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D E C I S I O N
of 23 February 2005

Case Number: T 0019/03 - 3.2.7

Application Number: 94115309.0

Publication Number: 0650807

IPC: B24D 3/28

Language of the proceedings: EN

Title of invention:

Abrasive article, a process for its manufacture, and a method of using it

Patentee:

MINNESOTA MINING AND MANUFACTURING COMPANY

Opponent:

Norton Company

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

"Novelty (yes)"

"Inventive step (no)"

"Auxiliary request filed during oral proceedings (not admitted)"

"Documents filed in appeal proceedings (admitted)"

Decisions cited:

T 0026/85

Catchword:

-



Case Number: T 0019/03 - 3.2.7

D E C I S I O N
of the Technical Board of Appeal 3.2.7
of 23 February 2005

Appellant: Norton Company
(Opponent) One New Bond Street
P.O. Box 15008
Worcester
MA 01615-0008 (US)

Representative: Diehl, Hermann, Dr.
DIEHL, GLÄSER, HILTL & PARTNER
Augustenstrasse 46
D-80333 München (DE)

Appellant: MINNESOTA MINING AND MANUFACTURING COMPANY
(Proprietor of the patent) 3M Center
P.O. Box 33427
St. Paul
Minnesota 55133-3427 (US)

Representative: VOSSIUS & PARTNER
Postfach 86 07 67
D-81634 München (DE)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
24 October 2002 concerning maintenance of
European patent No. 0650807 in amended form.

Composition of the Board:

Chairman: H. Meinders
Members: P. A. O'Reilly
E. Lachacinski

Summary of Facts and Submissions

- I. Opposition was filed against the European patent No. 0 650 807 as a whole and based on Article 100(a) EPC (lack of novelty and lack of inventive step) and Article 100(b) (insufficiency).
- II. The Opposition Division held that the subject-matter of claim 1 of the main request was not novel and that the subject-matter of claim 1 of the first auxiliary request did not involve an inventive step. The Opposition Division held the subject-matter of claim 1 of the second auxiliary request was novel and involved an inventive step. The Opposition Division further held that the ground of insufficiency did not succeed against any request. The Opposition Division therefore maintained the patent amended in accordance with the second auxiliary request.
- III. Appellant I (proprietor) and appellant II (opponent) each filed an appeal against the decision of the Opposition Division.
- IV. The most relevant prior art documents for the present decision are:
- D1: WO-A-94/20264
- D2: WO-A-92/13680
- D5: US-A-4 773 920
- D6: US-A-5 219 462

D8: Römpps Chemie-Lexicon, Franckh'sche
Verlagshandlung, Stuttgart, 1975, Edited by
Dr. Neumüller, pages 2750, 2751, 3223 to 3227 and
3893 to 3896,

D10: EP-A-0 081 964

D11: GB-A-834 337

D12: JP-A-61 076275

D13: JP-A-42 46492

D14: US-A-3 042 509

V. Oral proceedings were held before the Board on
23 February 2005. Appellant I requested that the
decision under appeal be set aside and that the patent
be maintained unamended (main request). Alternatively,
the patent should be maintained in amended form on the
basis of the sets of claims according to first, second
and third auxiliary requests filed during the oral
proceedings before the Board. The second and third
auxiliary requests correspond respectively to the first
and second auxiliary requests which were decided upon
by the Opposition Division.

Appellant I further requested that the documents D10 to
D14 should not be admitted into the proceedings.

Appellant II requested that the decision under appeal
be set aside and the patent be revoked.

Appellant II further requested that the first auxiliary request of appellant I should not be admitted into the proceedings and that the documents D10 to D14 should be admitted into the proceedings.

