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**Datasheet for the decision
of 18 March 2013**

Case Number: T 0525/10 - 3.3.05

Application Number: 04746285.8

Publication Number: 1514588

IPC: B01D 39/20, F01N 3/02,
B01J 35/04, F01N 3/28,
F01N 3/022

Language of the proceedings: EN

Title of invention:
HONEYCOMB STRUCTURE BODY

Patent Proprietor:
IBIDEN CO., LTD.

Opponent:
Young Thought Limited

Headword:
Honeycomb/IBIDEN

Relevant legal provisions:
EPC Art. 100(c), 104(1), 123(2)
RPBA Art. 13(1), 16(1)

Keyword:
"All requests: extension beyond the content of the application
as filed (yes)"

Decisions cited:
-

Catchword:
-



Case Number: T 0525/10 - 3.3.05

DECISION
of the Technical Board of Appeal 3.3.05
of 18 March 2013

Appellant: IBIDEN CO., LTD.
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Respondent: Young Thought Limited
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 4 January 2010
revoking European patent No. 1514588 pursuant
to Article 101(3)(b) EPC.

Composition of the Board:

Chairman: G. Rath
Members: J.-M. Schwaller
C. Vallet

Summary of Facts and Submissions

- I. The present appeal lies from the decision of the opposition division revoking European patent No. 1 514 588.

Claim 1 of the main request filed during the oral proceedings of 22 October 2009 reads as follows:

"1. A columnar honeycomb structural body comprising a large number of through holes placed in parallel with one another in a length direction with a wall portion interposed therebetween, wherein:

said structural body comprises gas flow-in through holes each of which has the end on the gas outlet side sealed, and gas flow-out through holes each of which has the end on the gas inlet side sealed, each of said gas flow-in through holes having a relatively larger cross-sectional area than each of the gas flow-out through holes, and said structural body comprises a partition wall commonly possessed by the gas flow-in through holes;

a ceramic material which constitutes said wall portion has an average pore diameter in a range from 5 to 30 μm ; and

the rate of capacity of micro pores each having a pore diameter two or more times larger than said average pore diameter is set to 30% or less of the capacity of the entire micro pores."

- II. In the contested decision, the opposition division held the above claim 1 to lack novelty under Article 54(1) and (3) EPC over the honeycomb prepared in Example 7 of document

A2: EP 1 541 817.

- III. With the statement of grounds of appeal dated 3 May 2010, the patentee (hereinafter "the appellant") contested the decision of the department of first instance and submitted five sets of claims as a main request (claim 1 as in point II. above) and as auxiliary requests 1 to 4, respectively.
- IV. With a letter dated 25 August 2010, opponent I contested claim 1 of the main request inter alia under Article 123(2) EPC, arguing in particular that the feature "*said structural body comprises a partition wall commonly possessed by the gas flow-in through holes*" had been isolated from its particular context, since this feature was disclosed only in the specific embodiments of Figures 9 to 12 and 5(a) to 5(d).
- V. With a letter dated 8 September 2010, opponent II (hereinafter "the respondent") challenged claim 1 of the main request, inter alia under Articles 84 and 123(2) EPC.

In essence it argued that the feature "*each of said gas flow-in through holes having a relatively larger cross-sectional area than each of the gas flow-out through holes*" which described tapering through holes had no basis in the application as filed. Furthermore, the feature "*said structural body comprises a partition wall commonly possessed by the gas flow-in through holes*" was unclear.

VI. With a letter dated 13 March 2012, opponent I declared that it withdrew its opposition.

VII. On 18 February 2013, the appellant filed three new auxiliary requests 1 to 3 in replacement of the previous auxiliary requests 1 to 4.

