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**Datasheet for the decision
of 10 October 2023**

Case Number: T 2198/21 - 3.2.01

Application Number: 15000934.8

Publication Number: 2927580

IPC: F21V31/00, F21V5/04, F21V17/10,
F21V5/08, F21V17/00

Language of the proceedings: EN

Title of invention:

OPTIC FOR A LED CHIP AND RELATED LED LIGHTING DEVICE

Patent Proprietor:

Khatod Optoelectronic SRL

Opponent:

Ledil Oy

Headword:

Relevant legal provisions:

EPC Art. 52(1), 54, 56, 111
EPC R. 103(1) (a)
RPBA 2020 Art. 12(6)

Keyword:

Novelty - main request (no)

Inventive step - auxiliary requests (no)

Reimbursement of appeal fee - substantial procedural violation
(no)

Late-filed request - should have been submitted in first-
instance proceedings (yes) - admitted (no)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2198/21 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 10 October 2023

Appellant: Khatod Optoelectronic SRL
(Patent Proprietor) Via Alessandrina 25
20095 Cusano Milanino (MI) (IT)

Respondent: Ledil Oy
(Opponent) Joensuunkatu 13
24100 Salo (FI)

Representative: Hovinen, Jari Juhani
Finnpatent Oy
Smart Chemistry Park
Raisionkaari 55
21200 Raisio (FI)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 4 August 2021
revoking European patent No. 2927580 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman G. Pricolo
Members: V. Vinci
S. Ruhwinkel
A. Wagner
S. Fernández de Córdoba

Summary of Facts and Submissions

I. The appeal filed by the patent proprietor (appellant) is directed against the decision of the opposition division to revoke the European patent No. 2 927 580.

In its decision the opposition division held that the ground for opposition pursuant to Article 100(a) in combination with Article 54 EPC was prejudicial to the maintenance of the patent as granted, and that the auxiliary requests 1 to 5 did not meet the requirements of Articles 52(1) and 56 EPC. Novelty and inventive step within the meaning of Articles 52(1), 54 and 56 EPC were assessed in view of the public prior use of lenses type "SAGA-A" manufactured by the respondent (opponent) as substantiated by the following evidence:

D10: Article in Russian language published in the Russian magazine "*Современная Светотехника*", #4, 2013 regarding said "SAGA-A" lenses,

D17: Affidavit of Ms. Natalia Timofeeva regarding the date of publication and distribution of the magazine D10, and

D18: Human Translation of D10,

as well as in view of the following non-patent literature:

D7: "*Moldable Optical Silicones Enable LED Lamps and Luminaire Designs*", H. da Silva, LEDs Magazine, published 30.10.2012,

D11: Product information LED Materials - Dow Corning®

MS-1002 Moldable Silicone, dated 16 November 2011, and

D20: Product information Lighting - Dow Corning®
MS-1003 Moldable Silicone, dated 16 September 2013.

- II. With the communication according to Article 15(1) RPBA dated 9 June 2023 the Board informed the parties of its preliminary assessment of the case, according to which the appeal was likely to be dismissed. No further submissions were made by the parties in reaction to this preliminary assessment of the appeal.

Oral proceedings pursuant to Article 116 EPC were held before the Board on 10 October 2023. Without prior notice and although having been duly summoned, as ascertained by the Board, the appellant (patent proprietor) did not appear at the oral proceedings which were held in its absence.

- III. The appellant (patent proprietor) requested in writing that the decision under appeal be set aside and the patent be maintained as granted (main request) or, in the alternative, that the patent be maintained in amended form according to one of the auxiliary requests 1 to 5 underlying the decision under appeal or one of the auxiliary requests 6 to 25 filed with the statement of grounds of appeal.

Furthermore the appellant requested reimbursement of the appeal fee in view of substantial procedural violations.

The respondent (opponent) requested to dismiss the appeal.