VI. Claim 1 of the patent as granted (main request) reads as follows:

"1. An abrasive article comprising a structure in the form of a sheet, the structure having at least one major surface (13) having placed thereon a plurality of individual abrasive composites (11, 21), each abrasive composite (11, 21) having a precise shape defined by a distinct and discernible boundary (18) and having a plurality of abrasive particles (14, 24) dispersed in a plasticized binder (15, 25), and said binder (15, 25) having been formed by an addition polymerization mechanism of a binder precursor, wherein said a binder precursor is combined with plasticiser prior to said polymerization in an amount of 30 to 70 parts plasticizer 100 parts by weight of said combined binder precursor and plasticizer."

Claim 1 of the first auxiliary request reads as follows: (amendments when compared to claim 1 of the main request are depicted in bold)

"1. An abrasive article comprising a structure in the form of a sheet, the structure having at least one major surface (13) having placed thereon a plurality of individual abrasive composites (11, 21), each abrasive composite (11, 21) having a precise shape defined by a distinct and discernible boundary (18) and having a plurality of abrasive particles (14, 24) dispersed in a

plasticized binder (15, 25), and said binder (15, 25) having been formed by an addition polymerization mechanism of a binder precursor, wherein said a binder precursor is combined with plasticiser prior to said polymerization in an amount of 30 to 70 parts plasticizer 100 parts by weight of said combined binder precursor and plasticizer, which article is obtainable by the process characterized by the steps of:

(a) preparing a slurry comprising plasticizer, a plurality of abrasive particles, and binder precursor as a liquid medium, in an amount of 30 to 70 parts plasticizer per 100 parts by weight of binder precursor plus plasticizer;

(b) providing a backing (41, 51) having a front surface and a back surface, and a production tool (46, 55) having a contact surface which includes a plurality of cavities, each cavity having a precise shape defined by a distinct and discernible boundary;

(c) providing means to apply said slurry into said cavities;

(d) contacting said front surface of said backing (41, 51) with said contact surface of said production tool (46, 55) such that said slurry in each cavity contacts and wets areas on said front surface of said backing (41, 51);

(e) solidifying said binder precursor to form a binder within said cavities, whereupon after solidification said slurry is converted into a plurality of abrasive composites; and

(f) separating said production tool (46, 55) from said backing (41, 51) after said solidifying to provide a plurality of abrasive composites attached to said front surface of said backing."

Claim 1 of the second auxiliary request reads as follows:

(amendments when compared to claim 1 of the main request are depicted in bold)

"1. An abrasive article comprising a structure in the form of a sheet, the structure having at least one major surface (13) having placed thereon a plurality of individual abrasive composites (11, 21), each abrasive composite (11, 21) having a precise shape defined by a distinct and discernible boundary (18) and having a plurality of abrasive particles (14, 24) dispersed in a plasticized binder (15, 25), and said binder (15, 25) having been formed by an addition polymerization mechanism of a binder precursor, wherein said a binder precursor is combined with plasticiser prior to said polymerization in an amount of **35** to 70 parts plasticizer 100 parts by weight of said combined binder precursor and plasticizer."

Claim 1 of the third auxiliary request reads as follows:

(amendments when compared to claim 1 of the main request are depicted in bold)

"1. An abrasive article comprising a structure in the form of a sheet, the structure having at least one major surface (13) having placed thereon a plurality of individual abrasive composites (11, 21), each abrasive composite (11, 21) having a precise shape defined by a distinct and discernible boundary (18) and having a plurality of abrasive particles (14, 24) dispersed in a plasticized binder (15, 25), and said binder (15, 25) having been formed by an addition polymerization

mechanism of a binder precursor, wherein said a binder precursor is combined with plasticiser prior to said polymerization in an amount of 35 to 70 parts plasticizer 100 parts by weight of said combined binder precursor and plasticizer, **wherein said plasticizer is a material selected from the group consisting of polyols, organosilicone oils, and combinations thereof.**"

VII. Appellant I argued in written and oral submissions essentially as follows:

(i) The subject-matter of the main request is novel over D1. D1 does not disclose the combination of the claimed range for the amount of plasticizer in the article together with a plurality of individual abrasive composites. There are several ranges for the plasticizer mentioned in D1 and there are disclosed embodiments which include a plurality of individual abrasive composites and embodiments which do not include a plurality of individual abrasive composites. There is no teaching in D1 to combine a specific range for the plasticizer with a specific embodiment of the form of the abrasive composite. Also, the thrust of the teaching of D1 is to use a low amount of plasticizer so that the skilled person would not consider using the maximum amount mentioned. Moreover, the maximum amount of plasticizer mentioned in D1 is less than 30% whereas claim 1 requires more than 30%.

