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Datasheet for the decision of 24 February 2026

Case Number: T 1436/24 - 3.2.01

Application Number: 18181340.3

Publication Number: 3425272

IPC: F21V29/503, F21V29/89

Language of the proceedings: EN

Title of invention:
DEVICE AND METHOD FOR PLACEMENT OF LIGHT SOURCE ON A HEAT SINK

Patent Proprietor:
Valeo North America, Inc.

Opponent:
Plastic Omnium Lighting Systems GmbH

Headword:

Relevant legal provisions:
EPC Art. 123(2)
RPBA 2020 Art. 11

Keyword:
Amendments - allowable (yes)
Remittal - (yes)

Decisions cited:

Catchword:

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Beschwerdekammern

Boards of Appeal

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Case Number: T 1436/24 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 24 February 2026

Appellant: (Patent Proprietor)	Valeo North America, Inc. 150 Stephenson Highway Troy, MI 48083 (US)
Representative:	Valeo Visibility Service Propriété Industrielle c/o Valeo Vision 34, rue Saint André 93012 Bobigny (FR)
Respondent: (Opponent)	Plastic Omnium Lighting Systems GmbH Marcel-Breuer-Straße 6 80807 München (DE)
Representative:	LLR 2, rue Jean Lantier 75001 Paris (FR)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 15 October 2024 revoking European patent No. 3425272 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	G. Pricolo
Members:	S. Mangin
	P. Guntz

Summary of Facts and Submissions

I. The appeal was filed by the appellant (patent proprietor) against the decision of the opposition division to revoke the patent in suit (hereinafter "the patent").

II. The opposition division held that the independent claims of all the requests on file extended beyond the content of the application as filed.

III. Oral proceedings were held before the Board on 24 February 2026.

IV. At the beginning of the proceedings, the following requests were made by the parties:

The appellant (patent proprietor) requested that the patent be maintained on the basis of the main request (corresponding to the first auxiliary request in opposition proceedings) or on the basis of the first to third auxiliary requests (corresponding to the second to fourth auxiliary requests in opposition proceedings).

The respondent (opponent) requested that the appeal be dismissed as inadmissible or that the appeal be dismissed. They also requested the apportionment of costs according to Article 104(1) EPC.

Subsequently, the respondent (opponent) withdrew their request for apportionment of costs and their request to dismiss the appeal as inadmissible.

V. Main request

(a) Independent claim 1 of the main request in appeal reads:

1. A method of treating a heat sink (205) for a light element, comprising:
1.1 - providing a heat sink (205) having an anodized coated surface (210, 235);
1.2 - treating a mounting region (220, 230) of the anodized coated surface (210, 235) by laser ablation, wherein the mounting region (220, 230) is for placing a light element (245) on the heat sink (205);
1.3 - adjusting parameters of the laser ablation treating; and adjusting the parameters of the laser ablation treating to remove a predetermined amount of coating to create a predetermined roughness of the mounting region to adapt the mounting region (220, 230) for mechanical coupling and thermal coupling of the light element (245) to the heat sink (205),
1.4_1a wherein the predetermined roughness of the treated portion (220, 230) includes predetermined patterns comprising peaks and valleys to improve the adhesion of the light element (245) to the heat sink (205),
1.4_1b wherein at least one of the predetermined patterns includes a cross-hatching pattern tuned for adhesion of the light element (245) to the heat sink (205).

(b) Independent claim 5 of the main request reads as follows:

5. A heat sink (205) comprising:

an anodized coating (210, 235) covering at least a portion of the surface of the heat sink (205);
a mounting region (220, 230) on the coating and which is configured to receive a light element (245) placed on the mounting region;
wherein the mounting region (220, 230) is treated via laser ablation to remove a predetermined amount of the coating to create a predetermined roughness of the mounting region to provide mechanical coupling and thermal coupling requirements of the light element (245) to the heat sink (205),
wherein the predetermined roughness of the treated portion (220, 230) includes predetermined patterns comprising peaks and valleys to improve the adhesion of the light element (245) to the heat sink (205)
wherein at least one of the predetermined patterns includes a cross-hatching pattern tuned for adhesion of the light element (245) to the heat sink (205).

VI. In the present decision, reference is made to the following document:
D1: "Surface finish metrology tutorial", T.V. Vorbuger and J. Raja, June 1990

Reasons for the Decision

1. Main request - Added subject-matter

Claims 1 and 5 meet the requirements of article 123(2) EPC.

1.1 The appellant (patent proprietor) contested the opposition division's findings that claims 1 and 5 extended beyond the content of the application as filed.

