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D E C I S I O N
of 16 June 2000

Case Number: T 0784/97 - 3.2.3

Application Number: 88908625.2

Publication Number: 0335930

IPC: B24D 3/34

Language of the proceedings: EN

Title of invention:

Bonded abrasive

Patentee:

Norton Company

Opponent:

- I. Minnesota Mining and Manufacturing Company
II. Noritake Company Ltd

Headword:

-

Relevant legal provisions:

EPC Art. 123(2), 100(c)
EPC R. 67

Keyword:

"Amendments - added subject-matter (yes)"
"Reimbursement of the appeal fee (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0784/97 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 16 June 2000

Appellant I: Minnesota Mining and Manufacturing Company
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office dated 15 April
1997, posted on 14 May 1997 concerning
maintenance of European patent No. 0 335 930 in
amended form.

Composition of the Board:

Chairman: C. T. Wilson

Members: F. Brösamle

V. Di Cerbo

Summary of Facts and Submissions

- I. In the oral proceedings of 15 April 1997 the opposition division maintained European patent No. 0 335 930 in amended form; the written decision was posted on 14 May 1997. In the decision the opposition division *inter alia* dealt with the requirements of Article 123(2) EPC and also with the question whether documents not submitted in due time had to be taken into consideration under Article 114 EPC.
- II. Against the above decision of the opposition division opponents I and II - Minnesota Mining and Manufacturing Company and Noritake Company Limited - appellants I and II - and the proprietor of the patent Norton Company - appellant III - lodged appeals on 23 July 1997, 14 July 1997 and 17 July 1997, respectively, paying the appeal fees on those days and each filing their statement of grounds of appeal on 24 September 1997.
- III. Following the board's communication pursuant to Article 11(2) RPBA from 14 February 2000 in which the board gave its provisional opinion of the case oral proceedings were held on 16 June 2000 in which the parties brought forward the following requests:
- (a) proprietor:
- to set aside the decision under appeal, and
 - to maintain the patent on the basis of the **main request** or on one of the **two auxiliary requests** filed on 19 May 2000 or on the basis of the new **third auxiliary request** filed in the oral proceedings.

(b) opponents I and II:

- to set aside the decision under appeal,
- to revoke European patent No. 0 335 930,
- and reimbursement of the appeal fee (opponent II only).

IV. The independent claims of the above requests of the proprietor read as follows:

(a) **main request:**

- "1. A vitrified bonded abrasive wheel comprising abrasive grits held in a matrix of a bond material that is chemically distinct from the abrasive grits, wherein the abrasive grits comprise a mixture of superabrasive grits, which are CBN grits, and aluminous abrasive grits, characterized in that said aluminous abrasive grits are microcrystalline alpha alumina grits, the predominant crystallites having maximum dimensions of no more than about 0.3 μm , produced by a seeded sol-gel process, the volume ratio of CBN to aluminous abrasive being in the range from 3:45 to 9:39.

2. A bonded abrasive tool comprising abrasive grits held in a matrix of a bond material that is chemically distinct from the abrasive grits, wherein the abrasive grits comprise a mixture of a superabrasive, which is diamond or CBN, and an aluminous abrasive characterized in that said aluminous abrasive is microcrystalline alpha

alumina produced by a sol-gel process, and wherein grinding wheels comprising vitrified bonds, containing at least 40% of frit, by weight, as said bond material are excluded; and wherein grinding wheels containing 9% by volume of CBN as said superabrasive and 39% by volume of microcrystalline alumina obtained by a seeded sol-gel process as said aluminous abrasive and a vitrified bond as said bond material are excluded."

(b) **first auxiliary request:**

claim 1 thereof corresponds to claim 1 of the main request.

(c) **second auxiliary request:**

claim 1 thereof corresponds to claim 2 of the main request.

(d) **third auxiliary request:**

"1. A bonded abrasive tool comprising abrasive grits held in a matrix of a phenolic resinoid bond material that is chemically distinct from the abrasive grits, wherein the abrasive grits consist of a mixture of a superabrasive, which is CBN, and an aluminous abrasive which is microcrystalline alpha alumina produced by a sol-gel process, and wherein the aluminous abrasive grits and the CBN grits are nickel coated before

formation of the tool and in which the microcrystalline sol-gel alumina is a seeded sol-gel alumina with a crystallite size of no more than one micrometer."