(ii) The subject-matter of claim 1 of the main request involves an inventive step. The invention is

directed to solving the problem of increasing the erodibility of abrasives. D6 is not concerned with this problem so that the skilled person would not start from this document. Example 17 of D6 relates to a type of abrasive different to that of the invention since the slurry disclosed in that example includes a condensation polymer as binder precursor as well as expanding beads.

D2 gives no hint that the amount of plasticizer should be increased to within the range specified in claim 1 of the main request. Also there is no reason why the skilled person should combine the teaching of D5 with that of D2.

(iii) The first auxiliary request should be admitted into the proceedings. The request is filed late because there was little time between receiving the communication accompanying the summons to oral proceedings and the date of the oral proceedings to prepare a request. The request is no more than a combination of claims already in the proceedings so that there is no extra work for appellant II in preparing a defence. The request is based on a combination of claims 1 and 7 as granted, where claim 7 was directed to the process of making the abrasive article of claim 1. The request is relevant to both D1 and D6 since it is intended to more clearly distinguish claim 1 from the disclosure of these documents.

(iv) The second auxiliary request is more limited than the main request and avoids anticipation by D1.

- (v) The third auxiliary request limits the plasticizer to a particular type of plasticizer. From the comparative test results filed with the letter of 18 August 2002 before the Opposition Division it is clear that an improvement is shown by the use of the claimed plasticizer. D8 does not show that the claimed plasticizers improve erodibility.

D10 to D14 are late filed and should not be allowed into the proceedings. There is no reason for filing the documents at this stage of the proceedings. Moreover, they are not relevant.

D10 and D11 relate to a different technical field to that of the invention and so would not be considered by the skilled person. D12 and D13 disclose substances which react with the binder and hence cannot improve the erodibility. D14 relates to a powder abrasive which is a different type of abrasive to that to which claim 1 is directed. These documents do not therefore indicate to the skilled person that any of the substances mentioned therein should be incorporated as a plasticizer in an abrasive according to Example 17 of D6.

VIII. Appellant II argued in written and oral submissions essentially as follows:

- (i) D1 takes away the novelty of claim 1 of the main request. The document mentions a range for the plasticizer of up to 30% by weight of the composition as a whole. Since abrasive grains are also present in the composition there will be

automatically more than 30% by weight of plasticizer in the combined binder precursor and plasticizer. Claims 13 and 14 mention discrete nodules and areas respectively and are dependent upon claim 8 which mentions a plasticizer. In the description of D1 there are embodiments of figures 1 and 8 which are directed to nodules and discrete areas respectively. These embodiments are the embodiments to which claims 13 and 14 are respectively directed. Thus, these embodiments disclose a plasticizer in their binder precursor. Since these embodiments disclose a plasticizer the ranges of the amounts of plasticizer apply to these embodiments, including the parts of the ranges above 30%. Also, when the preferred ranges of the various components of the abrasive article are considered it can be seen when taking some of the end values of these ranges that compositions within the scope of claim 1 are disclosed.

