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**Datasheet for the decision
of 17 November 2010**

Case Number: T 0485/09 - 3.2.07

Application Number: 04104708.5

Publication Number: 1522386

IPC: B24D 11/00

Language of the proceedings: EN

Title of invention:

Abrasive product

Patentee:

OY KWH MIRKA AB

Opponent:

Hermes Schleifmittel GmbH & Co.

Headword:

-

Relevant legal provisions:

EPC Art. 56

Relevant legal provisions (EPC 1973):

-

Keyword:

"Inventive step (yes)"

"Request for change of date of oral proceedings (refused)"

Decisions cited:

-

Catchword:

-



Case Number: T 0485/09 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 17 November 2010

Appellant:
(Patent Proprietor)

OY KWH MIRKA AB
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FI-66850 Jeppo (FI)

Representative:

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Hoffmann Eitle
Patent- und Rechtsanwälte
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Respondent:
(Opponent)

Hermes Schleifmittel GmbH & Co.
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Representative:

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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 23 December 2008
revoking European patent No. 1522386 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. O'Reilly
Members: K. Poalas
I. Beckedorf

Summary of Facts and Submissions

- I. The appellant (patent proprietor) lodged an appeal against the decision of the Opposition Division revoking the European patent No. 1 522 386.
- II. Opposition had been filed against the patent as a whole based on Article 100(a) EPC on the ground of lack of novelty (Article 54 EPC) and on Article 100(b) EPC (insufficient disclosure; Article 83 EPC).
- III. The Opposition Division found that the subject-matter of claim 1 according to each of the main and first auxiliary requests is not novel and the subject-matter of claim 1 according to each of the second and third auxiliary requests is not inventive.
- IV. The following documents are mentioned in the present decision:
- D1: US-A-4 722 203
D2: EP-B-0 747 170
D8: US-A-2 740 239.
- V. Oral proceedings before the Board took place on 17 November 2010.
- (a) The appellant requested that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the set of claims filed as auxiliary request 4" with letter of 15 October 2010.

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

VI. Independent claim 1 according to the single request (auxiliary request 4") reads as follows:

"An abrasive product composed of a base (1) comprising mutually parallel base threads (4), and an abrasive layer (2) comprising mutually parallel abrasive threads (5) placed at a distance from one another, which abrasive threads run substantially transversely in relation to the base threads and are fastened thereto, characterized in that consecutive abrasive threads (5) are placed at a distance from one another so that the width of the space between consecutive abrasive threads (5) is 0.2 to 3.0 times the diameter of the abrasive threads in the plane of the abrasive layer (2) and a space for grindings is obtained, the base threads (4) and the abrasive threads (5) are placed in separate, mutually parallel planes, the abrasive threads (5) being arranged on a surface of the base threads (5), a level difference exists between the base threads (4) and the abrasive threads (5) as a result of the abrasive threads (5) being arranged on the surface of the base threads (5)".

VII. The appellant argued essentially as follows:

Claim 1 according to the single request (auxiliary request 4"): Inventive step - Article 56 EPC

D8 discloses a flexible abrasive product comprising a base of an open mesh, woven fabric, both the warp and filling yarns forming said fabric being continuous filament yarns and having a coating thereon of a flexible, presizing material, said coating securing said yarns together at the points of interlacing and maintaining the respective warp and filling yarns substantially parallel, a coating of hardened bonding adhesive over the precoated yarns, and a layer of abrasive granules held on said yarns by said adhesive, see claim 1 of D8. The coatings together with the abrasive granules are so applied that the areas of the fabric mesh openings are reduced to about one-half or less of the original area, whereby the remaining areas of the mesh openings are clear and unobstructed, see column 3, lines 49 to 55 and figure 1. Such an open mesh made of woven fabric and having its remaining areas of the mesh openings clear and unobstructed goes against the teaching of D1 which is concerned with a non-woven fabric, so that the teachings of D8 and D1 are incompatible with each other and the skilled person neither would combine the teachings of said documents nor would have arrived at the subject-matter of claim 1 without exercising an inventive activity.