IV. The subject-matter of independent claim 1 as granted reads as follows (labelling according to the decision under appeal):

F1 *"Optic for a LED chip (97) in particular of COB type, said optic comprises*

F2 *a second element (50) realized with an optical transparent material and having a first proximal end (51) and a second distal end (53),*

F3 *a second external exit surface (58) which is positioned in proximity of said second distal end (53),*

F4 *a first external lateral total internal reflection surface (59) which is positioned between said first proximal end (51) and said second distal end (53) and which is able to redirect and redistribute a luminous flux produced by said LED chip (97) towards said second external exit surface (58),*

F5 *further said second element (50) comprises a blind internal cavity (52) realized in proximity of said first proximal end (51) which extends internally to said second element (50) substantially along a longitudinal direction (90) towards said second external exit surface (58) for permitting the housing of said LED chip (97), wherein*

F6 *said optic comprises a first element (30) substantially disc shaped, in particular having a central hole (32), which extends externally with respect to said second element (50) in an orthogonal direction with respect to said longitudinal direction (90), characterized in that*

F7 said first element (30) and said second element (50) are made mutually integral in just one single piece through injection moulding with an optic grade transparent silicone elastomer, furthermore

F8 said first element (30) is compressible independently respect to said second element (50) for making waterproof said LED chip (97) and in particular also an electronic board (95) by avoiding at the same time an undesirable modification in the optical properties of said second element (50) and by avoiding at the same time the need of a gasket.

Independent claim 1 according to the auxiliary request 1 is based on claim 1 as granted and further specifies in feature F8 that:

"said optic grade transparent silicone elastomer is selected among a methyl silicone, a vinyl-methyl silicone, a phenyl-methyl vinyl silicone and a fluorine-vinyl-methyl silicone and/or their blends and/or their derivatives".

Independent claim 1 according to the auxiliary request 2 is based on claim 1 as granted and further specifies in feature F7 that said optic grade transparent silicon elastomer is

"in liquid form which is injectable liquid into a mould for subsequent curing or cross-linking".

Independent claim 1 according to the auxiliary request 3 is based on claim 1 as granted and further specifies in feature F7 that said optic grade transparent silicon elastomer is

"a bi-component silicone which is injectable in liquid form in a mould".

Independent claim 1 according to the auxiliary request 4 is based on claim 1 as granted and further specifies in feature F7 that said optic grade transparent silicon elastomer has

"a hardness less than 100 shore for preventing micro-cracks or fragile breakages of said optic",

and in feature F8 that said first element is compressible independently with respect to said second element

"without determining an indirect deformation thereof".

Independent claim 1 according to the auxiliary request 5 is based on claim 1 as granted and comprises in combination all the additional features introduced in independent claim 1 of the auxiliary requests 1, 2 and 4 listed above, and further specifies in feature F7 that

"said first element (30) is mechanically more elastic and flexible with respect to said second element (50) for allowing a perfect compensation of the plays and the mechanical tolerances and therefore a better sealing and impermeability against water over time".

Reasons for the Decision

1. The Board notes that the parties did not make any written submission in reaction to the preliminary assessment of the case presented with the Board's communication according to Article 15(1) RPBA dated 9 June 2023. Furthermore, the appellant (patent proprietor), although duly summoned, did not appear at the oral proceedings. Under these circumstances the Board has no reasons to deviate from its preliminary assessment of the appeal as set out in the communication according to Article 15(1) RPBA which is herewith confirmed.

PROCEDURAL ISSUES

Content of the minutes

2. The appellant (patent proprietor) objected that the minutes did not contain any reference to the allegedly decisive arguments based on the information derivable from several LEDiL's installation manuals (see evidence 037, 038, 042 and 043) as presented in its letters dated 10 April 2020 and 14 May 2021 (the latter filed by fax on 13 May 2021) and allegedly reiterated during the oral proceedings. Furthermore, it was objected that the taking of evidence that took place before oral proceedings and that lasted just 15 minutes was not mentioned at all in the minutes. Finally, it was objected that the minutes did not recall the objection of the appellant (patent proprietor) to the presence of the respondent (opponent) at the video-conference oral proceedings after the latter having denied its consent to this format with the letter dated 9 September 2020.