- (ii) The subject-matter of claim 1 of the main request does not involve an inventive step. The closest prior art document is D6. Example 17 of D6 discloses all the features of claim 1 except for the binder being formed by addition polymerisation. The problem to be solved by this feature is to reduce solvent emissions. This problem is also mentioned in the patent specification. Addition polymers are already mentioned in D6 as alternatives to condensation polymers. The skilled person would therefore employ these polymers to solve that problem

The subject-matter of claim 1 is also obvious starting from D2. This document discloses all the features of the claim apart from the specified range of plasticizer. The skilled person would realise that it is necessary to increase the amount of plasticizer in order to solve the problem of increasing the erodibility. Furthermore, taking consideration of D5 the skilled person would see from Table I of that document that two addition polymers may be combined in the ratio 40:60. The plasticizer as defined in the patent in suit can be any polymer which makes another polymer softer. When the skilled person takes account of this definition he finds the solution to the problem in D5.

- (iii) There is no reason to admit the late filed first auxiliary request. Appellant I made a submission one month before the oral proceedings. He could have included the request with that submission. It is not possible in the oral proceedings for appellant II to examine the request and prepare a reaction.
- (iv) The second auxiliary request merely limits the range of values for the plasticizer. However, the disclosure of the amount of plasticizer in D6 is still within this narrower range so that the arguments for inventive step against the main request also apply against this request.
- (v) Polyols are well known plasticizers as evidenced by D8. The comparative tests filed by appellant I with his letter dated 18 August 2002 show that

there is no unexpected result achieved by the use of a polyol instead of polyester as a plasticizer in the abrasive articles of the patent.

(vi) D10 to D14 should be admitted into the proceedings since surprisingly the Opposition Division was not convinced by the evidence of D8 that polyols are well known plasticizers. The documents are relevant and are also a response to an amendment made during the opposition proceedings.

IX. The ground of insufficiency was not pursued by appellant II during the appeal proceedings.

Reasons for the Decision

Main Request

1. *Novelty*

1.1 Appellant II argued that claim 1 lacked novelty over D1. D1 contains eight figures and also discloses seven specific examples of abrasives. The figures 1, 2, 6, 7 and 8 each show an abrasive article including a sheet having a plurality of individual abrasive composites each having a distinct boundary and a plurality of abrasive particles dispersed therein in a binder. The binder is an addition polymer (cf. page 7, line 33 to page 8, line 9). Independent claim 8 of the document mentions an abrasive article comprising a plasticizer. Claim 13, which is dependent on claim 8, mentions discrete nodules and claim 14, which is also dependent on claim 8, mentions the composite being adhered as a

plurality of discrete areas. In the description of figures 1 and 2 the slurry, which is used to form the abrasive article, is stated to comprise "abrasive particles and an unsaturated addition polymerizable resin 5 to form a plurality of raised nodules 6" (cf. page 17, lines 3 to 5). In the description of figure 6 there is a reference to abrasive composite (cf. page 18, lines 28 to 32). In the description of figure 7 there is a reference to a plurality of pyramids which are "comprised of abrasive particles and a binder" (cf. page 19, lines 9 to 10). In the description of figure 8 there is a reference to "a plurality of discrete areas" (cf. page 19, lines 14 to 15) and to "a binder, backing material, and abrasive particles" (cf. page 19, lines 30 to 31).

From the above cited parts of D1 the Board concludes that there is a disclosure in D1 of embodiments including a plurality of individual abrasive composites comprising a binder, abrasive particles and a plasticizer.

- 1.2 Regarding the amount of plasticizer, according to D1 this may be "generally less than 30 weight percent, typically less than about 15 weight percent and preferably less than 10 weight percent of the total binder precursor weight" (cf. page 11, lines 32 to 36), or "from 0 to 30%, preferably between 1 to 20% plasticizer" in the binder precursor slurry (cf. page 14, lines 22 to 32).

Appellant II, and the Opposition Division in their decision, further argue that the teaching of up to 30% plasticizer by weight of the total binder precursor

weight implies more than 30 parts of plasticizer from the combined binder precursor and plasticizer. The Board agrees with the Opposition Division in this respect since abrasive particles are always present which contribute to the total weight of the binder and precursor and when their weight is deducted to find the amount of plasticizer in respect of the combined binder precursor and plasticizer weight the number of parts of plasticizer automatically rises above 30.