Claim 1 of the first auxiliary request reads as follows:

*"1. A columnar honeycomb structural body comprising a large number of through holes placed in parallel with one another in a length direction with a wall portion interposed therebetween, wherein:
each of said through holes has one of ends sealed; one end face of each through hole differs in opening area from the other end face thereof such that the opening area on the gas inlet side is made larger than the opening area on the gas outlet side, and said structural body comprises a partition wall for separating through holes on the gas inlet side from one another,
characterised in that:
a ceramic material which constitutes said wall portion has an average pore diameter in a range from 5 to 30 μm and
the rate of capacity of micro pores each having a pore diameter two or more times larger than said average pore diameter is set to 30% or less of the capacity of the entire micro pores."*

Claim 1 of the second auxiliary request corresponds to claim 1 of the main request with the addition of the following disclaimer:

"excluding the case where said ceramic material is a silicon carbide sintered body obtainable, by extrusion, drying and sintering, from a powder mixture of 60 weight % of α -type silicon carbide having an average particle size of 11 μm and 40 weight % of β -type silicon carbide having an average particle size of 0.5 μm , 100 parts by weight of the resulting mixture being added and kneaded with 5 parts by weight of an organic binder and 10 parts by weight of water,

(1) using a metal mould having a surface roughness R_a of 10 μm for extrusion, so that a raw-moulded product has an aperture ratio of 2.54, sintering at 2000°C for three hours, whereby said silicon carbide sintered body has an average pore diameter of 9 μm , a porosity of 42%, a size of 34.3 mm x 34.3 mm x 150 mm, a number of through holes of 23.3/cm², a thickness of substantially the entire partition wall of 0.41 mm and a surface roughness of the through hole wall face R_y of 15 μm , or

(2) extrusion-moulding so that a raw-moulded body had an octagonal cross-sectional shape in the larger through holes and a quadrangle cross-sectional shape (substantially square-shaped) in the small through holes, sintering at 2200°C in a normal-pressure argon atmosphere for three hours, with an aperture ratio after the sintering process of 1.55 and a ratio of the partition wall lengths of 0.18, whereby said silicon-carbide sintered body has an average pore diameter of 9 μm , a porosity of 42%, a size of 34.3 mm x 34.3 mm x 150 mm, a number of through holes of 28/cm² and a thickness of substantially all the partition wall of 0.4 mm, or

(3) extrusion-moulding so that a raw-moulded body had an octagonal cross-sectional shape in the larger

through holes and a quadrangle cross-sectional shape (substantially square-shaped) in the small through holes, sintering at 2200°C in a normal-pressure argon atmosphere for three hours, with an aperture ratio after the sintering process of 3.00 and a ratio of the partition wall lengths of 0.59, whereby said silicon-carbide sintered body has an average pore diameter of 9 µm, a porosity of 42%, has a size of 34.3 mm x 34.3 mm x 150 mm, a number of through holes of 28/cm² and a thickness of substantially all the partition wall of 0.4 mm."

Claim 1 of the third auxiliary request corresponds to claim 1 of the first auxiliary request with the addition of the above disclaimer.

VIII. With a letter dated 8 March 2013, the respondent requested the board to rule the appellant's belated auxiliary requests as inadmissible under Articles 12(4) and 13(1) and (2) RPBA. It also asked for an award of costs under Article 16 RPBA in respect of the additional work occasioned by the late-filed amendments. Finally, it contested the amended claims under Articles 84 and 123(2) and (3) EPC.

IX. At the oral proceedings, which took place on 18 March 2013, the discussion focused on issues relating to Articles 84 and 123 EPC.

X. After the discussion and closure of the debate, the parties' requests were established as follows:

The appellant requested that the decision under appeal be set aside and that the patent be maintained on the

basis of the claims according to the main request as filed on 22 October 2009 or, alternatively, that the patent be maintained on the basis of the claims according to one of auxiliary requests 1, 2 or 3 dated 18 February 2013.

