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**Datasheet for the decision
of 16 September 2016**

Case Number: T 2346/12 - 3.2.07

Application Number: 05766083.9

Publication Number: 1773675

IPC: B65D41/04, B65D41/26

Language of the proceedings: EN

Title of invention:

ERGONOMIC CLOSURE

Patent Proprietor:

The Procter & Gamble Company

Opponent:

Henkel AG & Co. KGaA

Headword:

Relevant legal provisions:

EPC Art. 83

Keyword:

Sufficiency of disclosure - (no)

Decisions cited:

T 1018/02, T 2221/10

Catchword:



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Case Number: T 2346/12 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 16 September 2016

Appellant: The Procter & Gamble Company
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 29 October 2012
revoking European patent No. 1773675 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman H. Meinders
Members: K. Poalas
C. Brandt

Summary of Facts and Submissions

- I. The appellant (patent proprietor) lodged an appeal against the decision revoking European patent No. 1 773 675.
- II. Opposition had been filed against the patent as a whole based on Article 100(a) EPC (lack of inventive step) and on Article 100(b) EPC (insufficient disclosure).
- III. The opposition division found that neither the main request (patent as granted) nor the auxiliary request filed with the submissions dated 10 September 2012 met the requirements of Article 83 EPC.
- IV. Oral proceedings took place before the Board on 16 September 2016.

The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request filed with the statement setting out the grounds of appeal.

The respondent (opponent) requested that the appeal be dismissed.

- V. Claim 1 of the main request reads as follows:

"A closure for sealing a container comprising:
a cap (6) having an outer cap surface (8) and an inner cap surface (16), wherein said cap (6) is capable of being removably attached to the container proximal to a cap edge (30), and a wall (26) having a first wall edge (22) distally located from the cap edge (30), a second wall edge (12) proximally located from the cap edge (30), an outer wall surface (10) distally positioned in

reference to the cap (6) and an inner wall surface (24) proximally positioned in reference to the cap (6) wherein the wall (26) is functionally connected to the cap (6), characterised in that the outer wall surface (10) at the first wall edge (22) has a flex modulus of less than 3.95 N/mm, wherein the first wall edge (22) is non-planar and is a sinusoid comprising at least one peak and at least one valley".

VI. As far as relevant for the present decision, the arguments of the appellant can be summarised as follows:

According to the Case Law of the Boards of Appeal, 8th edition 2016, II.A.6.3.1, third and fourth paragraphs, see particularly decisions T 1018/02 and T 2221/10 (both not published in OJ EPO), the description can be used as the patent's "dictionary" to assess the correct meaning of ambiguous terms used in claims.

The parameter "flex modulus" claimed in claim 1 is a parameter which is different from the generally accepted parameter "flexural modulus", said last defining the flexibility of a material.

The new parameter "flex modulus" used in claim 1 reflects the structural flexibility of the closure's outer wall at the first wall edge, see first sentence of paragraph 32 of the patent in suit. According to this paragraph the flex modulus of the wall of the closure is determined by placing the closure in a compression tester, as for example the Lloyd Instruments LR 5K compression tester. The load cell of said compression tester has to be set to a maximum of 500 N, the base of the cell has to be circular with a diameter of 16 mm and the testing speed has to be set

to 12.5 mm/min. The die of the compression tester has then to be placed on the closure such that the centre of the die is on the outer wall surface at the first wall edge. Since the flex modulus corresponds to the **gradient** of the load-deflection plot of such a compression test the SI units to be used for the flex modulus at the closure's first wall edge are N/mm. In other words, the outer wall's deflection is measured at a single point at the first wall edge via a one-point compression test.

Accordingly, the person skilled in the art can determine this flex modulus by applying the testing method as described in the patent to a closure having the structural characteristics according to claim 1 and subsequently verify whether the flex modulus determined from the load-deflection plot lies within the claimed range.

Thus, there is an enablement of the disclosure.

It is indicated in claim 1 that the outer wall surface at the first wall edge has a flex modulus of less than 3.95 N/mm. A flex modulus of less than 3.95 N/mm implies that the wall is deformable by hand. Whether the skilled person is able to accurately measure the value of the flex modulus is only a matter of clarity and does not prevent the skilled person from putting the invention into practice.

It is of no importance that neither a specific die shape nor a specific direction for the application of the compression force with respect to the outer wall surface at the first wall edge are mentioned in the patent in suit, because any arbitrarily chosen die shape or compression force direction would have been

suitable for calculating the flex modulus. It is always possible for the skilled person to quantify the flex modulus even if a specific die shape and/or compression force direction is/are not mentioned in the patent in suit.

VII. As far as relevant for the present decision, the arguments of the respondent can be summarised as follows:

The parameter "flex modulus", defining according to paragraph 32 of the patent in suit the flexibility of the closure's wall, cannot be attributed only to the **surface** of the closure's outer wall, as it is the case in claim 1.