However, the Board considers that **no specific value** for the maximum number of parts of plasticizer can be deduced from the disclosure. There is thus an overlap between the disclosed and claimed ranges for the plasticizer, starting at 30% by weight but without any specific value at its end of range.

- 1.3 A first question which arises is whether D1 discloses the combination of the upper part of the range of values for the plasticizer, i.e. above 30% by weight, in combination with the specific embodiments which disclose a plurality of individual abrasive composites in the abrasive article (see point 1.1 above).

The disclosure of D1 is silent in this respect. There is no indication in D1 of which percentage of plasticizer should be used in which embodiment. In the examples 1 to 7 there are discrete abrasive composites formed in the manner of figure 1 as evidenced by the fact that the slurry is forced through a screen with circular openings (cf. page 29, lines 17 to 18). The seven examples have values for the plasticizer of either 8.4 parts where the combined plasticizer and binder precursor make up approximately 83 parts, or 6

parts where the combined plasticizer and binder precursor make up approximately 88 or 94 parts, which result in a plasticizer weight percentage of 10% or 7% respectively. Therefore these examples do not imply that the upper end of the range of values for the amount of plasticizer should be sought for embodiments where the slurry is formed into individual abrasive composites.

- 1.4 A second question is whether the overlap of the disclosed and claimed ranges may be considered to be novelty destroying for the claimed range. In accordance with the jurisprudence of the Boards of Appeal the question should be considered as to whether the skilled person would seriously contemplate applying the technical teaching of the prior art in the range of the overlap, (see for instance Board of Appeal decision T 26/85). In the present case the lower end of the disclosed ranges begins either at 0% or in one preferred case 1%. The top end of the range is given either as 30%, 20%, 15% or 10% in the various instances when this is mentioned. Already this information indicates that it is the low values of the plasticizer that the skilled person should seriously consider. As indicated above the seven examples given in the description of D1 have values for the plasticizer of either 7% or 10%. The examples thus also indicate to the skilled reader that he should work in the lower end of the range, i.e. about or below 10%. The Board thus concludes that the skilled person would not seriously contemplate working at the very upper end of the mentioned ranges, i.e. above 30.

1.5 Appellant II further argued that a combination of the end values of certain preferred ranges given for various components of the abrasive disclosed in D1 would fall within the scope of claim 1. There is however in D1 no indication that a particular end of range value for one component should be combined with particular values of the other components. Such combining of the end values of ranges with values from other ranges is not permissible in the absence of an indication that they should be combined.

1.6 Therefore, the subject-matter of claims 1 is novel in the sense of Article 54 EPC.

2. *Inventive step*

2.1 The closest prior art is represented by D6 which in Example 17 discloses:

An abrasive article comprising a structure in the form of a sheet, the structure having at least one major surface having placed thereon a plurality of individual abrasive composites (the shapes are formed as in figure 3 of the document), each abrasive composite having a precise shape defined by a distinct and discernible boundary (which is visible in figure 3) and having a plurality of abrasive particles (white fused alumina grain WAO is included) dispersed in a plasticized binder (14 parts of novalac NR and 10 parts of polyester plasticizer are included), and the binder having been formed by a polymerization mechanism of a binder precursor, wherein a binder precursor is combined with plasticizer prior to the polymerization in an amount of approx. 42% by weight of plasticizer in

said combined binder precursor and plasticizer (resulting from 10 parts plasticizer out of a total of 24 parts combined binder precursor and plasticizer).

2.2 Claim 1 of the main request is distinguished from the disclosure of Example 17 of D6 by the feature that the binder is specified to be formed by an addition polymerization mechanism. The binder disclosed in Example 17 of D6 is formed by a condensation polymerization mechanism.

2.3 It is known that condensation polymers have problems with solvent emissions (cf. page 3, lines 14 to 15 of the patent specification). In the view of the Board therefore the problem to be solved is to reduce or eliminate the emission of solvents.