The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. *Main request - Allowability of the amendments*

In the board's view, amended claim 1 of the main request does not meet the requirements of Articles 100(c) and 123(2) EPC for the following reasons:

1.1 Claim 1 as originally filed reads as follows (emphasis added by the board):

*"1. A columnar honeycomb structural body comprising a large number of through holes placed in parallel with one another in a length direction with a wall portion interposed therebetween, wherein each of said through holes has one of ends sealed; **one end face of the through hole differs in opening area from the other end face thereof**; a ceramic material which constitutes said wall portion has an average pore diameter in a range from 5 to 30 μm ; and the rate of capacity of micro pores each having a pore diameter two or more times larger than said average pore diameter is set to 30% or less of the capacity of the entire micro pores."*

Hence, in the application as filed the invention was defined as having one end face of the through hole which differs in opening area from the other end face thereof. In other words, the through hole was defined as having a structure which narrows towards one of its ends.

- 1.2 In amended claim 1 of the main request, the feature in bold under point 1.1 is missing and has been replaced by the feature "*each of said gas flow-in through holes having a relatively larger cross-sectional area than each of the gas flow-out through holes*" - hereinafter called feature (i) - which has a different technical meaning than the above feature in bold, since feature (i) compares the cross-sectional area of the gas flow-in through holes with that of the gas flow-out through holes, while the feature in bold compares the opening area of both end faces of the through hole.

The invention in amended claim 1 is thus defined differently than in the application as filed, since one of the technical features which was originally presented as essential for the invention has been replaced by a feature having a different technical meaning. For this reason alone the board is not convinced that claim 1 of this request meets the requirements of Article 123(2) EPC.

- 1.3 Notwithstanding, in order to verify whether the substitution of the feature in bold by feature (i) meets the requirements of Article 123(2) EPC, it has to be checked whether the combination of feature (i) with the other features in claim 1 at issue is directly and unambiguously disclosed in the original documents of

the application as filed, in particular in the description and figures thereof.

1.4 The appellant argued in this respect that a basis for feature (i) could be found in the passages at page 12, lines 13 to 21 or page 21, lines 5 to 16 as well as in Figures 3a, 4a to 4d and 5a to 5f of the application as filed.

1.5 The board agrees that feature (i) can be derived as an individual feature from the above passages as well as from Figures 4a to 4d and 5a to 5f. Feature (i) however is **not** directly and unambiguously derivable from the specific embodiment illustrated in Figure 3a, which discloses a honeycomb structural body comprising in its peripheral zone flow-in through holes which have smaller cross-sectional area than some gas flow-out through holes.

Thus, feature (i), which requires that each flow-in through holes has a relatively **larger cross-sectional area** than each of the gas flow-out through holes, does not reflect all the specific embodiments disclosed in the application as filed, and so it cannot be generalised at random, since it has been extracted arbitrarily and independently from the specific context in which it was originally disclosed.

In this context, i.e. in the absence of a disclosure that feature (i) concerns all the embodiments of the invention disclosed in the application as filed, its combination with the other features defined in claim 1 at issue is not directly and unambiguously derivable from the application as filed.

1.6 In the board's view, the same conclusion is to be drawn for the amendment based on the feature "*partition wall commonly possessed by the gas flow-in through holes*", which was exclusively described in association with the specific embodiments of Figures 9 to 12 discussed under the heading "Background art" (page 5, line 32 to page 6, line 34) or those of Figures 4(a) to 4(d) discussed at page 24, line 28 to page 25, line 17 of the application as filed.

1.7 It follows from the above remarks that claim 1 of this request contains subject-matter which extends beyond the content of the application as filed, contrary to Article 123(2) EPC.

The main request is therefore rejected in its entirety.

2. *Admissibility of the auxiliary requests filed on 18 February 2013.*

The board, exercising its discretion under Article 13(1) RPBA, rejects the respondent's request to rule inadmissible the auxiliary requests, because even if the amendments proposed in these requests might appear to raise new issues, they were filed early enough - namely four weeks before the date scheduled for oral proceedings - for allowing the respondent to prepare the necessary counter-arguments in due time. Moreover, the issues raised by these amendments are not of such a complexity that they call for a postponement of the oral proceedings.

