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Datasheet for the decision of 17 April 2015

Case Number: T 0749/12 - 3.2.05

Application Number: 05826618.0

Publication Number: 1830995

IPC: B29C45/16

Language of the proceedings: EN

Title of invention:
Heat resistant plastic lamp components and methods of forming

Applicant:
SABIC Innovative Plastics IP B.V.

Relevant legal provisions:
EPC 1973 Art. 56

Keyword:
Inventive step - (no)

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Case Number: T 0749/12 - 3.2.05

D E C I S I O N
of Technical Board of Appeal 3.2.05
of 17 April 2015

Appellant: (Applicant)	SABIC Innovative Plastics IP B.V. Plasticslaan 1 4612 PX Bergen op Zoom (NL)
Representative:	Patentanwälte Bauer Vorberg Kayser Partnerschaft mbB Goltsteinstraße 87 50968 Köln (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 28 October 2011 refusing European patent application No. 05826618.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	M. Poock
Members:	S. Bridge
	M. J. Vogel

Summary of Facts and Submissions

I. The appellant (applicant) lodged an appeal against the decision of the examining division refusing European patent application No. 05 826 618.0.

The examining division held that claim 1 filed 7 October 2011 as subsidiary request 1 lacked an inventive step (Article 56 EPC) with respect to the combination of document GB-A-2 130 353 (D4) and either one of documents FR-A-2 459 938 (D5) and FR-A-2 242 638 (D6).

II. Oral proceedings were held before the board of appeal on 17 April 2015.

III. The appellant requested as sole request that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims filed 7 October 2011 as subsidiary request 1.

IV. Claim 1 according to the sole request reads as follows:

"A molded reflector (30) comprising:
a first portion (12) formed from a first material having a first heat distortion temperature, said first portion (12) comprising less than 50% of the reflecting zone of the reflector (30), said first portion (12) extending from a top side (16) of said reflector (30) at least partially to a bottom side (18) of said reflector (30) referred to a position of the reflector (30) in use; including a bulb opening (20), and
a second portion (14) formed from a second material having a second heat distortion temperature, said first heat distortion temperature greater than said second heat distortion temperature, said second portion (14)

positioned adjacent said first portion (12) and comprising the remaining area of the reflector (30)."

V. The following documents are referred to in the present decision:

D1 DE 198 20 420 A1;
D2 FR 2 798 986 A.

VI. The arguments of the appellant in the written and oral proceedings can be summarised as follows:

The skilled person knows that a reflector necessarily exhibits a "*reflecting zone*". The term "*remaining area*" has a literal basis on page 2, last three lines of the application as published. Thus, claim 1 including these amendments according to the sole request satisfies the requirements of Article 123(2) EPC.

The subject-matter of claim 1 differs from the reflector of document D1 in that document D1 does not disclose that:

- the first portion comprises less than 50% of the reflecting zone of the reflector, because according to column 3 lines 30 to 32, the second portion may completely enclose the first portion;
- the first portion extends from a top side - this expression means that the *first portion* starts from the topmost part of the moulded reflector as illustrated in the two embodiments of figures 1 and 2 of the application as published.

The skilled person has no motivation for introducing these changes into the reflector of document D1. The subject-matter of claim 1 according to the sole request is thus based on an inventive step.

Reasons for the Decision

1. Inventive step (Article 56 EPC 1973)

1.1 Document D1 forms the closest prior art and discloses a reflector (1) comprising:
a first portion (2) formed from a first material having a first heat distortion temperature (130°C to 220°C) and
a second portion (3) formed from a second material having a second heat distortion temperature (45°C to 75°C), said first heat distortion temperature greater than said second heat distortion temperature, said second portion positioned adjacent said first portion and comprising the remaining area of the reflector (column 1, lines 31 to 36, 41 to 51 and 59 to 62; column 2, lines 15 to 19 and 32 to 46; figures).

1.2 Differences with respect to the prior art disclosed in document D1

1.2.1 The subject-matter of claim 1 according to the sole request differs from the reflector of document D1 in:
(a) a bulb opening; and
(b) that the first portion comprises less than 50% of the reflecting zone of the reflector, said first portion extending from a top side of said reflector at least partially to a bottom side of said reflector referred to a position of the reflector in use and the second portion comprising the remaining area of the reflector.

1.2.2 It was argued on behalf of the appellant that the feature "*said first portion extending from the top side of said reflector*" means that the first portion reaches all the way to the highest point on the top side of the

reflector "*referred to a position of the reflector in use*".

However, the expression "*said first portion extending from the top side of said reflector*" is less specific and does not necessarily require that the first portion reaches all the way to the highest point on the top side of the reflector. In consequence, it is not mandatory in claim 1 that the first portion reaches all the way to the highest point on the top side of the reflector in use (Article 84 EPC, first sentence).

In addition, the description of the patent in suit does not mention the highest point on the top side of the reflector and there is no indication that the position of the reflectors shown in figures 1 and 2 corresponds to "*a position of the reflector in use*". Thus, the application as filed does not contain any explicit teaching that the first portion should reach all the way to the highest point on the top side of the reflector "*referred to a position of the reflector in use*" (Article 123(2) EPC).

The interpretation of the feature "*said first portion extending from the top side of said reflector*" advanced on behalf of the appellant thus cannot serve to distinguish the claimed subject-matter from the prior art.