It is known that addition polymers do not have this problem of solvent emissions and this fact has not been denied by appellant I. Addition polymers are well known and are discussed in basic organic chemistry textbooks. Indeed condensation and addition polymerisation are the two principal methods of forming polymers. Addition polymerisation thus belongs to the basic general knowledge of the skilled person. The skilled person would thus consider the employment of addition polymerisation as an alternative to condensation polymerisation when there may be a problem with solvent emissions. There is no prejudice against the employment of addition polymerisation in the context of the technical teaching of D6 since this document itself specifically mentions certain addition polymers as being suitable for the binder precursor, see column 8, lines 19 to 44. In this context it may be noted that

the examples of acrylate resins mentioned in column 8, lines 26 to 34 overlap with the specific polymers given in the patent specification on page 7, lines 50 to 53.

The Board is therefore satisfied that the skilled person would turn to addition polymerisation in order to solve the objective problem and thus arrive at the subject-matter of claim 1 in an obvious manner.

2.4 Appellant I argued that the skilled person would not start from Example 17 of D6 since that example discloses a condensation polymer whereas the invention is concerned with addition polymers. The Board would first note that it must in principle be considered whether the skilled person would arrive at the invention starting from the teaching of any prior art document. The Board further notes that the patent itself discusses the problems of the abrasive articles disclosed in prior art documents which involve condensation polymers (cf. page 2, line 56 to page 3, line 15), so that such documents cannot be considered as being distant from the technical field of the patent.

Appellant I further argued that D6 was not concerned with erodibility, the problem that the patent envisaged to solve. However, the problem which appellant I considers that the patent addresses is solved by features which are already disclosed in D6 so that this problem cannot be the objective problem to be solved over the disclosure of D6. Appellant I is correct in pointing out that D6 is concerned with the problem of expanding the abrasive composites and to this end includes an expanding agent. However, claim 1 of the patent in suit does not exclude the presence of an

expanding agent. Appellant I has confirmed this interpretation of the claim. This argument therefore is not based on the features of the claim and hence is without merit.

- 2.5 Therefore, the subject-matter of claim 1 of the main request does not involve an inventive step in the sense of Article 56 EPC.

First auxiliary request

3. *Admissibility*

- 3.1 The independent claim of the first auxiliary request is a combination of claims 1 and 7 as granted, whereby the steps of process claim 7, have been included as they are preceded by the expression: "which article is obtainable by the process, characterized by the steps of...". Claim 7 as granted was directed to a process for making the abrasive article of any of claims 1 to 4 and sets out a series of process steps (a) to (f). The claim was not therefore a dependent claim but rather an independent process claim which only had to be capable of producing the products of claim 1.

When incorporating the features of claim 7 into the product claim 1 these process features must be changed into product features. Thus, process claim 7 would first of all have to be turned into a product claim and then combined with claim 1.

It is not therefore possible to assert, as appellant I has done, that claim 1 of this request was already contained in the patent claims as granted. On the

contrary the amendment involves a major change in the meaning of the features of claim 7 as granted.

3.2 Neither appellant II nor the Board could reasonably be expected to be able to react to such a change during oral proceedings. This is particularly the case as the new claim would need to be examined for compliance with at least Articles 84 and 123(2) EPC. The change from process to product features throws up serious questions of clarity. Furthermore the combination of claim 7 with claim 1 is not *prima facie* in conformity with Article 123(2) EPC.

3.3 Appellant I justified the late filing of the request on the basis that the summons and the accompanying communication of the Board left a relatively short time limit (one month before the oral proceedings).

However, this argument cannot be accepted since there were more than two months between the issue of the summons and communication and the date of the oral proceedings, so that an attempt could easily have been made to file the request before the oral proceedings.

3.4 The Board therefore decided not to admit this request into the proceedings as being filed too late.

Second auxiliary request

4. *Inventive step*

4.1 Claim 1 of this request merely limits the lower end of the range for the amount of plasticizer to 35 parts per 100 parts by weight of binder precursor and plasticizer.

