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# D E C I S I O N
# of 27 July 2004

**Case Number:** T 0507/02 - 3.2.5

**Application Number:** 94106561.7

**Publication Number:** 0622244

**IPC:** B41M 1/30

**Language of the proceedings:** EN

**Title of invention:**
Recording medium, ink-jet recording method using the same, and dispersion of alumina hydrate

**Patentee:**
CANON KABUSHIKI KAISHA

**Opponent:**
ASAHI GLASS COMPANY, LTD.

**Headword:**
-

**Relevant legal provisions:**
EPC Art. 83

**Keyword:**
"Sufficiency of disclosure (no)"

**Decisions cited:**
-

**Catchword:**
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Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

**Case Number:** T 0507/02 - 3.2.5

# D E C I S I O N
**of the Technical Board of Appeal 3.2.5**
**of 27 July 2004**

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|---|---|
| **Appellant:** (Proprietor of the patent) | CANON KABUSHIKI KAISHA<br>30-2, 3-chome, Shimomaruko,<br>Ohta-ku<br>Tokyo (JP) |
| **Representative:** | Leson, Thomas Johannes Alois, Dipl.-Ing.<br>TBK-Patent<br>P.O. Box 20 19 18<br>D-80019 München (DE) |
| **Respondent:** (Opponent) | ASAHI GLASS COMPANY, LTD.<br>1-2 Marunouchi 2-chome<br>Chiyoda-ku, Tokyo 100 (JP) |
| **Representative:** | Perrey, Ralf, Dr. Dipl.-Chem.<br>Müller-Boré & Partner<br>Grafinger Strasse 2<br>D-81671 München (DE) |
| **Decision under appeal:** | **Decision of the Opposition Division of the European Patent Office posted 18 April 2002 revoking European patent No. 0622244 pursuant to Article 102(1) EPC.** |

**Composition of the Board:**

**Chairman:** W. Moser
**Members:** W. Widmeier
H. M. Schram

## Summary of Facts and Submissions

I. The appellant (patent proprietor) lodged an appeal against the decision of the Opposition Division revoking European patent No. 0 622 244.

Opposition had been filed against the patent as a whole based on Articles 100(a) EPC (lack of novelty, Article 54 EPC, and lack of inventive step, Article 56 EPC), 100(b) EPC and 100(c) EPC.

The Opposition Division held that the subject-matter of claims 1 and 2 of each of the requests of the appellant was not disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

II. Oral proceedings were held before the Board of Appeal on 27 July 2004.

III. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the following documents:

(i) claims 1 and 2 filed as main request on 27 October 1998, and claims 3 to 20 as granted; or

(ii) claims 1 and 2 filed as first auxiliary request on 18 August 2003, and claims 3 to 20 as granted; or

(iii) claims 1 to 16 filed as second auxiliary request on 28 June 2004; or

(iv) claims 1 and 2 filed as third auxiliary request on 8 December 2003, and claims 3 to 20 as granted.

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

IV. Claim 1 of the main request reads as follows:

"1. A recording medium comprising an alumina hydrate of the formula

$$Al_2O_{3-n}(OH)_{2n} \times mH_2O$$

wherein n is an integer of 0, 1, 2 or 3 and m is a number of 0 to 10, having an average pore radius of 2 to 20 nm (20 to 200 Å) and a half breadth of pore radius distribution of 2 to 15 nm (20 to 150 Å), and the half breadth of pore radius distribution being a value which is a magnitude half of the magnitude of the average pore radius."

Claim 1 of the first auxiliary request and claim 1 of the second auxiliary request are substantially identical to claim 1 of the main request and differ from the latter claim in that the definition of the half breadth reads "the half breadth of pore radius distribution being a value which is a magnitude half of the magnitude of the average pore radius in the pore radius distribution".

Claim 1 of the third auxiliary request differs from claim 1 of the first and second auxiliary requests in that the feature "wherein the measurement of said pore radius distribution was conducted by Autosorb 1 apparatus" is added at the end.

V. The following document was in particular referred to in the appeal proceedings:

D16: Drawing of a pore radius distribution curve submitted by the appellant for explanatory purposes in connection with the term "half breadth of pore radius distribution" on 18 August 2003.

VI. The appellant argued essentially as follows:

Although "half breadth" is not a usual term, a person skilled in the art recognizes immediately, when reading this expression, that half breadth means "half width". The half width of a distribution curve is well known in the art and means the full width of the curve at half height of the curve. Thus, a person skilled in the art will understand what is meant by "half breadth of pore radius distribution". The definition on page 8, lines 11 and 12 of the application as filed (printed version) teaches a person skilled in the art that the half breadth of the pore radius distribution is measured at half height of the average pore radius as shown in document D16. This document is not to be introduced into the patent in suit. It merely reflects the general knowledge of a person skilled in the art and what this person will derive from the definition of the half breadth of the pore radius distribution in the application as filed. Further guidance for a correct interpretation of this definition is to be found on page 10, lines 11 to 16 of the application as filed (printed version). Any interpretation of this definition differing from what is shown in document D16 would not make technical sense and would therefore have to be rejected. Thus, a person skilled in the art is

able to carry out the subject-matter of claim 1 of the patent in suit according to all requests.