D2 is directed to a coated abrasive having a mesh backing and targeting the elimination of the mesh pre-treatment and proposes the direct application of a maker coating comprising a radiation-curable adhesive onto an unfinished greige of a mesh fabric, the subsequent application of a coating of abrasive grain

onto the maker coat being followed by the application of a size coat. This means that the abrasive grain is actually applied directly to the mesh yarns. According to D1 the fabric is saturated with a resin to prepare it for frontfilling, backfilling, and coating with maker grain and size coat. It obvious that the disclosure of D2 is incompatible with the teaching of D1, since the person skilled in the art would have to abandon finishing layers which have to be imperatively present according to the teaching of D1.

VIII. The respondent argued essentially as follows:

Claim 1 according to the single request (auxiliary request 4"): Inventive step - Article 56 EPC

D1 represents the closest prior art and the subject-matter of claim 1 differs from the abrasive product known from D1 in that consecutive abrasive threads are placed at a distance from one another so that a space for grindings is obtained.

According to column 1, lines 27 to 29 of D1 the presence of knuckles in woven clothes used as backing for coated abrasive articles is believed to be responsible for the catastrophic failure of coated abrasive articles, particularly belts. Since this problem is solved in D1, this means that the belts produced according to D1 have improved tensile strength. Improved tensile strength is also mentioned in [0005] of the patent suit together with the object of achieving an improved abrasive capacity. It is well known to the person skilled in the art that in order to have a good abrasive capacity clogging due to the

produced grindings has to be avoided. In order to provide rapid elimination of the detritus produced during sanding or polishing D8 proposes the use of an abrasive product having a large number of open spaces, see column 1, lines 43 to 46 and column 3, lines 53 to 55. The person skilled in the art would therefore apply this teaching of D8 to the abrasive product known from D1 and would arrive at the subject-matter of claim 1 without exercising an inventive activity.

D2 can also be seen as starting point for attacking the inventive step of the subject-matter of claim 1, since it is being directed to the production of coated abrasives having a mesh backing, said backing having the appearance of screens even when formed into the final abrasive product, see [0001]. According to D2 the backing may have an open woven or knit structure, with leno weave and raschel or marquissette knits, see page 2, lines 9 to 11. The problem to be solved can be seen in providing sufficient stability during the use of the abrasive product, in particular when used in the form of a belt, trying at the same time to provide an improved accommodation or leading away of the grindings. In D1 is defined in column 1, lines 17 to 45, that the elongation characteristics of a woven structure are not sufficient, contrary to backings in which the arrays of yarns are exactly coplanar. Therefore in view of the mentioned teaching known from D1, the person skilled in the art would choose coplanar arrays of threads in D2 and would thereby arrive at the subject-matter of claim 1 in an obvious manner.

IX. *Procedural matters*

With the communication dated 10 August 2010 and received on 12 August 2010 the parties were summoned to oral proceedings scheduled to take place on 17 November 2010. With letter dated 17 September 2010 Mr Becher, the appellant's representative, requested postponement of the oral proceedings because he had booked already a vacation which clashed with the date of the oral proceedings. Mr Becher argued that his substitution by another representative of the same firm or of an outside firm would give rise to substantial additional and unnecessary costs. He further argued that due to the technical specialisation of each individual attorney and its special relationship to each individual client the position of each individual attorney in a large firm has no difference to the position of an attorney working in small firm or as a single attorney. Accordingly, it should be "unfair to treat parties before the EPO differently, depending on whether they are represented by a large or small patent attorney firm". Concerning the late filing of his request Mr. Becher stated that he had just "returned from a week of absence from the office, which was preceded by several consecutive full day meetings".

The Board noted in its communication dated 24 September 2010 that the appellant had waited five weeks after the receiving date of the invitation to oral proceedings before reacting and that the internal financing arrangement of the representative's company are not of relevance. As a result thereof the Board decided to uphold the date for oral proceedings.

Oral proceedings took place as scheduled on 17 November 2010. The appellant was represented by Mr Stratmann, who is a patent attorney from the same patent attorney partnership, of which Mr Becher is a member.