V. In support of their above requests the parties essentially argued as follows:

(a) opponent I:

main request

- the range of 3:45 to 9:39 with respect to the volume ratio of CBN to aluminous abrasive of claim 1 is not originally disclosed since only two specific examples are disclosed; the claimed range is seen as the result of an unallowable generalisation;
- in claim 2 the essential feature of originally filed claim 1 and page 5 second paragraph that the aluminous abrasive grits have an average crystal size of less than 0,3 microns has been omitted so that again the requirements of Article 123(2) EPC are not met and the main request is not allowable;

auxiliary requests

- since the first and second auxiliary request comprise the non-allowable claims 1 and 2 of the main request these requests fall likewise;
- claim 1 of the third auxiliary request claims that the aluminous abrasive grits **and** the CBN grits are nickel coated; these features are, however, not unambiguously derivable from originally filed

Example 9 which is unclear and contradictory in itself, see "CBN" and "CB" and the disclosure of constituents of over 100% by volume;

- as a consequence claim 1 of the third auxiliary request has no reliable basis in the documents originally filed so that this request is also not to be allowed under Article 123(2) EPC.

(b) opponent II:

main request

- apart from the unallowable omission of "size-grading" and "equiaxed" it is observed that the specific Examples 1 and 3 of the patent specification do not support **a range**, namely from 3:45 to 9:39 with respect to the volume ratio of CBN to aluminous abrasive so that claim 1 does not meet the requirements of Article 123(2) EPC;
- this is also true for claim 2 since the restriction of the crystallites to an average size of less than 0,3 microns originally disclosed has been omitted from claim 2;

auxiliary requests

- the first and second auxiliary request are each based on unallowable claims of the main request so that they fall likewise;
- the third auxiliary request is based on unclear Example 9 which cannot serve as a reliable basis for the features of claim 1;

request for reimbursement of the appeal fee

- in the opposition proceedings the opposition division did not allow evidence not filed in due time but of relevance so that the parties were not equally treated;
- this behaviour of the opposition division constituted a substantial procedural violation so that the appeal fee of opponent II should be reimbursed.

(c) proprietor:

main request

- claim 1 is based on originally filed claim 1 and the Examples 4 and 6 and Table I of the originally filed documents from which inter alia ratios of 3:45 and 9:39 are derivable with respect to CBN and aluminous abrasive;
- since "equiaxed" is inherent to the production process of microcrystalline alpha alumina it could be omitted from claim 1 in the same way as the known feature size grading of the abrasives without violating the requirements of Article 123(2) EPC;
- in claim 2 the particle size of the microcrystalline alumina could be omitted since the prior art documents cited in the opening of the patent specification disclosed a wide range of particle sizes from 0,3 to 10 microns;

third auxiliary request

- claim 1 of this auxiliary request is based on Example 9 of EP-B1-0 335 930 whereby the feature "equiaxed" could again be omitted since inherent to the sol-gel-process for producing microcrystalline alumina;
- apart from typing errors in Example 9 of the patent specification this example can serve as a basis for reworded claim 1.

Reasons for the Decision

1. The appeals of the proprietor and opponents I and II are each admissible.

Main request

2. *Articles 123(2) and 100(c) EPC*
 - 2.1 With respect to claim 1 it has to be observed that the claimed volume ratios of CBN to aluminous abrasive are not in granted claim 1 or in any other granted (dependent) claim.

It was argued by the proprietor that Examples 4 and 6 of Table I of the originally filed documents corresponding to Examples 1 and 3 of EP-B1-0 335 930 can serve as a basis for claiming **a range** of volume ratios of the above abrasives. For the following reasons the board cannot share these finding (reference is made to the patent specification in this context).

- 2.2 Examples 1 and 3 are specific examples without teaching a skilled person that there is a common link between

these examples for instance by modifying only one parameter and maintaining other parameters unchanged.

- 2.3 Examples 1 to 5 of EP-B1-0 335 930, see Table 2, are based on specific values for CBN, namely from 3 to 37,5 volume percents, and for MCA, namely from 9,5 to 45 volume percents. As can be seen from these examples **two** parameters have been modified at a time, namely CBN **and** MCA volume percents. If one also considers the further parameter "porosity" it is clear that in Examples 1 to 5 even a **further** parameter has been simultaneously modified, see values 25 and 38 thereof.

Summarizing, there is no clear basis under these circumstances to claim **a range** of volume ratios of CBN and MCA so that claim 1 is not supported by the disclosure of the originally filed documents, Articles 123(2) and 100(c) EPC.