2.1 The Board cannot identify any relevant issue affecting the minutes:

Firstly, the Board observes that the appellant (patent proprietor) has never presented a reasoned request for correction of the minutes that should have been submitted to the first instance department as competent for such a correction at the shortest delay after their notification. In this respect the Board also notes that the appellant (patent proprietor) did not provide any justification as to why the content of the minutes was contested for the first time with the statement of grounds of appeal, i.e. about 6 months after notification of the minutes of the first instance oral proceedings.

Irrespective of these considerations, the Board reminds that according to Rule 124(1) EPC and to established case law of the Boards of Appeal, the minutes must contain the essentials of the oral proceedings and the relevant statements made by the parties. The minute-writer has a discretion as to what constitute the *"essentials of the oral proceedings"* or *"the relevant statements made by the parties"*, which are determined by reference to what the deciding body has to decide. In particular, the minutes do not need to reflect the full arguments of the parties, all the more for those already presented in the parties' written submissions.

As it will explained below, the arguments based on the LEDiL's installation manuals (037, 038, 042 and 043) presented by the appellant (patent proprietor) in the letters dated 10 April 2020 and 14 May 2021 and allegedly reiterated during the oral proceedings are irrelevant for the conclusion of the opposition division that the subject-matter of claim 1 as granted

lacks novelty over D10, whereby their omission in the minutes is justified and did not negatively affect the outcome of the proceedings and the position of the appellant (patent proprietor).

The Board considers that if taking of evidence took place as alleged by the appellant (patent proprietor), it could have been mentioned in the minutes together with the statement of the opposition division that it intended to consider only written evidence. However, according to the decision under appeal the order to take evidence by inspection was set aside (reasons 1.13.1). In any case, as the decision is not based on the outcome of the alleged taking of evidence, the omission of this information does not result in any relevant issue.

Finally, the fact that the respondent (opponent) had indicated its disagreement to the oral proceedings to be held as videoconference did not certainly preclude its right to attend, even without withdrawing the statement in its letter dated 9 September 2020, once the opposition division decided to adopt this format.

Alleged procedural violation

3. The appellant (patent proprietor) essentially alleged that in the contested decision the opposition division failed to take into account and to confute the arguments presented with the letters dated 10 April 2020 and 13 May 2021 also reiterated during the oral proceedings, i.e. the arguments based on the information derivable from the LEDiL's installation manuals labelled 037, 038, 042 and 043.

3.1 However, the Board cannot identify any substantial procedural violation.

The Board is of the opinion that, in view of the reasoning in the decision, the omitted arguments are in any event irrelevant for the conclusions for the following reasons:

Contested feature F8 reads:

"said first element (30) is compressible independently respect to said element (50) for making waterproof said LED chip (97) ...".

As it can be deduced from the decision, the opposition division took the view that the wording of feature F8 of claim 1 as granted, in particular the expression *"for making waterproof"*, does not require that the optic at stake is mandatorily waterproof in assembled state, but merely that due to the claimed compressibility of the first silicon element (30) with respect to the second element, the optical assembly is potentially suitable for achieving waterproof conditions when appropriate measures are taken (see in particular the paragraph of the decision bridging pages 17 and 18, and the added term, underlined, *"suitable"* in line 4 on page 18).