3. *First auxiliary request - Allowability of the amendments*

3.1 In the board's view, amended claim 1 of this request does not meet the requirements of Articles 100(c) and 123(2) EPC because the feature "*one end face of **each** through hole differs in opening area from the other end face thereof **such that** the opening area on the gas inlet side is made larger than the opening area on the gas outlet side*" - hereinafter feature (ii) - has no basis in the application as filed.

3.2 In particular, as conceded by the appellant, there is no literal basis in the application as filed for feature (ii).

3.3 In claims 1 to 3 of the application as originally filed, the invention was defined as follows:

"1. A columnar honeycomb structural body comprising a large number of through holes ..., wherein each of said through holes has one of ends sealed; one end face of the through hole differs in opening area from the other end face thereof; ..."

"2. The honeycomb structural body according to claim 1, wherein the opening area on a gas inlet side is made larger than the opening area on a gas outlet side."

"3. The honeycomb structural body according to claim 1 or 2, comprising a partition wall for separating through holes on the gas inlet side from one another."

3.4 According to the appellant, claim 1 of this request corresponded to the condensation of above claims 1 to 3.

3.5 The board cannot accept this argument because the subject-matter resulting from this condensation would read as follows (the board emphasised the differences with respect to instant claim 1 of the first auxiliary request): *"A columnar honeycomb structural body comprising a large number of through holes placed in parallel with one another in a length direction with a wall portion interposed therebetween, wherein: each of said through holes has one of ends sealed; one end face of ~~each~~ **the** through hole differs in opening area from the other end face thereof ; ~~such~~ ~~that~~ the opening area on the gas inlet side is made larger than the opening area on the gas outlet side, and said structural body comprises a partition wall for separating through holes on the gas inlet side from one another, characterised in that: a ceramic material which constitutes said wall portion has an average pore diameter in a range from 5 to 30 μm and the rate of capacity of micro pores each having a pore diameter two or more times larger than said average pore diameter is set to 30% or less of the capacity of the entire micro pores."*

The differences with respect to a pure condensation of claims 1, 2 and 3 as originally filed might appear negligible; however, in the board's view, these differences are not directly and unambiguously derivable from the application as filed.

In particular, there is no basis in the application as filed for the requirement that "*one end face of **each** through hole differs in opening area from the other end face thereof*". The figures, in particular Figures 2(b), 3(b), 6 and 8(b), show in this respect that none of the specific embodiments of the invention as originally filed satisfies this requirement, the walls of the through holes in said embodiments being all rigorously parallel one to another, and none of the through holes having one end face which differs in opening area from the other end face thereof.

- 3.6 It follows from the above that claim 1 at issue contains subject-matter which extends beyond the content of the application as filed, contrary to Article 123(2) EPC.

The first auxiliary request is therefore rejected in its entirety.

4. *Second and third auxiliary requests - Allowability of the amendments*

Independently of whether or not the second and third auxiliary requests would have been admitted into the proceedings, these requests are rejected under Articles 100(c) and 123(2) EPC because their respective claims 1 include the subject-matter of claims 1 of the main and first auxiliary requests which, in items 1. and 3. above respectively, was held to extend beyond the content of the application as filed.

5. In summary, none of the appellant's requests can be allowed and the decision cannot be set aside.

6. *Apportionment of costs*

The respondent requested an apportionment of costs in respect of the additional work occasioned by the late-filed amendments. It suggested that these amendments amounted to an abuse of proceedings.

Under Article 104 EPC, each party to the opposition proceedings must bear the costs it has incurred, unless the opposition division (in the present case the board of appeal), for reasons of equity, orders a different apportionment.

Under Article 16(1) RPBA, amendments made pursuant to Article 13 RPBA and an abuse of procedure may justify that a party be ordered to pay some or all of another party's costs.

In the present case, the board considered that the late-filed amendments were admissible (point 2 above), which means that their filing was not an abuse of procedure. In the board's view, said amendments furthermore did not appear to give rise to an amount of work in excess of what might reasonably be expected in order to prepare for oral proceedings.

It follows that this request is therefore rejected.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

C. Vodz

G. Raths