e. contact lenses.

Therefore, it was not only possible to use the additional experimental data contained in the client's instructions, but this was also expected (see the Guidelines C-VI, 5.6a to 5.7c, Case Law, I.D.4.2 and III.1.6.2). In the client's additional letter with its experimental data, the influence of the **R** groups in the reactive siloxane on the optical properties (in terms of the refractive index) was demonstrated and - due to this effect - the possibility to reduce the lens thickness which improves the **wearing comfort**. In accordance with these facts, evidence and arguments, a claim was expected to a copolymer wherein at least some of the groups **R** of the reactive siloxane have the meaning of phenyl. None of the prior art documents referred to reactive siloxanes containing such groups.

The candidate was expected to argue that there was some basis in the originally filed application and that the new effect was implied by or at least related to an effect disclosed therein, e.g. the wearing comfort (see the Guidelines C-VI, 5.7a). Arguments to support inventive step should, of course, be based on facts or evidence. A reference to an improvement of mechanical or optical properties in general was not deemed sufficient. Reference to particular data, e.g. to an improvement was expected.

The two solutions are not linked together in such a way that they comply with Art. 82 EPC, because the features which impart novelty and inventive step to the claims ("define a contribution that the claimed invention considered as a whole makes over the prior art", Guidelines C-III, 7.2) are different in the independent claims. Therefore, the candidates were expected to positively propose the filing of a divisional application to one of the two solutions.

The above comments to the additional experimental data indicate that the arguments expected from the candidates should not only cover the prior art with respect to novelty and inventive step but they should also deal with the requirements of Art. 123 (2) EPC.

A further aspect for which a claim was expected related to an amended claim to **contact lenses**. In order to establish novelty over **DIII** ($m = 1, 100 \leq (m+n) \leq 150$), it was necessary to define the reactive siloxane by a degree of polymerisation of up to 150 and the amount of the **R¹-X-** groups to be 5% to 25 %.

The arguments for an inventive step with respect to **DIII** could be based on the different properties of the polymers of examples 2 to 4 and 8 to 10 shown in table 1. These values demonstrate the improvement of the swelling behaviour and Shore D hardness without impairing the oxygen permeability and the hydrophilicity.

Some candidates limited their claims to the mandatory presence of the fluoroalkyl methacrylate component (**A''**). The paragraph bridging pages 2 and 3 of **DI** disclosed the use of these monomers in polymers for contact lenses. It would have been necessary to provide a convincing argument for an inventive step. Such an argument could apparently not be based on the single example 7 when evaluated in view of the examples in the prior art document. Moreover, they disclaimed their best examples.

In order to overcome the objection under Rule 29 (6) many candidates correctly relied on the definitions for the reactive siloxane in **DI**, but some did not take into account that a part of these definitions had been replaced by different ones referred to on page 3 of the application, e.g. the number of **R¹-X-** groups (at least 1, but not more than 25 % of all the organic groups bound to silicon). Definitions in **DI** which are inconsistent with those in the application clearly did not form part of the disclosure of the application and hence could not form a proper basis for an amendment. Their use contravened Art. 123 (2) EPC. This was one of the reasons for losses of marks for a number of candidates. Thus, a limitation of **m** to at least 3 was not considered possible because this value had only been disclosed in clear connection with a particular degree of polymerisation (=100) of a particular polysiloxane in example 1 which was then used in examples 2 to 7 in particular copolymers. A generalisation of this value to all the possible polymers with the different meanings of **R**, **R¹**, **X**, (**B**), (**C**) and (**D**) and degrees of polymerisation of (**A'**) of ≤ 150 was considered to violate Art. 123 (2) EPC (see the Guidelines C-VI, 5.4). This argument applies as well to other values taken from one or more examples.

In order to establish novelty over the documents cited, some candidates included new limiting values and referred to them as "positively worded disclaimers". It is only allowed to define the range by using a limiting value disclosed in the prior art document. This new value had of course to be excluded from the scope of the new claim. To give an example (from unpublished T 433/86, referred to in Case Law): The originally disclosed range was "600 to 10000", known from the prior art was "240 to 1500", the wording allowed by the Board read "above 1500 to 10000". Any claim not following this decision could therefore not contribute to a satisfactory result due to a violation of Art. 123 (2) EPC. Therefore a limitation of **m** to " ≥ 2 " (disclosed in **DI** but contrary to the definition in the description of the invention where a minimum of $m=1$ was disclosed) was not deemed acceptable.

Some candidates drew up claims to the reactive siloxane which contained phenyl groups and to a process for its preparation. The particulars were taken from **DI**. Reference was made to Decision T 6/84 in support of such claims. In its headnote the Decision allows to incorporate features from a reference document into the application without contravening Art. 123 (2) EPC "if they unequivocally form part of the invention for which protection is sought." This is clearly not the case in the present application. It is evident from the third complete paragraph on page 2 that "The monomers, being commercially available, are not themselves the subject of this invention.". Moreover, the Instructions to Candidates clearly state that the facts given in the paper should be accepted.