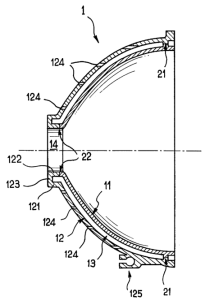
1.2.3 It was further argued on behalf of the appellant that document D1 teaches away from the first portion comprising less than 50% of the reflecting zone of the reflector, because according to column 3 lines 30 to 32, the second portion may completely enclose ("*vollständig umschließen*") the first portion. However, this is only one of three alternatives disclosed in

said passage of document D1, the other two being that the second portion adjoins the first portion ("*anschließen*") or that it may partially cover ("*teilweise überdecken*") the first portion. The mere fact that document D1 considers further alternatives does not detract from the fact that it also discloses that the second portion adjoins (i.e. is "*positioned adjacent said first portion*") the first portion as required by claim 1 according to the sole request.

1.2.4 Thus, the only differences are (a) and (b) set out above and these differences give rise to two different and unrelated technical effects as set out below.

1.3 The technical effect of (a) providing a bulb opening is to locate a light bulb in the reflector.

As was already set out in the provisional opinion of the board annexed to the summons to oral proceedings, the provision of a bulb opening in a reflector is merely one of the generally known arrangements for locating a light bulb in the reflector



(see for example document D2, figure 1). No contribution towards an inventive step can be seen in using such a generally known solution to a generally known task.

1.4 The difference (b) appears to be an attempt to define the relative proportions and relative dispositions of the first and second portions.

1.4.1 However, as was already set out in the provisional opinion of the board annexed to the summons to oral proceedings, the definition provided is unclear (Article 84 EPC 1973), because:

- although the skilled person would generally expect a "*reflector*" to exhibit some surface area which is reflecting, it is not clear how much of this reflecting area will participate in a "*reflecting zone*" given that the term "*reflecting zone*" has not been disclosed or explained in the application as filed (Article 123(2) EPC): depending on the disposition and the configuration of the light bulb (in the sense that it may only emit light in certain directions) within the reflector, not all of the surface area of the reflector which is reflecting will be effectively used as a "*reflecting zone*". The expression "*less than 50% of the reflecting zone of the reflector*" is thus unclear (Article 84 EPC 1973);
- the relative terms "*top side of said reflector*" and "*bottom side of said reflector*" even when referred to "*a position of the reflector in use*" are not clear, because the position of the reflector in use is itself undefined and may differ depending on the use to which the reflector is put: for example, a headlamp reflector may be oriented differently in different models of a motor vehicle (Article 84 EPC 1973).

1.4.2 Independently of the clarity problems and/or lack of original disclosure with respect to the difference (b) understood as an attempt at defining the relative proportions and relative dispositions of the first and second portions, the corresponding technical effect, as set out in the application as filed, is that "*the areas*

of the lamp component that are exposed to high temperatures caused by convection impingement of hot air from the lamp bulb and/or a surrounding bulb shield, are formed from the higher HDT material. The remaining areas of the lamp component are formed from materials with lower HDT materials to reduce costs and to facilitate molding the component" (last five lines on page 2 of the application as published - As a side issue, the board notes that in this passage, the term "*remaining areas of the lamp*" is only disclosed by reference to the "*areas of the lamp component that are exposed to high temperatures caused by convection impingement of hot air from the lamp bulb and/or a surrounding bulb shield*" and not by reference to an area "*comprising less than 50% of the reflecting zone of the reflector*" so that the requirements of Article 123(2) EPC are also not met with respect to the use of the term "*remaining area of the reflector*" in claim 1 according to the sole request).

1.4.3 The advantages set out in the description of the application as filed correspond exactly to the teaching already known from document D1 (column 3, lines 11 to 20). Thus, in following the teaching known in the prior art, the skilled person will for a particular reflector determine particular relative proportions and relative dispositions of the first and second portions and thereby achieve the same effects as set out for the present invention. In consequence, even if the wording of the difference (b) were clear, difference (b) does not give rise to any technical effect which is not already known from, and attained by, the prior art. Therefore, there is no contribution towards an inventive step.

Similarly, the effect of providing the bulb opening in the material with a relatively higher heat distortion temperature (insofar as this feature is implied by the wording of claim 1) only appears to have as technical effect that the material will be better able to resist distorting due to the heat emanating from the light bulb. However, such a technical effect can be readily contemplated in advance by the skilled person who, as part of the normal practice of his art, seeks to select materials which are suitable for the intended conditions of use, while avoiding wasting resources on expensive materials when there is no need for their enhanced properties (document D1, column 3, lines 11 to 20).

1.5 Thus, the differences (a) and (b), as set out above, give rise to two different and unrelated technical effects which do not cooperate in any unexpected or synergistic manner. Furthermore, neither one of these differences involves any contribution towards an inventive step.

In consequence, the subject-matter of claim 1 according to the sole request does not involve an inventive step (Article 56 EPC 1973).

2. In view of the above lack of inventive step, the issue of insufficiency of disclosure (Article 83 EPC) with respect to the manner of determining a heat distortion temperature for arbitrary materials does not need to be considered for the purposes of this decision.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K.Götz-Wein M. Poock

Decision electronically authenticated