In the appellant's view, the wording in feature 1.4_1a of claim 1 stating that *"the predetermined roughness of the treated portion (220, 230) includes predetermined patterns comprising peaks and valleys"* did not add subject-matter extending beyond the content of the application as filed.

According to the appellant, feature 1.4_1a specified that the roughness comprised defined patterns that were at the same scale as the roughness itself, namely at the microscopic level and not at the macroscopic level. The appellant argued that a characteristic relating to a microscopic element could not include a macroscopic element.

This relationship was supported by original claim 4 and paragraph [0011] of the application as filed, which stated that: *"In an embodiment, the predetermined roughness of the treated portion of the anodized surface includes predetermined patterns".*

Consequently, the opposition division's interpretation that the expression "patterns comprising peaks and valleys" meant that the pattern had a shape of (macroscopic) peaks and valleys with a rough (microscopic) surface could not be accepted. Such interpretation would imply that the predetermined patterns comprising peaks and valleys would have a specific roughness.
According to the appellant, the only technically plausible interpretation of the term "pattern" was therefore one at the level of the roughness, (i.e. microscopic level).

Finally, feature 1.4_1b *"wherein at least one of the predetermined patterns includes a cross-hatching pattern tuned for adhesion of the light element (245) to the heat sink (205)"* corresponded in particular to claim 14 as filed.

The appellant (patent proprietor) submitted that for the same reasons as claim 1, claim 5 likewise did not extend beyond the content of the application as filed.

1.2 The respondent (opponent) agreed with the opposition division that the feature *"the predetermined roughness of the treated portion includes predetermined patterns comprising peaks and valleys"* in claims 1 and 5 extended beyond the content of the application as filed.

According to the "1. interpretation" set out under point 19.1.1 on page 6 of the appealed decision, the term "pattern" would correspond to a microscopic feature, qualifying the roughness and the "peaks and valleys" as a particular type of roughness.
In other words, the feature that "the predetermined roughness of the treated portion included predetermined patterns comprising peaks and valleys" merely defined a rough surface, i.e. with a random arrangement of peaks and valleys.
However, when the "pattern" was specified to be a "cross-hatching pattern", the above feature could no longer merely define a rough surface according to the "1. interpretation", as this "pattern" no longer corresponded to a random arrangement of peaks and valleys.

Furthermore, according to the respondent (opponent) if the cross-hatching pattern needed to be at the same

level as the microscopic surface roughness, meaning atomic or nanometric scale, it could not be produced with laser ablation. Even the most precise laser systems could not reach true atomic or nanometric scale as the laser spot and energy distribution were far too large compared to nano-scale features. Laser ablation would inevitably generate patterns that were significantly larger than the material's natural surface roughness.

The respondent argued that consequently, the only technically plausible interpretation was the "2. interpretation" under point 19.1.1 of the appealed decision according to which both the patterns and the peaks and valleys were at a macroscopic scale, which inherently exhibited a microscopic roughness.

The respondent argued that while there were several occurrences of sentences linking "patterns" and "roughness" in the description, the description was totally silent on the relationship between "predetermined patterns" and "peaks and valleys". The description suggested that roughness was defined as the averages of the difference in heights of said peaks and valleys, so roughness actually was the result of the presence of said peaks and valleys. It was therefore incompatible with the statement *"the roughness includes patterns comprising peaks and valleys"*.

Finally, the respondent submitted that paragraph [0038] of the A1 publication recited *"The surface finish can be defined by lay, surface roughness and waviness. Lay can correspond to a predominant surface pattern. Surface roughness can correspond to a measure of the finely spaced surface irregularities"*, and *"Measuring*

surface finish and/or surface roughness can most commonly be done in values of "Ra" which are the mathematical averages of the difference in heights of the peaks and valleys measured for a specified area". According to these definitions, it was clear from the description that the surface pattern and peaks and valleys could not be at the same scale: the patterns were necessarily at a scale greater than the one of the peaks. This was also confirmed by document D1, page 3 illustrating the knowledge of the skilled person: as could be seen on Figure 2-1, the length of the lay, i.e. the direction of the dominant pattern, was several times the height of the peaks and valleys, which corresponded to roughness. If both lay and roughness were at the same scale, no "direction" of the pattern, along which the peaks lay, could be distinguished.

The respondent (opponent) also pointed to the penultimate sentence of paragraph [0044] stating that *"The surface finish can be based on a predetermined roughness value and/or patterns in the coating (e.g., cross hatching) to further improve adhesion and heat flow"*, thereby emphasising the fact that roughness and pattern were distinct features of the surface finish.

