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**Datasheet for the decision  
of 2 March 2017**

**Case Number:** T 2483/13 - 3.4.02

**Application Number:** 06714816.3

**Publication Number:** 1855146

**IPC:** G02C7/02, B24B9/14, G02B1/10,  
G02B1/11, G02C7/10

**Language of the proceedings:** EN

**Title of invention:**  
LENS FOR SPECTACLES AND METHOD FOR FORMING LENS FOR SPECTACLES

**Applicant:**  
NIKON-ESSILOR CO., LTD.

**Headword:**

**Relevant legal provisions:**  
EPC 1973 Art. 56

**Keyword:**  
Inventive step - (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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European Patent Office  
D-80298 MUNICH  
GERMANY  
Tel. +49 (0) 89 2399-0  
Fax +49 (0) 89 2399-4465

Case Number: T 2483/13 - 3.4.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.4.02**  
**of 2 March 2017**

**Appellant:** NIKON-ESSILOR CO., LTD.  
(Applicant) 10-8, Ryogoku 2-Chome,  
Sumida-ku  
Tokyo 1300026 (JP)

**Representative:** Hoffmann Eitle  
Patent- und Rechtsanwälte PartmbB  
Arabellastraße 30  
81925 München (DE)

**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 26 June 2013  
refusing European patent application No.  
06714816.3 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** R. Bekkering  
**Members:** A. Hornung  
T. Karamanli

## **Summary of Facts and Submissions**

- I. The applicant (appellant) appealed against the decision of the examining division refusing European patent application No. 06714816.3 on the basis of Article 56 EPC (main and auxiliary request then on file).
- II. The appellant requested that the appealed decision be set aside and a patent be granted on the basis of the claims according to a main (and sole) request filed with the statement setting out the grounds of appeal and corresponding to the auxiliary request underlying the decision under appeal. In addition, the appellant was of the view that the examining division violated the appellant's right to be heard and requested, therefore, reimbursement of the appeal fee.
- III. In a communication accompanying summons to oral proceedings, the board informed the appellant inter alia that claim 1 according to the main request then on file appeared to lack clarity and that the appellant's request for reimbursement of the appeal fee did not seem to be allowable.

In response to the summons to oral proceedings, the appellant filed, with letter of 26 January 2017, amended claims 1 to 6 according to a new main request and a new first auxiliary request and amended description pages 3, 3a, 5, 6, 6a, 7, 9 to 12, 16, 25, 26, 31 and 32 for both requests. The previous main request was maintained as a second auxiliary request and the request for reimbursement of the appeal fee was withdrawn.

As its main request, the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the following documents:

- Claims 1 to 6 of the main request as filed with the letter of 26 January 2017,
- Description pages 1, 2, 4, 8, 13 to 15, 17 to 24 and 27 to 30 as filed upon entry into the European phase on 30 August 2007 and description pages 3, 3a, 5, 6, 6a, 7, 9 to 12, 16, 25, 26, 31 and 32 as filed with the letter dated 26 January 2017, and
- Drawing sheets 1/4 to 4/4 as originally filed.

IV. Subsequently, oral proceedings, which were to be held on 1 March 2017, were cancelled.

V. The present decision refers to the following documents:

D1: WO 03/057641

D3: US 4,525,421

VI. Independent claim 1 according to the main request reads as follows:

"An eyeglass lens in which an anti-reflection film (5) and an oil-repellent film (2) are disposed, and wherein an anti-slip film (6) is further disposed on the lens surface in that order from the side of the lens surface, and characterized in that the anti-slip film (6) comprises a mixture of minute particles of a first group of a metal oxide, silicon oxide or antimony oxide or minute particles of a second group of a fluoride, or minute particles of both groups, and a resin consisting of an organic compound, with this mixture being disposed on the surface of the oil-repellent film (2), as a single mixed layer comprising particles and resin."

## **Reasons for the Decision**

1. Admission of the new main request

The present new main request is admitted into the proceedings since it addresses a clarity objection raised for the first time by the board in its communication annexed to the summons to oral proceedings.

2. Amendments

The board is satisfied that the amendments carried out in the description and the set of claims 1 to 6 according to the main request fulfil the requirements of Article 123(2) EPC.