3.2 In view of the above, the arguments of the appellant (patent proprietor) at stake, namely that according to the cited installation manuals relating to the SAGA-A (or STELLA-A) lenses disclosed in D10 waterproof conditions are achieved only when special screws with silicone potting on the screws are positioned outside the optical area and that these measures are not disclosed in D10 are irrelevant because, as explained

in point 3.1 above, the opposition division considered that the wording of claim 1 as granted only requires the optic at stake to be suitable for achieving waterproof condition in respect of the LED chip. The opposition division's reasoning is thus based on the fact that according to claim 1 the claimed suitability to make waterproof the LED chip is achieved by the inherent characteristics of the first and second element which are made of (inherently compressible) silicon. This is also the case for the lenses disclosed in D10 which, as such, are also suitable for achieving waterproof conditions.

3.3 Therefore the reasoning of the impugned decision and in particular the fact that some arguments of the appellant (patent proprietor) are not dealt with by the opposition division does not amount to a procedural violation.

3.4 In view of the above, a remittal of the case to the opposition division pursuant to Article 111 EPC is not appropriate and the request of reimbursement of the appeal fee is not justified (see Rule 103(a) EPC).

Alleged lack of impartiality

4. Regarding the objection of lack of impartiality of the opposition division raised by the appellant (patent proprietor) for the first time with the statement of grounds of appeal, the Board cannot find in the available documents relating to the opposition proceedings any element concretely supporting the submissions of the appellant (patent proprietor) which are based on mere unsubstantiated allegations of very general nature.

Therefore, also here the Board cannot recognize any substantial procedural violation affecting the first instance proceedings.

MAIN REQUEST

Novelty: Article 52(1) and 54 EPC

5. The subject-matter of claim 1 as granted lacks novelty within the meaning of Articles 52(1) and 54 EPC as assessed by the opposition division.

5.1 With its appeal the appellant (patent proprietor) contested the negative novelty assessment of the opposition division and argued that the optic according to D10 did not fulfill features F1 and F8 of claim 1 as granted.

5.2 The Board does not agree and concurs with the conclusion of the opposition division for the following reasons:

Regarding the contested feature F1 the Board, in agreement with the opposition division, observes that in view of the expression "*in particular*" claim 1 as granted does not mandatorily require that the claimed optic is for COB chip type but simply that it is used with a LED chip as it is also indisputably the case of the "SAGA-A" optic described in D10.

Regarding feature F8 the Board has not been provided with any convincing reasons to deviate from the conclusion of the opposition division that this feature, in the present formulation, is directly and unambiguously disclosed in D10. In fact, the interpretation of this feature adopted by the opposition division and merely requiring a

"suitability" to achieve water proof conditions for the LED chip is correct as the claim wording does not define any further relevant feature. This suitability is essentially inherent to the material of the first and second elements (30,50) and is thus also provided by the "SAGA-A" optic described in D10 which also use an optic grade silicon elastomer to build up the corresponding first and second elements.

- 5.3 It follows that the negative assessment of novelty of the opposition division in respect of independent claim 1 of the main request is herewith confirmed.

AUXILIARY REQUESTS 1 to 5

6. These auxiliary requests correspond to the auxiliary requests 1 to 5 underlying the decision under appeal.

- 6.1 The subject-matter of independent claim 1 of the auxiliary requests 1 to 5 lacks inventive step within the meaning of Articles 52(1) and 56 EPC as assessed by the opposition division.

The reasons are as follows:

Auxiliary Request 1

- 6.2 As pointed out by the respondent (opponent) in its reply, the appellant (patent proprietor) did not submit any arguments in support of the inventiveness of independent claim 1 of this request. The Board has thus no reasons to deviate from the conclusion of the opposition division that the subject-matter of claim 1 is rendered obvious by the optics according to D10 in view of the document D11 which teaches the use of methyl silicon as optic grade transparent silicon

elastomer, this selection belonging to the list of suitable materials specified in claim 1.