Since D6 already discloses approximately 42 parts plasticizer per 100 parts of binder precursor and plasticizer the same reasoning as applied to claim 1 of the main request applies to claim 1 of this request.

- 4.2 Therefore, the subject-matter of claim 1 of the second auxiliary request does not involve an inventive step in the sense of Article 56 EPC.

Third auxiliary request

5. *Inventive step*

- 5.1 The third auxiliary request limits claim 1 by specifying the type of plasticizer that is used. Appellant II does not dispute that this plasticizer is not disclosed in D6 which discloses a polyester plasticizer.

The plasticizers that are specified in the claim include materials that are well known as plasticizers. This is evidenced by D8 which is an extract from a chemical dictionary. The extract includes the entry for a plasticizer. In this entry polypropylene glycol is mentioned as a plasticizer. Thus polypropylene glycol must be considered as a compound that the skilled person will normally consider when deciding on which plasticizer to use. Polypropylene glycol is a polyol as specified in claim 1 of this request. The question therefore arises whether the skilled person would replace the polyester plasticizer used in Example 17 of D6 by polypropylene glycol at the same time as he replaced the condensation polymer by an addition polymer.

As already indicated above polypropylene glycol is a well known plasticizer as evidenced by D8. The skilled person when considering the teaching of a document will normally consider whether the existing constituents may be varied. In the present case he would consider whether other well known plasticizers could be used and thus would consider polypropylene glycol. There is no evidence that this plasticizer should not be used with an addition polymer so that there is no prejudice to using this plasticizer at the same time as the condensation polymer is replaced by an addition polymer.

5.2 Appellant I argued that D8 did not disclose the suitability of polypropylene glycol for improving the erodibility. However, the definition of plasticizer given in the specification of the patent on page 3, lines 19 to 22 is much broader than that and can therefore only be seen as a definition which is consistent with the normal definition of plasticizer, e.g. as given in D8. Thus, compounds which are indicated in D8 as suitable to be plasticizers must also be considered to be plasticizers in the sense of the definition given in the patent.

5.3 Appellant I filed comparative tests during the opposition proceedings (cf. submission of 18 January 2002). The tests show two results of experiments carried out on compositions which included one composition with no plasticizer, three compositions with polyol as a plasticizer, and one composition with a polyester as a plasticizer. The comparison with no plasticizer is not relevant since D6 discloses a

plasticizer. The comparison between a polyol and a polyester does not show any significant difference. In one test there is even no difference at all between the plasticizers. In the other test results for the polyols vary amongst themselves by 12% and the difference to the polyester is 4%. Thus the variation within the polyols is greater than the variation between the polyols and the polyester. Moreover, these tests have been carried out on only one polyester plasticizer which may not be representative of polyester plasticizers in general. The Board concludes therefore that these tests do not prove a superior result for polyol plasticizers, let alone a surprising result.

- 5.4 The Board considers that the replacement of the specific plasticizer disclosed in D6 by a well known plasticizer would be obvious for the skilled person.
- 5.5 Therefore, the subject-matter of claim 1 of the third auxiliary request does not involve an inventive step in the sense of Article 56 EPC.

Late filed documents

6. The Opposition Division maintained the patent on the basis of a request which corresponded to the third auxiliary request of the present proceedings. In particular, the Opposition Division saw the choice of plasticizer as involving an inventive step. Appellant II explained the filing of the documents D10 and D11 with his appeal grounds as well as the references to D12 to 14 in the appeal grounds as a reaction to this unforeseeable finding of the Opposition Division in its decision. The fact that these documents were introduced

already with the appeal grounds lends support to the explanation of appellant II. The explanation of appellant II is therefore credible. The introduction of the documents along with the appeal grounds also means that appellant I was supplied with these documents at the earliest possible moment in the appeal proceedings. The Board therefore decided to admit all the documents into the proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders