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D E C I S I O N
of 14 May 2001

Case Number: T 0002/98 - 3.2.3

Application Number: 90 309 151.0

Publication Number: 0 414 494

IPC: B24D 3/34

Language of the proceedings: EN

Title of invention:
Conductive coated abrasives

Patentee:
Minnesota Mining and Manufacturing Company

Opponent:
I) EKAMANT AB
II) Vereinigte Schmirgel- und Maschinen-Fabriken AG

Headword:
-

Relevant legal provisions:
EPC Art. 114(2), 111(1)

Keyword:
"Late submitted material - admitted (yes)"
"Decision re appeal - remittal (yes)"

Decisions cited:
-

Catchword:
-



Case Number: T 0002/98 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 14 May 2001

Appellant: Vereinigte Schmirgel- und Maschinen-Fabriken AG
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office dated 12 November
1997 concerning maintenance of European patent
No. 0 414 494 in amended form.

Composition of the Board:

Chairman: C. T. Wilson
Members: F. Brösamle

Summary of Facts and Submissions

I. With decision of 12 November 1997 the opposition division maintained European patent No. 0 414 494 in amended form according to an auxiliary request of the patentee.

II. The independent claims as maintained read as follows:

"1. A coated abrasive article obtainable by a method comprising the steps of:

(a) providing a support member having a front surface and a back surface, optionally saturating said support member with a saturant, optionally applying a presize coating on said front surface of said support member, and optionally applying a back size coating on said back surface of said support member;

(b) applying a first layer of binder adhesive onto the front side of said support member;

(c) at least partially embedding abrasive granules in said first layer;

(d) conventionally curing said coatings, layers, and saturant, wherein there is applied at least one additional layer of binder adhesive overlying said first layer of binder adhesive, and wherein at least one of said coating, layers, and saturant contains a quantity of carbon black aggregates sufficient to provide a cured binder adhesive containing said black aggregates having a surface resistivity of less than 2000 kilo-ohms/cm and wherein said coating, layers, and saturant containing said carbon black aggregates is made by a method comprising the steps of:

(a) blending carbon black aggregates, at least one dispersion aid, and a liquid dispersing medium to provide a dispersion comprising carbon black

aggregates; and

(b) blending said dispersion into an adhesive binder system."

"7. A method for making an electrically conductive coated abrasive article comprising the steps of:

(a) providing a support member having a front surface and a back surface, optionally saturating said support member with a saturant, optionally applying a presize coating on said front surface of said support member, and optionally applying a back size coating on said back surface of said support member;

(b) applying a first layer of binder adhesive onto the front side of said support member;

(c) at least partially embedding abrasive granules in said first layer;

(d) conventionally curing said coatings, layers, and saturant, wherein there is applied at least one additional layer of binder adhesive overlying said first layer of binder adhesive, and wherein at least one of said coating, layers, and saturant contains a quantity of carbon black aggregates sufficient to provide a cured binder adhesive containing said black aggregates having a surface resistivity of less than 2000 kilo-ohms/cm and wherein said coating, layers, and saturant containing said carbon black aggregates is made by a method comprising the steps of:

(a) blending carbon black aggregates, at least one dispersion aid, and a liquid dispersing medium to provide a dispersion comprising carbon black aggregates; and

(b) blending said dispersion into an adhesive binder system."

III. Against the above decision of the opposition division

opponent II - appellant in the following - lodged an appeal on 13 December 1997 paying the fee on the same day and filing the statement of grounds of appeal on 20 March 1998 together with three new documents, namely

- (D9) = DE-A-2 430 336,
- (D10) = pamphlet "Degussa-Pigmentruße und Ruß-Präparationen für Sondergebiete", No. 47, August 1979, and
- (D11) = pamphlet "Degussa-Pigmentruße und Pigmentruß-Präparationen für Kunststoffe", No. 7, October 1986.

