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

**Case Number:** T 1514/08 - 3.3.05

**Application Number:** 04792673.8

**Publication Number:** 1676621

**IPC:** B01D 39/20, B01D 53/94,  
B01J 32/00, B01J 35/04

**Language of the proceedings:** EN

**Title of invention:**  
Honeycomb structure

**Applicant:**  
IBIDEN CO., LTD.

**Headword:**  
Honeycomb/IBIDEN

**Relevant legal provisions:**  
EPC Art. 84

**Keyword:**  
"Clarity (no)"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 1514/08 - 3.3.05

**DECISION**  
of the Technical Board of Appeal 3.3.05  
of 18 January 2013

**Appellant:** IBIDEN CO., LTD.  
(Applicant) 2-1, Kanda-cho  
Ogaki-shi, Gifu 503-8604 (JP)

**Representative:** Hart-Davis, Jason  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 4 February 2008  
refusing European patent application  
No. 04792673.8 pursuant to Article 97(2) EPC.

**Composition of the Board:**

**Chairman:** G. Raths  
**Members:** B. Czech  
C. Vallet

## Summary of Facts and Submissions

I. The appeal is from the decision of the examining division posted on 4 February 2008 refusing European patent application No. 04792673.8.

II. As to the grounds for the decision, the following is stated therein:

"In the communication(s) dated 12.04.2007, 14.08.2007, 30.11.2007 the applicant was informed that the application does not meet the requirements of the European Patent Convention. The applicant was also informed of the reasons therein.

The applicant filed no comments or amendments in reply to the latest communication but requested a decision according to the state of the file by a letter received in due time on 09.01.2008.

The application must therefore be refused."

In the communications mentioned in the decision under appeal, the examining division held that the subject-matter of the amended claims filed by the applicant on 7 February 2007 was not inventive (Article 56 EPC).

III. In its statement of grounds of appeal, the appellant *inter alia* set out the reasons for which it considered the subject-matter of the claims filed on 7 February 2007 to be inventive.

Claims 1, 3, 4 and 10 as filed on 7 February 2007 read as follows:

"1. A pillar-shaped honeycomb structured body comprising a large number of through holes that are longitudinally placed in parallel with one another with a partition wall therebetween, wherein

said large number of through holes include a group of large-capacity through holes being sealed at one of end portions so that the sum of areas on a cross section perpendicular to the longitudinal direction is made relatively larger, and a group of small-capacity through holes being sealed at the other end portion so that the sum of areas on said cross section is made relatively smaller, and

said partition wall that separates the adjacent through holes constituting said group of large-capacity through holes is provided with a selective catalyst supporting portion used for selectively supporting a catalyst. [sic]

said selective catalyst supporting portion comprises a protruded portion having a height of 0.02 to 6 times the thickness of the partition wall that separates adjacent through holes constituting the group of large-capacity through holes and/or a recessed portion having a depth of 0.02 to 0.4 times the thickness of the partition wall that separates adjacent through holes constituting the group of large-capacity through holes."

"2. The honeycomb structured body according to claim 1, wherein a catalyst is supported at least on the selective catalyst supporting portion."

"3. The honeycomb structured body according to any one of claims 1 to 2, wherein

the through holes that constitute the group of

*large-capacity through holes and/or the through holes that constitute the group of small-capacity through holes have a cross-sectional shape perpendicular to the longitudinal direction thereof which is a polygonal shape."*

*"4. The honeycomb structured body according to any one of claims 1 to 3, wherein*

*the cross-sectional shape perpendicular to the longitudinal direction of the through holes that constitute the group of large-capacity through holes is an octagonal shape,*

*and the cross-sectional shape perpendicular to the longitudinal direction of the through holes that constitute the group of small-capacity through holes is a quadrangular shape."*

*"10. The honeycomb structured body according to any one of claims 1 to 9,*

*which is used for an exhaust gas purifying device in a vehicle."*

IV. The board considered the amended claims filed on 7 February 2007 to be objectionable on various grounds, and therefore summoned the appellant to oral proceedings in accordance with the latter's auxiliary request. In the annex to the summons to oral proceedings, the board, taking into account the arguments of the appellant, *inter alia* questioned the clarity of the claims at issue. In this connection, the board referred to the description and figures of the application as filed as well as to the following prior art documents:

D1: JP 8-299809 A  
D2: JP 2002-177793 A  
D3': EP 1 403 231 A1  
D4: JP 2001-246250 A  
D5': WO 02/100514 A1  
D6': EP 857511 A2  
D7: US 2002/0045541 A1  
D8: GB 2 064 361 A  
D10: JP 58-92409 U  
D15: JP 5-68828 A  
D16: FR 2 789 327 A1  
D18: WO 03/020407 A2

In said annex to the summons to oral proceedings, the board also set a time limit (up to two weeks before the date of the oral proceedings) in case the appellant intended to file amended claims in order to overcome the board's objections.