VII. The respondent argued essentially as follows:

The expression "half breadth" does not exist in the art. A person skilled in the art will not associate this expression with "half width". Although the definition of the term "half breadth of pore radius distribution" is linguistically correct, it is technically incomprehensible. If this definition is translated into practice, it will proof itself as technically meaningless. However, this does not mean that a person skilled in art will arrive at document D16 as the correct interpretation. Only with hindsight, when looking at document D16, a person skilled in the art is able to understand what the intended meaning of "half breadth of pore radius distribution" is. Since this document is not part of the application as filed it cannot be introduced into the patent in suit. Any understanding of this term depends on the definition given on page 8, lines 11 and 12 of the application as filed (printed version). The rest of the application does not provide further support. The reference to prior art recording media having a narrow distribution of pore radius cannot help either because the corresponding documents cited on page 2, lines 42 and 43 of the application as filed (printed version) do not explain or refer to the term "half breadth of pore radius". Consequently, a person skilled in the art is not able to carry out the subject-matter of claim 1 of each of the appellant's requests.

## Reasons for the Decision

1. The answer to the question whether or not the subject-matter of claim 1 of each of the appellant's requests is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art depends on whether or not a person skilled in the art is able to interpret the term "half breadth of pore radius distribution" unequivocally, in other words, whether or not this term is disclosed sufficiently clear and complete for the subject-matter of claim 1 of each of the appellant's requests to be understandable for, and to be carried out by, a person skilled in the art.

2. The expression "half breadth" in combination with a distribution is unusual and thus not immediately understandable by a person skilled in the art. The term "half breadth of pore radius distribution" is therefore explicitly defined on page 8, lines 11 and 12 of the application as filed (printed version) as "a breadth of pore radius which is a magnitude half of the magnitude of the average pore radius". It is obvious that in this definition the word "distribution" was forgotten between "radius" and "which". Thus, according to this definition, the half breadth of pore radius distribution is a magnitude half of the magnitude of the average pore radius. However, this definition is contradicted by Table 2 of the application as filed, which corresponds to examples of the recording medium according to claim 1 of each of the appellant's requests. Table 2 lists average pore radii of 125, 85, 50 and 30 Å and corresponding half breadths of 100, 80, 50 and 20 Å, which represent by no means the half of

the average pore radius. Thus, an interpretation "half breadth of pore radius distribution" using the direct wording of the definition referred to above will be discarded by a person skilled in the art as being wrong.

3. The person skilled in the art may then assume that "half breadth" should mean what normally is designated in the art as "half width", i.e. the width of a curve measured at half of the maximum height of the curve. However, also this interpretation is contradicted by Table 2 and the corresponding distribution curve shown in Figure 6 of the application as filed. The maximum height of the curve of Figure 6 is indicated by 100, the width at magnitude 50 is about 150 Å. This value does not correspond to any of the values given in Table 2 for the half breadth.

4. The appellant argued that the intended meaning of "half breadth of pore radius distribution" is what is illustrated in document D16, namely that this term expresses the width of the distribution curve measured at a height which corresponds to half the height of the distribution curve at the average pore radius, which height may differ from the peak value of the curve. Even if a person skilled in the art had assumed this meaning, due to the obscure and ambiguous definition of the term "half breadth of pore radius distribution", he or she would have had to verify this meaning, and the necessary checking would have revealed again an inconsistency between Table 2 and Figure 6 of the application as filed.

Example 1 of Table 2 has an average pore radius of 125 Å, which coincides with the peak value of the curve

of Figure 6. As indicated above under point 3, the width of the curve at half maximum is 150 Å, whereas Example 1 of Table 2 has a "half breadth" of 100 Å.

The half breadths of Examples 2 to 4 of Table 2 deviate even further from the respective widths of the curve of Figure 6 taken at a value half the magnitude of the respective average pore radius.

Thus, the interpretation of "half breadth of pore radius" according to document D16 is not in accordance with Table 2 and the corresponding distribution curve of Figure 6. A person skilled in the art will consequently also discard this interpretation.

5. Since the interpretation of the definition of the term "half breadth of pore radius distribution" considered by the appellant to be the correct and intended one, is contradicted by the application as filed, and since document D16 was not available at the priority date of the patent in suit, a person skilled in the art is not able, without undue burden, to find out the exact meaning of this term and thus to carry out the subject-matter of claim 1 of any of the requests of the appellant. It should be noted that the inconsistencies between Table 2 and Figure 6 of the application as filed are such that they cannot be explained by measurement and/or drawing tolerances. Also with the help of the indication on page 10, lines 11 to 16 of the application as filed, or with the help of the disclosure of the prior art documents mentioned in the application as filed, it is not possible to remove these inconsistencies and to arrive at the

interpretation of "half breadth of pore radius distribution" according to document D16 unambiguously.

6. The Board concludes therefore that the patent in suit according to each of the appellant's requests does not meet the requirements of Article 83 EPC.

## Order

## For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

P. Martorana W. Moser