IV. Opponent I did not appeal and is a party as of right to the proceedings, Article 107 EPC.

V. The patentee also did not appeal and is the respondent in the following.

VI. In a communication pursuant to Article 110(2) EPC the board communicated to the parties its provisional opinion that (D9) to (D11) appeared so relevant that they should be allowed into the proceedings since they already disclosed the **preferred** alternative set out in EP-B1-0 414 494, namely to add carbon black aggregates to the coating formulations in the form of an aqueous dispersion and to address the problem of viscosity of dispersions to be applied to a substrate.

VII. The appellant essentially brought forward the following arguments:

- from (D9) an electrically conductive coated abrasive article is known which is used in the technical field of grinding, e.g. wood, and which

is based on graphite or colloidal graphite - sold as "Aquadag" - to achieve conductivity in a range far below 2000 KΩ/cm; the graphite particles are mixed with water, an adhesive and a hardening agent, applied to an abrasive article, dried and cured;

- graphite has to be seen as an equivalent to carbon black known from (D10) and (D11); these documents also disclose the way in which carbon black has to be dealt with, namely in the form of a dispersion having low viscosity, so that a combination of the newly cited documents or with documents dealt with in the opposition proceedings renders obvious the claimed invention.

VIII. The respondent essentially argued as follows:

- (D9) is restricted to graphite in a size coat of abrasive articles; carbon black aggregates are not suggested in (D9) so that a skilled person had no reason and no incentive to replace graphite by another material since in (D9) the viscosity problem is not addressed;
- (D10) and (D11) do not relate to carbon black in combination with any abrasive article rather to electrically conductive plastics so that the specific problems related to abrasive articles are not to be seen from these documents;
- a skilled person would therefore not combine these documents to achieve the claimed subject-matter;
- (D9) to (D11) "are late filed" and "are moreover

less relevant" so that they should not be allowed into the proceedings;

- if, however, after a reconsideration of the present case the board still holds the view that they are so relevant that they should be allowed into the proceedings, the case should be remitted to the first instance.

IX. The appellant requested to set aside the decision under appeal, by way of auxiliary request to appoint oral proceedings and suggested to remit the case to the first instance (see statement of grounds of appeal); in its letter of 18 January 2001 responding to the communication pursuant to Article 110(2) EPC of the board the appellant stated that it would be in agreement with not remitting the case to the first instance.

X. The respondent requested to dismiss the appeal by way of auxiliary request to appoint oral proceedings; with his letter of 11 April 2001 the respondent requested that the case be remitted to the first instance should the board allow (D9) to (D11) into the proceedings.

Reasons for the Decision

1. The appeal is admissible.
2. *Prior art considered by the opposition division*
 - 2.1 The impugned decision is based on the following documents:

- (D1) = US-A-3 942 959,
- (D2) = US-A-3 992 178,
- (D3) = English translation of JP-A-61 152 373,
- (D4) = pamphlet Pigmente "Ruß für leitfähige Kunststoffe" of Degussa, No. 69, April 1983,
- (D5) = pamphlet Pigmente "Pigmentruße für Kunststoffe" of Degussa, No. 40, March 1988,
- (D6) = DE-U-7 720 014,
- (D7) = Chemistry and Application of Phenolic Resins, Springer-Verlag Berlin, Heidelberg, New York, 1979, pages 220-225 and
- (D8) = JP-A-58-171264.

2.2 In the light of (D1) to (D8) the opposition division in their decision dated 12 November 1997 came to the result that the then **auxiliary request** (claims 1 and 7 thereof being recited in above remark II) define patentable subject-matter so that European patent No. 0 414 494 had to be maintained in amended form on this basis.

3. *Further prior art*

3.1 With the statement of grounds of appeal the appellant filed (D9) to (D11) and argued for allowing them into the proceedings.