- V. By its letter dated 14 December 2012, the appellant expressly withdrew its request for oral proceedings and requested the board to "reach a decision based on the current state of the file".
- VI. The appointed oral proceedings were cancelled on 15 January 2012.
- VII. The appellant requested that the decision under appeal be set aside and, implicitly, that a patent be granted with claims 1 to 10 filed on 2 February 2007.

## Reasons for the Decision

### *Clarity of the claims at issue - Article 84 EPC*

1. Article 84 EPC stipulates that "the claims shall define the matter for which protection is sought. They shall be **clear** and concise and be supported by the description" (emphasis added). More particularly, claims should be clear by themselves, without a need to refer to the description and/or the drawings.

2. In the annex to the summons to oral proceedings, the board had expressed *inter alia* its provisional opinion concerning the clarity of some of the claims at issue. More particularly, the board held that the requirement of clarity was not met by the claims at issue, *inter alia* for the following reasons:

"6.2 From the wording of claim 1 it is **not clear** what the qualifiers "*large capacity*" and "*low capacity*" are supposed to mean since the only criterion defined is the size relation between the respective **sums** "*of areas on a cross section perpendicular to the longitudinal direction*". These sums depend not only on the cross-sectional sizes but also on the relative amounts of through-holes belonging to the two different groups. Moreover, cross-sectional areas of the through-holes may vary along the length of the honeycomb, as illustrated e.g. in document D16 (see figure 7)."

"6.3 The expressions "**selective catalyst supporting portion**" and "*for **selectively** supporting a*

*catalyst*" used in claim 1 **lack clarity**, *inter alia* in view of the wording of claim 2 at issue. From the present wording of claim 1, it can merely be understood that it is not the selectivity of the catalyst for a given chemical reaction that is addressed by this feature. The description refers to impregnation methods for applying the catalyst to the honeycomb (see e.g. page 42, lines 27 to 35, of the application as filed), resulting in a deposition of the catalyst on all the "portions" of the through-hole walls."

"6.4 The shape and relative orientation (direction) of the "*protruded*" and the "*recessed*" portions" do **not** appear to be **clearly** recited in claim 1 ..."

In connection with the objections raised under points 6.3 and 6.4 quoted above, it is to be noted that according to the wording of claim 2 (see "*supported at least on ...*") the catalyst may also be "*supported*" on other "*portions*" of the partition walls within the honeycomb body. Hence, even taking into account the description and/or depending claim 2, the skilled person is left in the dark as regards any particular morphology or structure supposed to be designated by the expression "***selective catalyst supporting portion***" as appearing in claim 1.

In said communication, the board moreover expressly raised the following objections having regard to the lack of clarity of the claims on file:

"6.5 Neither the cross-sectional shapes and area sizes, nor the relative arrangement of the



different types of holes is set out in claim 1."

"6.5.1 Hence, there are many conceivable configurations for which a "*thickness of the partition wall*" and/or the "*height*" or "*depth*" of the protruded or recessed portions **cannot** be **unambiguously** determined, and/or for which it **cannot** be **clearly** said whether or not they comprise protruded or recessed portions. Reference can, for instance, be made to the configurations shown in

- Figure 2 of the application;
- Figure 2 of document D1 (JP **8-299809** A);
- Figures 5(1) and 6(f) of documents D2/D7;
- Figure 4b of document D3';
- Figures 3 and 4 of document D4;
- Figures 1, 2 and 5 of document D5';
- Figures 7 to 9 of document D6';
- Figures 5e, 5g, 5m, 5n of document D8;
- Figure 6 of document D10;
- Figure 2 of D15; and
- Figures 2 and 3 of document D18."

"6.5.2 Figures 8 and 3e do expressly not illustrate the invention. In the embodiment shown in Figure 2, which is supposed to illustrate (see section [0067] and the paragraph bridging pages 57 and 58 as filed) a different case according to type 2) mentioned in section [0026], it is far from clear what is to be considered as a "*wall that separates the adjacent [large capacity] through-holes*" and as "*selective catalyst supporting portion*" with a "*protruded*" or "*recessed*" portion."

"..."

"6.7.1 Concerning claims 3 and 4 (as well as claim 1):  
How is the "*wall thickness*" to be unambiguously determined in cases where the through-holes have a circular cross-section or in cases where adjacent polygon sides are not parallel? (see points 6.5 to 6.5.2 hereinabove)"

"..."

"6.7.6 The category of claim 10 at issue is unclear (device or use) due to the wording „*honeycomb ... which is used for an ... device*”."

3. The appellant deliberately did expressly not endeavour to rebut the objections raised by the board in the annex to the summons to oral proceedings. Furthermore, it expressly chose not to attempt the filing of amended claims in order to overcome said objections.
4. In the absence of any counter-arguments from the appellant, the board has no reason to deviate from its negative preliminary opinion as expressed in the above quoted passages of the annex to the summons to oral proceedings, *inter alia* concerning the lack of clarity of claims 1, 3, 4 and 10.
5. Hence, in the board's judgement, at least claims 1, 3, 4 and 10 do not meet the clarity requirement of Article 84 EPC.
6. Consequently, the appellant's request is not allowable.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar

The Chairman

C. Vodz

G. Rath