Auxiliary Request 2

- 6.3 Compared to claim 1 as granted, independent claim 1 of the auxiliary request 2 recites the additional feature that the transparent silicone elastomer is *"in liquid form and is injectable liquid into a mould for subsequent curing or cross-linking"*. The Board concurs with the opposition division and the respondent (opponent) that document D11 discloses on page 1 a MS-1002 moldable and curable silicone suitable for injection moulding (hence a liquid silicon) which can be used to manufacture primary and secondary lenses. Contrary to the view of the appellant (patent proprietor) the selection of an injectable silicon for the "SAGA-A" optic described in D10 is thus considered obvious in view of D11.

Auxiliary Request 3

- 6.4 Compared to claim 1 as granted, independent claim 1 of the auxiliary request 3 recites the additional feature that the optic grade transparent silicone elastomer is a *"bi-component silicone which is injectable in liquid form in a mould"*.
- 6.5 As correctly stated by the opposition division and contrary to the view of the appellant (patent proprietor), starting from D10 the selection of a bi-component injectable silicon for the first and second elements of the "SAGA-A" optic of D10 is obvious in view of D11 which actually suggests to this purpose the use of a bi-component silicone ("Part A", "Part B", see pages 1 and 2) which is mixed and injection moulded.

Auxiliary Request 4

- 6.6 The Board concurs with the opposition division and the respondent (opponent) that, contrary to the allegation of the appellant (patent proprietor), the removal from claim 1 as granted of the term *"in particular"* in feature F1 and of the term *"substantially"* in feature F6 does not result in any further limitation over D10. Furthermore, also the optic according to D10 is provided with a first silicon element compressible independently with respect to a second element without determining an indirect deformation thereof. It follows that the only distinguishing feature compared to D10 is that the optic grade transparent silicone elastomer *"has a hardness less than 100 shore for preventing microcracks or fragile breakages of said optic"*. The prevention of micro-cracks is however considered an obvious goal for a person skilled in the art in the field of the manufacture of optics also in view of documents D7, D11 and D20 disclosing optic grade transparent silicon elastomers with a hardness falling within the range recited in claim 1, whereby also this additional distinguishing feature does not provide any inventive contribution.

Auxiliary Request 5

- 6.7 Independent claim 1 of the auxiliary request 5 contains the amendments already introduced in the previous auxiliary requests 1, 2 and 4 combined with the additional feature that *"the first element (30) is mechanically more elastic and flexible with respect to said second element (50) for allowing a perfect compensation of the plays and the mechanical tolerances, and therefore a better sealing and*

impermeability against water over time".

- 6.8 However, the Board concurs with the view of the opposition division and the respondent (opponent) that this feature is directly and unambiguously derivable from the information contained in D10 and hence cannot positively contribute to inventive step. In particular the fact that the first element (the annular flange in Fig. 4) and the second element of D10 are made of silicon and show different thicknesses implies that the first element is mechanically more flexible with respect to the second element, thereby inherently achieving, contrary to the assertions of the appellant (patent proprietor), the functionality defined in claim 1 of the auxiliary request 5 which also lacks inventive step.

AUXILIARY REQUESTS 6 to 25

7. These auxiliary requests have been submitted for the first time with the statements of grounds of appeal of the appellant (patent proprietor). Their admission is contested by the respondent (opponent) with the argument that the appellant (patent proprietor) had the opportunity to present further requests before the opposition division in order to overcome the novelty objection raised against the main request and to render its subject-matter not obvious within the meaning of Articles 52(1), 54 and 56 EPC respectively.
8. The Board shares the view of the respondent (opponent) that these auxiliary requests could and should have been submitted at the first instance department. In this respect the Board further observes that no reasons have been provided by the appellant (patent proprietor) in an attempt to justify its decision to postpone the

submission of these additional auxiliary requests to the appeal proceedings. Furthermore, no such reasons or particular circumstances of the appeal case justifying the admittance of these auxiliary requests can be identified by the Board. The Board, in exercise of its discretion conferred by Articles 12(6) RPBA 2020, thus decided not to admit the auxiliary requests 6 to 25 in the appeal proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Voyé

G. Pricolo

Decision electronically authenticated