To sum up his arguments, the respondent (opponent) explained that the skilled person may conclude, at best, that:
1) The "predetermined roughness" included "predetermined patterns", which could be simplified as "A included B"
2) The "predetermined roughness" included "peaks and valleys", which could be simplified as "A included C".

Claim 1 of the main request could be simplified in "A included B which included C".

However, from a purely logical standpoint, the affirmations "A included B" and "A included C" did not imply the affirmation "A included B which included C".

Hence, regardless of the interpretation of claim 1, it was a fact that the description did not disclose a "predetermined roughness" including "predetermined patterns" including "peaks and valleys".

1.3 The Board agrees with the appellant and is not convinced by the arguments of the respondent.

Claim 1 defines that the roughness of the treated portion includes a cross-hatching pattern comprising peaks and valleys, whereby the roughness is the mathematical averages of the difference in heights of the peaks and valleys measured for a specified area, as also stated in the description (see par. [0033]).

The application as filed does not define the peaks and valleys being macroscopic while the roughness is microscopic. On the contrary, it is clear that the roughness, the peaks and valleys and the cross-hatching pattern are all in the same order of magnitude.

Basis for the amendments of claim 1 are:
- Original claim 4: *"The method of claim 1, wherein the predetermined roughness of the treated portion of the anodized surface includes predetermined patterns"*, and paragraph [0011] of the application as filed: *"In an embodiment, the predetermined roughness of the treated portion of the anodized surface includes predetermined patterns"*.

Original claim 4 and paragraph [0011] clearly define that it is the predetermined roughness that includes a pattern. It is not the coated surface that includes a predominant surface pattern i.e a lay. The peaks and valleys referred to in claim 1 are the peaks and valleys of the pattern which are used for measuring the roughness.

- Original claim 11: *"The heat sink of claim 8, wherein the predetermined roughness of the mounting regions is based on Ra roughness, wherein Ra roughness is the mathematical averages of the difference in heights of the peaks and valleys measured for a specified area".* and paragraph [0020] of the application as filed: *"In an embodiment, the predetermined roughness of the mounting regions is based on Ra roughness, wherein Ra roughness is the mathematical averages of the difference in heights of the peaks and valleys measured for a specified area".*

Claim 11 and paragraph [0020] define the roughness Ra as the mathematical averages of the difference in heights of the peaks and valleys. The Board notes that no distinction is made between the peaks and valleys associated with the roughness and the peaks and valley associated with the pattern; rather, they are one and the same, as argued by the appellant (patent proprietor).

This is confirmed by paragraph [0038] disclosing that: *"Measuring surface finish and/or surface roughness can most commonly be done in values of "Ra" which are the mathematical averages of the difference in heights of the peaks and valleys measured for a specified area".* In this passage, no distinction is made between the

peaks and valleys of the surface finish and the surface roughness for measuring Ra.

- Original claim 14: *"The heat sink of claim 10, wherein the mounting region includes predetermined patterns wherein at least one of the predetermined patterns includes a cross-hatching pattern tuned for adhesion of the light element to the heat sink"*, and paragraph [0023]: *"In an embodiment, the mounting region includes predetermined patterns wherein at least one of the predetermined patterns includes a cross-hatching pattern tuned for adhesion of the light element to the heat sink".*

These passages form the basis for the claimed cross-hatching pattern.

The respondent argued that "Laser ablation would always produce patterns much larger than the natural roughness of the material".
However, the Board notes that in the present invention, laser ablation is used to provide a predetermined roughness for the mounting region. Reference is made to feature 1.3: *"adjusting the parameters of the laser ablation treating to remove a predetermined amount of coating to create a predetermined roughness of the mounting region to adapt the mounting region (220, 230) for mechanical coupling and thermal coupling of the light element (245) to the heat sink (205)".*

For the same reasons as claim 1, the subject-matter of claim 5 does not extend beyond the content of the application as filed.

2. Remittal to the opposition division

The Board decided to remit the case to the opposition division for further prosecution.

The main request in appeal (auxiliary request 1 in opposition) was admitted in opposition proceedings and was examined by the opposition division only as regards the compliance of claims 1 and 5 with Article 123(2) EPC. The opposition division did not examine the main request in particular in relation to novelty, inventive step and sufficiency of disclosure. In view of the primary object of the appeal proceedings to review the decision under appeal in a judicial manner, the Board considers that there are special reasons in the sense of Article 11 RPBA for remitting the case to the opposition division for further prosecution as requested by the appellant (patent proprietor) in their grounds of appeal.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the opposition division for further prosecution.

The Registrar: The Chairman:

D. Grundner G. Pricolo

Decision electronically authenticated