Some candidates drafted claims to the "2nd solution" and reworded the definition of **R** as "**(independently of one another) C₁-C₄-alkyl and phenyl**" or "**wherein at least one of the groups R is phenyl**". Both wordings resulted in losses of marks. The first wording does not require phenyl to be present; it does not require that each of all possible **C₁- to C₄-alkyls** be present either. The second wording contravenes Art. 123 (2) EPC. There is no disclosure to a reactive siloxane containing **one** such group which would be included by this wording. This would result "in the skilled person being presented with information which is not directly and unambiguously derivable from that previously presented by the application" (Guidelines C-VI, 5.4). Some candidates limited their proposed claim even to **R = phenyl**, which excluded even the further experimental data provided by the client. Such a claim was considered to be of no value.

A number of candidates did not realise that convincing arguments for both novelty and inventive step to support an independent claim can only be based on *mandatory features* in this claim. Thus, the

optional additional cross-linking agent (**D**) or the optional component (**A'**) or optional phenyl groups **R** could not serve to delimit the claims from any one of the documents cited.

Another not convincing approach to support a claim to the polymer was based on the argument that **DII** relates to containers only, whereas the polymer was designed for contact lenses. Firstly, a claim to a polymer relates to the polymer as such, secondly, the application clearly suggested that the polymers could be used for containers (at the bottom of page 6) and, thirdly, reference is made to the Guidelines C-III, 4.8.

General statements like "The subject-matter of the claims is not made obvious by any of the documents." were not considered as proper arguments and did not gain marks.

Some candidates overlooked the fact that starting from claims which were limited to four specified components ("consisting of") an alteration to using the word "comprising" meant a broadening of the claim without a sufficient basis. Hence, this resulted in a loss of marks.

A number of candidates disregarded those parts of the disclosure of the documents which did not fit their argumentation. Thus, they took note only of the examples of the prior art. The disclosure and the teaching of a document are not limited to the examples. Therefore arguments based on such a limited view of the prior art were based on false premise.

Statements such as "the applicant retains the right to direct further claims to (or) to file a divisional application for the subject-matter not encompassed by the newly presented claims" were not taken into consideration as being too vague (see the Instructions to Candidates). Similarly, a statement that certain properties of polymers or contact lenses known from a document are not fully satisfactory without detailed evidence been given could not be appreciated. The same applies if a value from the prior art is characterised as not fully satisfactory but if it lies inside the range of values given for the own examples.

Quite often, the arguments were not in accordance with the claims proposed. An argumentation that **DII** is not relevant for the invention is not convincing if the claims are directed to polymers as such, and if the set of claim also includes a claim to containers or to the use of the polymers as material for containers. The same applies to the proposal of a divisional application to polymers where at least part of the radicals **R** are phenyl group when it was argued that such claims were not permissible under Article 123 (2) EPC.

Claims to particular embodiments could not contribute to a good script if they were limited only to features for which there was no evidence or argument that demonstrated that the features contribute to the solution of the problem underlying the invention (see e.g. T 37/82, OJ 2/1984, 71-75).

A number of candidates did not apparently consider whether claims could be drawn up which were different from those contained in the application. They only tried to limit the claims presented to meet the objection raised. They did not consider the possibility that a claim could be limited in different ways (see the "1st and 2nd solutions" referred to above).

The examiners had difficulties to understand the arguments of a number of candidates because their claims did not correspond to these arguments at all, or because not all necessary definitions in the claims were given.

Some candidates spend time on things they were not asked to do; remarks such as to the claims being filed in triplicates or requests for oral proceedings did not gain extra marks.

Often mistakes were made when giving the basis for the amendments made in the claims or no basis for some or all amendments were given. This resulted in a loss of marks.

EXAMINATION COMMITTEE I

Candidate No.

Paper B (Chemistry) Schedule of marks

Category	Maximum possible	Marks awarded		Revision of marks / grade (if any)	
		Exr	Exr	Exr	Exr
Claims	24				
Argumentation	24				
Total	48				
Corresponding Grade					

Translation of marks into grades

Mark	Grade
0 - 11	7
12 - 17	6
18 - 23	5
24 - 29	4
30 - 35	3
36 - 41	2
42 - 48	1

Marking by further examiners if appropriate

	Claims	Argumentation	Total	Grade
Examiner				
Examiner				

Remarks (which must be given if both the following requirements are fulfilled:

- (a) the grades awarded by the two individual examiners before their discussion differ by two grades or more;
- (b) the marks awarded by at least one of the two individual examiners have been changed during their discussion.)

If marks are revised, a brief explanation should be given.

Sub-Committee for Chemistry agrees on _____ marks and grade _____

Grade recommended to Board _____

The Hague, 23 August 1996

J. Combeau - Chairman of Committee I