Even if, for the sake of argument, one would accept that the parameter "flex modulus" is different from the generally acceptable parameter "flexural modulus" and is defined by the test mentioned in paragraph 32 of the patent in suit, fact is that the selection of the material to be used has always an impact on the result of that compression test.

The standard method used for determining the flexibility of a body or substance is the "flexural modulus", which is determined from the slope of a stress-strain curve produced in a flexural standard test (e.g. ASTM D 790 (E7)) having units of force per area, i.e. in the SI units N/mm^2 .

In the patent in suit apparently a new method for determining the flexibility with the new parameter "flex modulus" was developed, however without providing the adequate level of information for its implementation. In particular, there is no teaching in

the patent in suit concerning for example the shape of the die to be used. Having regard to the direction of the compression force to be applied in respect of the closure's outer wall surface, no information at all is given in the patent in suit.

Since the flex modulus is presented as a key feature of the invention as claimed, there is a fundamental deficiency due to the absence of adequate instructions to determine this parameter, leading to a lack of sufficient disclosure.

Reasons for the Decision

1. *Main Request - Sufficiency of disclosure, Article 83 EPC*
- 1.1 The characterising part of a claim 1 has the following feature:
"the outer wall **surface** (10) at the first wall edge (22) has a **flex modulus** of less than 3.95 N/mm"
(emphasis added by the Board).
- 1.2 Given that it is not immediately evident to the person skilled in the art what a **flex modulus** of a **surface** is, the appellant referred in this respect to the Case Law of the Boards of Appeal, 8th edition 2016, II.A.6.3.1, third and fourth paragraphs, according to which the description can be used as the patent's "dictionary" to establish the meaning of terms used in claims.
- 1.3 According to the appellant the skilled person taking into consideration the information disclosed in paragraphs 31 to 34 of the patent would consider that the **flex modulus** of the closure's outer wall **surface**

claimed in claim 1 is meant to be a measure for the **flexibility** of that **wall**, established by using for example a Lloyd Instruments LR 5K compression tester, which produces a graph of the deflection (mm) dependent on the force (N).

- 1.4 The Board follows the appellant in that this **flex modulus** is meant to be the parameter which defines the tendency of the closure's wall to bend and which is to be determined according to the compression test mentioned in paragraph 32 of the patent.

The Board notes thereby that it is well established in the art that the term "modulus" defines a coefficient that expresses numerically the degree to which a body or substance possesses a particular property, as for example tendency to bend.

- 1.5 It is further undisputed that the generally accepted parameter for determining the tendency to bend, i.e. the flexural capacity of a body or substance is the "flexural modulus" and is determined from the slope of a stress-strain curve, such as produced by a flexural standard test (e.g. ASTM D 790 (E7)) having units of force per area, such as the SI units N/mm^2 .

- 1.6 In the present case the flexibility of the closure's outer wall is, according to the appellant, not defined on the basis of the above-mentioned generally accepted parameter "flexural modulus" but on the basis of a new parameter, namely the "flex modulus", which corresponds to the **gradient** of the load-deflection plot of a compression test such as the one according to paragraph 32 of the patent.

1.7 According to the Case Law of the Boards of Appeal, 8th edition, 2016, II.C.4.5, second paragraph, the purpose of a parameter contained in a claim is clearly to define an essential technical feature of the invention. Its significance in the present case is that it contributes to the solution of the technical problem underlying the invention. The method specified should therefore be consistent with the parameter and should produce consistent values, so that the skilled person will know, when he carries out the invention, whether what he produces will solve the problem or not.

In the present case the upper limit of 3,95 N/mm for the claimed flex modulus range intends to define that the closure's wall is easily deformable by hand, see paragraph 18 of the patent.

1.8 It is undisputed that there is no supporting evidence in which flexibility is expressed with a "flex modulus" parameter, said parameter being calculated according to the method mentioned in paragraph 32 of the patent.

1.9 In this respect the Board notes that nothing in the patent, let alone in paragraph 32, mentions anything resembling a **gradient** of the graph produced by this method. Further, as argued by the respondent, there is a lack of technical information at least in respect of the shape of the die to be used and to the direction of the compression load to be applied.

Whether the die has to be in the form of a plate, of a bar or has only a punctual contact with the outer wall of the closure is not mentioned. Paragraph 32 does not specify the form of the die's part coming into contact with the outer wall's surface.

As concerning the angle at which the compression force is to be applied, it is conceivable that in the compression test the direction of the force can be perpendicular to the outer wall's surface at the first wall edge, or perpendicular to a central longitudinal axis of a cylindrical closure.

1.10 In view of the above, the Board concludes that in these three aspects there is a fundamental lack of technical information concerning the determination of the parameter "flex modulus" claimed in claim 1 in the patent.

1.11 As a consequence, the Board considers that the main request does not comply with the requirements of Article 83 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Nachtigall

H. Meinders

Decision electronically authenticated