- 2.4 With respect to claim 2 it has to be observed that in this independent claim any restriction to the size of the crystallites is missing. In claim 1 as originally filed it is clearly set out that the maximum dimension thereof is "no more than about one micron".

The board cannot share the findings of the proprietor that the sol-gel process known from US-A-4 314 827 and 4 623 364 - (D1) and (D3) of the proceedings - leads to particle sizes of 1 or 10 micron(s) so that a skilled person would have been aware that the particle size is **not an essential** feature of the alleged invention. Claim 1 teaches that the maximum dimension is no more than about one micron, and the references to (D1) and (D3) merely teach how the man skilled in the art can make crystallites up to this dimension. Whether or not

a feature of an independent claim has to be seen as "essential" can, however, not be a question of the prior art disclosure. Rather, it has to be decided what a skilled person is taught by the originally filed documents.

Considering the originally filed documents a skilled person is aware that the particle size is part of the alleged invention so that this feature cannot be omitted in a later stage from an independent claim without contravening the requirements of Articles 123(2) and 100(c) EPC.

- 2.5 Since claims 1 and 2 of the main request are not allowable the main request has to be rejected.

First and second auxiliary request

3. The first auxiliary request is based on the unallowable claim 1 of the main request and the second auxiliary request is based on the unallowable claim 2 of the main request. Under these circumstances both auxiliary requests have also to be rejected for reasons of Articles 123(2) and 100(c) EPC.

Third auxiliary request

4. Claim 1 thereof is based on nickel coated aluminous grits **and** CBN grits. The proprietor argued that Example 9 of EP-B1-0 335 930 is a reliable basis of the above teaching of claim 1 and admitted in this respect that typing errors in this example have occurred without, however, making Example 9 so unclear that new claim 1 could not be based thereon.

5. The board is in agreement with the arguments brought forward by the opponents with respect to lack of clarity of Example 9. As can immediately be seen from EP-B1-0 335 930 and page 9, Example 9, there is a difference between "CBN" and "CB" in that nickel coated "CBN" is defined as "CB". As can be seen from the table of Example 9 four constituents are indicated by their volume percents whereby the total amount equals 100 volume percent. In contrast to this piece of information of the contested patent specification it is therefore not possible **to further add** to the four constituents of the above table 4,75 volume percents of CBN without violating normal technical knowledge. The second source of ambiguity in Example 9 is the confusion with respect to the use of "CBN" and "CB" which contributes to lack of clarity.
6. The only source for nickel coated abrasive, namely "some or all of the abrasive grits are nickel coated", is granted claim 6. No example of EP-B1-0 335 930 discloses, however, in a clear and unambiguous way nickel coating of CBN **and** MCA, since Example 9 is contradictory in itself and unclear and since Example 13 only addresses nickel coated CBN and since Examples 14/15 only address nickel coated MCA.
7. Summarizing, claim 1 lacks support from the description with respect to the feature that CBN **and** MCA are nickel coated so that the requirements of Articles 123(2) and 100(c) EPC are again not met. Under these circumstances it is not necessary to deal with possibly further deficiencies of claim 1 such as the omission of "equiaxed" particles or the issue of bonding them.
8. Since all requests have to be rejected for reasons of

Articles 123(2) and 100(c) EPC it is not necessary to deal with the merits of further requirements such as the right of priority and the requirements of Articles 100(b) and 100(a) EPC.

Reimbursement of the appeal fee

9. The request for reimbursement of the appeal fee to opponent II is not to be allowed for the following reasons:

A nickel coated abrasive was not claimed in the granted independent claim but in dependent claim 6. It was then claimed in an independent claim filed with a letter dated 14 March 1997. The Opposition Division could therefore have allowed (D19) and (D20) into the proceedings as being filed in response to this new independent claims or consider them as late-filed in respect of subject-matter claimed in the granted claims and refuse to allow them into the procedure as being prima facie irrelevant as they chose to do. The opposition division is free to decide whether or not evidence not filed in due time is admitted to the proceedings; this decision has not even to be reasoned since it underlies the discretion of the opposition division. The fact that the Board would not necessarily agree with this approach to dealing with the documents does not mean that a procedural error occurred. Rather, the Board would have assessed their relevance differently. Under these circumstances the board cannot see a substantial procedural violation or an unequal treatment of the parties to the proceedings so that the request from opponent II has to be refused.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.
3. The request of opponent II for reimbursement of the appeal fee is refused.

The Registrar:

The Chairman:

A. Counillon

C. T. Wilson