Reasons for the Decision

1. *Claim 1 according to the single request (auxiliary request 4"): Inventive step - Article 56 EPC*
- 1.1 The Board follows the respondent's argumentation in so far that D1 represents the closest prior art and that the subject-matter of claim 1 differs from the abrasive product known from D1 in that a space for grindings is obtained by the consecutive abrasive threads being placed at a distance from one another. In D1 the spaced threads are further coated so that space therebetween may not be provided.
- 1.2 Due to the presence of such a space grindings produced during the abrasive work may be accommodated and eventually led away, improving thereby the abrasive capacity of the abrasive product, see also [0005] of the patent in suit. The objective technical problem to be solved can be seen therefore as to modify the abrasive product known from D1 in order to increase its abrasive capacity.
- 1.3 The respondent argued that space for grindings is known from D8, wherein it is stated that due to the large number of open spaces present in the abrasive product described in said document a rapid elimination of the detritus during sanding or polishing is provided, see

column 1, lines 43 to 46 of D8. The person skilled in the art in order to solve the above-mentioned problem would then apply the above-mentioned teaching of D8 to the abrasive product known from D1 and would arrive at the subject-matter of claim 1 without exercising an inventive activity.

- 1.4 The question to be decided is therefore whether the skilled person would apply the teaching of D8 to the product known from D1 in order to solve the above mentioned problem and if he had done so whether he would have arrived at the subject-matter of claim 1 without exercising an inventive step.

- 1.5 D1 relates to stitch-bonded non-woven fabrics which are suitable for reinforcing the backings of coated abrasives. In column 1, lines 7 to 45 of D1 reference is made to the problems connected with the use of woven cloth as a backing for coated abrasive articles due to the repeated curvature in the yarns and the knuckles at the crossover points in the yarn. A solution to this problem is given in D1 by using stitch-bonded fabrics having arrays of substantially coplanar and co-parallel textile yarns. Fabrics having such yarn arrays may be finished in a variety of ways to make suitable backings for coated abrasives. These backings in turn may be coated with any of the variety of maker adhesives, abrasive grits, and sizer adhesives, well known in the art, see column 7, lines 23 to 28. According to example 1 of D1 a fabric having yarns with the identification number 1 of table 1 of D1 is used. The fabric is saturated with a resin and acrylic latex composition to prepare it for frontfilling, backfilling, and coating with maker grain and size coat, see column 7, lines 36

to 41. The size coat is applied using usual techniques and is dried and cured by heating and the coated abrasive is then ready to be converted into belts or discs, see column 8, line 65 to column 9, line 6. Due to the presence of the size coat as an outer layer of the coated abrasive material said material has a smooth outer surface, i.e. a surface without any intentionally provided slots or empty spaces which could be capable of collecting grindings. Moreover, in case of undesirable surface roughness apparent on the finished fabric after it has undergone frontfilling and backfilling a calendaring step is proposed in example 2, see column 10, lines 24 to 28. This teaches the skilled person to try to provide a smooth outer surface of each coating layer applied to the fabric.

- 1.6 As stated above, D1 perceives uneven or irregular surfaces as undesirable. The skilled person would on the basis of D1 thus have been motivated to design surfaces for the coated fabrics and accordingly also for abrasive product to be as regular and as even as possible.
- 1.7 On the other hand, D8 discloses a flexible abrasive product comprising a base of an open mesh, **woven** fabric, both the warp and filling yarns forming said fabric being continuous filament yarns and having a coating thereon of a flexible, presizing material, said coating securing said yarns together at the points of interlacing and maintaining the respective warp and filling yarns substantially parallel, a coating of hardened bonding adhesive over the precoated yarns, and a layer of abrasive granules held on said yarns by said adhesive, see claim 1. Accordingly, D8 teaches the use

of a woven fabric as reinforcing backing of coated abrasives, whereby said fabric that corresponds to those fabrics acknowledged in D1 as prior art has the deficiencies mentioned above. Thus, the skilled person starting from D1 would have found a disclosure in D8 which would have meant returning to those types of fabrics which D1 wanted to improve upon. A combination of D1 and D8 so as to arrive at the claimed invention would thus have gone against the teaching of D1.

1.8 Therefore, according to the Board's persuasion the skilled person would not have combined D1 and D8.

1.9 Moreover, had the skilled person considered the teaching of D8, he would have arrived at a woven backing for the abrasive product. D8 attaches importance to the points of interlacing of warp and filling yarns, recommends gauze or leno weave, simple plane or twill weave, and warns against base fabrics which are different on opposite sides, see column 2, lines 52 to 54. If the teaching of D8 would have been considered by the skilled person, then the skilled person would have taken on board the fabric structure for the base fabric of D8 and avoided fabric structures which are different on opposite sides. The skilled person would consequently have avoided adopting the fabric structure of D1 so as to use thereon the remainder of the teaching of D8.

1.10 Therefore, even if the skilled person had applied the teaching D8 to the abrasive product known from D1 neither could nor would have arrived at the subject-matter of claim 1.

1.11 The respondent argued further that a combination of the teachings of D2 and D1 would have led the person skilled in the art to the subject-matter of claim 1 without exercising an inventive step.

1.12 The Board cannot follow said respondent's argumentation for the following reasons:

1.13 There is an obvious incompatibility between the teachings of D2 and D1. It is essential for the teaching of D2 that the pre-treatment with a finish is eliminated, see D2, [0004] and [0006]. In order to nevertheless adequately strengthen the mesh of the fabric also when the fabric is "unfinished", D2 proposes using a radiation curable binder, said binder being present in the maker coat, see D2, paragraph [0006]. On the other hand, the maker coat of D1 is applied after the frontfilling and the backfilling have been provided, see D1, column 7, lines 42, 43. Combining the teaching of D2 and D1 so as to use the fabric structure of D1 as the open mesh of D2 would thus have meant eliminating the finishing steps of D1. It would thus have resulted in the elimination of steps and the corresponding layers which D1 finds necessary so as to produce appropriate backings for abrasive products, see D1, column 7, lines 23 to 26. The Board considers therefore that the skilled person would not have combined the teachings of D2 and D1 with each other.

1.14 For the above mentioned reasons the subject-matter of claim 1 involves an inventive step and meets the requirements of article 56 EPC.

2. *Date of oral proceedings*
- 2.1 In accordance with the notice of the Vice-President of Directorate-General 3 dated 16 July 2007 (Special edition No. 3 OJ EPO 2007, H1) a change of date for oral proceedings may be requested if, amongst other reasons, it clashes with firmly booked holidays. This appears to correspond to the present case and proof regarding the booking of the holidays was supplied. A change of date may therefore normally have been granted.
- 2.2 When a summons to oral proceedings is received an attorney will normally immediately consult his work diary to check his availability. The work diary of an attorney should necessarily contain booked holidays, since although they are private matters they mean that the attorney is not available on those dates. Such a check requires a matter of minutes and even writing a letter explaining the situation takes little time. A rapid indication of the situation to the Board can therefore be expected.
- 2.3 In the present case the attorney waited five weeks before informing the Board of his non-availability. The attorney explained that he had just returned from a week's absence and that beforehand there had been some day-long meetings. This may explain the last two weeks, though even some day-long meetings might not exclude informing the Board of the non-availability. This does not, however, explain why no action was taken during the first three weeks after receipt of the summons. Since the clash of dates would have been immediately apparent there is no reason why a prompt response could not have been given.

2.4 The Board considers that an attorney who wishes a change in the date of an oral proceedings has an obligation to inform the Board promptly of this desire. In the present case the attorney did not do this, so that the Board considered it was not appropriate to change the date.

2.5 The attorney argued that it was inappropriate for the case to be taken over by another attorney because of the extra cost involved. The said notice of the Vice-President does indeed require (see point 2.3 thereof) that the request for a change of date should explain why a change of representative is not possible instead. This consideration could have applied to a prompt request. However, the Board considers that when the attorney does not act promptly but allows a number of weeks to go by before acting then it must accept that this may result in extra costs.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of the following documents:

claims: 1 to 10 filed as auxiliary request 4"
with letter of 15 October 2010,

description: paragraphs 1 to 4 and 6 to 18 as
granted, paragraph 5 filed as auxiliary
request 4" during the oral proceedings,

figures: 1 to 5 as granted.

The Registrar:

The Chairman:

G. Nachtigall

P. O'Reilly