3.2 An assessment of these documents carried out by the board and communicated to the parties by its communication pursuant to Article 110(2) EPC resulted in the finding that (D9) to (D11), cited for the first time in the appeal proceedings, are so relevant that

the board by applying its discretion under Article 114(1) EPC should allow them into the proceedings for the following reasons:

- 3.3 In EP-B1-0 414 494, see page 3, lines 53/54, two alternatives are disclosed with respect to the application of carbon black, namely
- (a) to **directly** add carbon black aggregates to the coating formulations or
 - (b) to add carbon black aggregates to the coating formulations **in the form of an aqueous dispersion.**
- 3.4 From page 3, lines 54 to 56 of EP-B1-0 414 494 it is clear that alternative (b) **is preferred.**
- 3.5 The appellant had therefore good reasons to search for documents which are related to the above alternative "aqueous dispersion" of carbon black and for documents in which the problem of viscosity of the dispersion is addressed.
- 3.6 (D9) is based on an electrically conductive coated abrasive article particularly for the sanding of wood and the associated problems of electrostatic effects. The means for achieving conductivity according to (D9) is graphite or colloidal graphite which is incorporated into the coatings of the abrasive article so that electrostatic charges can be overcome. As shown by the appellant colloidal graphite is sold as "Aquadag", and allows to restrict conductivity to a range far below 2000 KΩ/cm; "Aquadag" is mixed with water, an adhesive and a hardening agent before it is applied to the abrasive article, dried and finally cured.

- 3.7 With (D10) and (D11) the appellant convincingly argues that graphite/colloidal graphite has to be seen as **an equivalent** to the claimed carbon black since both of them restrict the resistivity to less than 2000 KÙ/cm (conductivity and resistivity being correlated measure units).
- 3.8 In (D10) and (D11) not only the possibility to apply carbon black in form of an aqueous dispersion is disclosed but also the importance of viscosity - in the particular case **low** viscosity - is dealt with so that the skilled person was confronted with a complete teaching with respect to carbon black and its application technology. It has therefore to be assessed whether or not (D10/D11) could be seen in combination with either (D9) or pieces of prior art recited in above remark 2.1, Articles 56 and 100a) EPC.
- 3.9 Respondent's objection that (D9) to (D11) pursuant to Article 114(2) EPC were late filed is acknowledged. But they do not have to be ignored for this reason since according to the established practice of the boards it is also a **question of relevance** whether a document has to be admitted into the proceedings and not only a question of **when** a document actually was filed, (T 156/84, OJ EPO 1988, 372; T 855/96; T 426/97; T 577/97).

The above considerations with respect to (D9) to (D11) have shown that they are highly relevant and have to be allowed into the proceedings, Article 114(1) EPC.

- 3.10 The board cannot share respondent's contrary findings in this respect:

- for a skilled person it is clear that with respect to conductivity/resistivity graphite and carbon black (both being non-metals) are equivalents;
- whether there is an incentive in a document to substitute a feature or not is not crucial since further considerations, such as availability or costs of an equivalent means - here carbon black instead of graphite - may encourage a skilled person to envisage substituting one means by another;
- it may be is true that (D10) and (D11) are silent about the use of carbon black in combination with any abrasive article; it has, however to be considered that (D10) and (D11) have to be dealt with as **fundamental technical articles**, see title "Schriftenreihe Pigmente", and that their hints to specific applications in combination with paper, colours, plastics material are not exhaustive, see page 2 thereof, since in (D10) and (D11) primarily **the technical effects achievable** with carbon black and its application technology are dealt with; neither (D10) nor (D11) can however be considered to be restricted to only the specific applications referred to therein.

4. *Remittal to the first instance*

- 4.1 The requests of the parties with respect to the issue of remittal are contradictory since the respondent is in favour of remittal and the appellant is not against the Board dealing with the case; in the statement of grounds of appeal the appellant, however, suggested also remittal of the case to the first instance.

- 4.2 The assessment of (D9) to (D11) by the board is that they are so relevant that they have to be allowed into the proceedings. Under these circumstances in applying its discretion under Article 111(1) EPC the board exercises its power to remit the case for further prosecution.
- 4.3 Since the respondent, in view of a possible remittal of the case to the first instance, has not insisted on its auxiliary request for oral proceedings **before the board** remittal can be ordered directly without violating the right of the parties to be heard. The appellant's request to set aside the impugned decision is complied with. A further request as to substance has not been made.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar:

The Chairman:

A. Counillon

C. T. Wilson