In particular, present independent claims 1 and 6 are based on original claims 7 and 13, respectively, and on original claim 4 concerning the features of silicon oxide and antimony oxide. The feature of the "single mixed layer" is to be found in paragraph [0015] of the application as originally filed.

3. Clarity

The board had raised an objection of lack of clarity with respect to the term "mixture" in the communication annexed to the summons to oral proceedings. This objection has been overcome by clarifying in present claims 1 and 6 that the "mixture" is disposed "as a single mixed layer comprising particles and resin".

4. Inventive step

The eyeglass lens of claim 1 and the eyeglass lens working method of claim 6 of the main request comprise an inventive

step in view of the available prior art (Article 56 EPC 1973).

4.1 During the first-instance examination proceedings, the examining division considered that D1 represented the closest prior art. The board agrees with this finding.

D1 (page 3, line 29 to page 4, line 6; page 4, lines 21 to 24) discloses an eyeglass lens comprising an anti-reflection coating, a thin external layer and a protective layer disposed on the lens surface in that order. The thin external layer of D1 is an oil-repellent film since it comprises a hydrophobic and/or oleophobic surface coating. The protective layer of D1 is a temporary layer to protect the underlying layers against energetic and/or reactive species used in the manufacturing process of the coatings and capable of performing a surface physical attack and/or chemical modification of the underlying layers. In addition, the temporary protective layer of D1 is an "anti-slip film" in the sense that it imparts to the lens a surface energy of at least  $15 \text{ mJ/m}^2$ , thereby obtaining a "sufficient adherence at the interface holding pad/lens" which amounts to the "anti-slip effect" (see D1, page 8, lines 29 to 36). It follows that D1 discloses all the features of the preamble of claim 1.

According to D1, the "anti-slip film" is made either of a thin inorganic monolayer (page 6, lines 3 to 5), an organic monolayer (page 6, lines 30 and 31) or a multilayer, in particular a bilayer (page 6, lines 32 and 33).

The appellant argued that document D1 failed to disclose minute particles at all. In particular, as D1 was completely silent as to the deposition conditions of the inorganic layer, it was by no means inevitable that a particle layer was formed.

In the board's view, it is unclear whether in D1, in case of a bilayer, the first layer of an inorganic nature in a small thickness (from 2 to 200 nm) comprises minute particles or not. Indeed, depending, for instance, on deposition conditions and layer thickness, the layer may either be continuous or comprise particles. For the purposes of the present decision, however, this issue does not need to be resolved.

Therefore, the claimed subject-matter differs from the eyeglass lens of D1 in that the anti-slip film comprises a mixture of particles and resin, the mixture being disposed on the oil-repellent film as a single mixed layer.

According to the application as originally filed, [0015], the technical effect of the differing feature is that particles are withheld within the mixed layer comprising particles and resin, thereby solving the problem of particles coming out of the layer when dried.

Starting from D1, the skilled person is taught that the first layer made of inorganic material is coated on the lens surface by evaporation under vacuum in a small thickness from 2 to 200 nm, followed by the coating of a thick organic layer, preferably by deposition and hardening of a latex (see D1, page 6, line 34, to page 7, line 4). There is no hint in D1 about particles coming out of the first layer. Hence, the skilled person has no motivation to modify the coating method of D1 in order to prevent inorganic particles from coming out of the coating. Even in case that the skilled person would be confronted with the problem of particles coming out of the protective layer, a plurality of different solutions exist, such as optimizing the deposition conditions of the inorganic or organic monolayers separately so that there is no obvious reason why the skilled person



would modify the existing coating method of the bilayer to combine two layers in one single mixed layer.

Therefore, the board concludes that the claimed subject-matter comprises an inventive step in view of the closest prior art represented by D1.

4.2 According to the appealed decision (point 6 of the Reasons for the decision), the manufacturing of the protective layer of D1 required two steps for the two layers. Therefore, the problem solved by the differing feature was to simplify the manufacturing of the protective layer comprising a resin layer and a layer with inorganic material. It was obvious for the skilled person to simplify the manufacturing process by preparing "a coating liquid comprising inorganic particles, increasing the surface energy and thereby improving adhesion, and a resin providing the mechanical protection and integrity of the layer during tear off" and depositing this mixture onto the oil-repellent layer, thereby arriving at the claimed eyeglass lens in an obvious manner.

The board acknowledges that the simplification of the manufacturing process, even if not disclosed in the application as filed, may be considered as a general problem which the skilled person constantly is attempting to solve. However, the board is not convinced that the skilled person, when trying to simplify the manufacturing process of the bilayer, would choose the solution to reduce the number of layers from two to one. The appealed decision did also not provide any evidence for this way of proceeding by the skilled person.

First of all, as acknowledged in the appealed decision, in D1, the two distinct layers, in addition to protect the underlying layers, have distinct functionalities: the

inorganic layer essentially improves adherence to the oil-repellent film (D1, page 13, lines 9 to 14), while the organic layer allows easy removal of the protective bilayer (D1, page 7, lines 18 and 19). There is no guidance in D1 how to design a single mixed layer having the two functionalities of the two single layers (thickness of the mixed layer; composition of organic/inorganic material in the mixed material; chemical and physical interaction of the organic/inorganic material in the mixed layer). There is also no guidance in D1 about deposition techniques of a single mixed layer comprising particles and resin. While D1 teaches that it is preferred to coat the inorganic material by evaporation under vacuum, the organic layer is coated by deposition and hardening of latex.

Secondly, D1 teaches three different types of protective eyeglass coatings: two monolayer coatings and a bilayer coating. Therefore, the obvious solution for simplifying the manufacturing process of the bilayer is to revert to one of the monolayer coatings instead of combining particles and resin into a single mixed layer.

Thirdly, in the technical field of optical coatings, the desire of minimizing the number of optical layers to be deposited on a substrate is as ubiquitous as the acknowledgement of the difficulty for achieving a reduction of the number of layers to be deposited while maintaining the same functionality of the deposited coating. D1 provides no hint whether combining the two layers constituting the bilayer in one single mixed layer is actually feasible and how to achieve it. No further prior art document was referred to either in the appealed decision.

For the above reasons, the board is of the opinion that the skilled person receives no motivation from the disclosure of

D1 to combine the two layers of the bilayer into a single mixed layer as claimed.

4.3 The other prior art documents on file are not more relevant than D1.

In particular, D3 discloses a synthetic resin lens hard coating composition in which minute silica particles are dispersed. However, depositing a hard coating on a resin lens is a technical field too far away from the present technical field of depositing a temporary protection layer on an oil-repellent layer of an eyeglass lens to consider D3 as a feasible starting point for assessing inventive step. The board is convinced that the coating composition of D3 and the corresponding experimental conditions of the coating process are not transferable to the present task of the skilled person to provide a temporary protection layer on an oil-repellent layer of an eyeglass lens, the temporary protection layer having the following properties: adherence to an oil-repellent layer, protection of the underlying oil-repellent and anti-reflective layers, easy removal of the film, increase of the lens surface energy. Indeed, none of these technical properties of the temporary protection layer is mentioned in D3 and, hence, applying the teaching of D3 would result in a layer not exhibiting such properties.

4.4 Independent method claim 6 defines a lens working method comprising all the corresponding features of claim 1.

4.5 In view of the above considerations, the board comes to the conclusion that the claimed eyeglass lens of claim 1 and the claimed eyeglass lens working method of claim 6 involve an inventive step over the available prior art.

4.6 Claims 2 to 5 are dependent on claim 1, providing further limitations.

5. For the above reasons the board is satisfied that the application documents as amended according to the present main request and the invention to which they relate meet the requirements of the EPC and that a patent can be granted on the basis thereof.

## **Order**

### **For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to grant a patent on the basis of the following documents:
  - Claims 1 to 6 of the main request as filed with the letter of 26 January 2017,
  - Description pages 1, 2, 4, 8, 13 to 15, 17 to 24 and 27 to 30 as filed upon entry into the European phase on 30 August 2007 and description pages 3, 3a, 5, 6, 6a, 7, 9 to 12, 16, 25, 26, 31 and 32 as filed with the letter dated 26 January 2017,
  - Drawing sheets 1/4 to 4/4 as originally filed.

The Registrar:

The Chairman:



M. Kiehl

R. Bekkering

Decision electronically authenticated