

Internal distribution code:

- (A) Publication in OJ
(B) To Chairmen and Members
(C) To Chairmen
(D) No distribution

**Datasheet for the decision
of 11 November 2010**

Case Number: T 1337/09 - 3.2.07

Application Number: 05005570.6

Publication Number: 1702714

IPC: B24B 7/18

Language of the proceedings: EN

Title of invention:

Method for maintenance of hard surfaces

Patent Proprietor:

HTC Sweden AB

Opponent:

3M Innovative Properties Company
KGS Diamond Holding B.V.

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56, 84, 100(b), 100(c), 123(2)
EPC R. 80

Relevant legal provisions (EPC 1973):

-

Keyword:

"Added subject-matter: yes (main request) - no (first auxiliary request)"

"Sufficiency: yes"

"Novelty: yes"

"Inventive step: no (first, second and seventh auxiliary requests)"

"Clarity: no (third to sixth and eighth to tenth auxiliary requests)"

"Amendments are to meet ground of opposition: yes"

"Late filed auxiliary requests: admitted"

Decisions cited:

-

Catchword:

-



Case Number: T 1337/09 - 3.2.07

DECISION
of the Technical Board of Appeal 3.2.07
of 11 November 2010

Appellant: HTC Sweden AB
(Patent Proprietor) Box 69
SE-614 22 Söderköping (SE)

Representative: Bokinge, Ole
Awapatent AB
Junkersgatan 1
SE-582 35 Linköping (SE)

Respondent I: 3M Innovative Properties Company
(Opponent I) 3M Center
P.O. Box 33427
St. Paul MN 55133-3427 (US)

Representative: Towlson, Samantha Jayne
3M Europe S.A./N.V.
Office of Intellectual Property Counsel
Hermeslaan 7
BE-1831 Diegem (BE)

Respondent II: KGS Diamond Holding B.V.
(Opponent II) Industriestraat 2
NL-8081 HG Elburg (NL)

Representative: van Westenbrugge, Andries
Nederlandsch Octrooibureau
Postbus 29720
NL-2502 LS Den Haag (NL)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 23 June 2009
revoking European patent No. 1702714 pursuant
to Article 101(2) and 101(3)(b) EPC.

Composition of the Board:

Chairman: H. Meinders
Members: P. O'Reilly
E. Dufrasne

Summary of Facts and Submissions

I. Oppositions were filed against European patent No. 1 702 714 as a whole based on Article 100(a) EPC (lack of novelty and lack of inventive step), Article 100(b) EPC (insufficiency) and Article 100(c) EPC (added subject-matter).

The opposition division decided to revoke the patent.

II. The appellant (patent proprietor) filed an appeal against that decision.

III. The appellant requested that the decision under appeal be set aside and that the patent be maintained unamended or in accordance with one of the auxiliary requests 1 to 10 filed with letter dated 11 October 2010.

Respondents I and II (opponents I and II) each requested that the appeal be dismissed.

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

"A method for maintaining a hard floor surface comprising stone or stone-like material, the method comprising treatment of the surface with a flexible pad (1), in the presence of abrasive particles, bonded to the pad, on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of an effective amount of crystallization agent on the contact surface and the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers."

Claim 1 of the **first auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for maintaining a hard floor surface ~~comprising of~~ **stone or stone-like material**, the method comprising treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers**, in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, **and** the treatment is performed in the absence of an effective amount of crystallization agent on the contact surface ~~and the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers.~~"

Claim 1 of the **second auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for **everyday maintenance** ~~aining of~~ **a polished** hard floor surface ~~comprising of~~ **stone or stone-like**

material, the method comprising treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers**, in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, **and** the treatment is performed in the absence of an effective amount of crystallization agent on the contact surface ~~and the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers.~~"

Claim 1 of the **third auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for maintaining a hard floor surface ~~comprising~~ **of** stone or stone-like material, the method comprising **simultaneous cleaning and polishing** treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers**, in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of an effective amount of crystallization agent on the contact surface ~~and the treatment is performed using a pad (1) comprising an open, lofty, three dimensional~~

~~non-woven web of fibers~~ **and a gloss value of the floor surface is increased."**

Claim 1 of the **fourth auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for ~~maintaining~~ **cleaning** a hard floor surface ~~comprising of~~ stone or stone-like material **using a scrubber/dryer combination machine**, the method comprising **simultaneous cleaning and polishing** treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers**, in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of an effective amount of crystallization agent on the contact surface and ~~the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers~~ **and a gloss value of the floor surface is increased."**

Claim 1 of the **fifth auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for ~~maintaining~~ **cleaning** a hard floor surface ~~comprising of~~ stone or stone-like material, the method comprising treatment of the surface with a flexible pad

(1) **comprising an open, lofty, three dimensional non-woven web of fibers, having a density of 20-35 kg/m³,** in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of an effective amount of crystallization agent on the contact surface ~~and the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers~~ **and a gloss value of the floor surface is increased."**

Claim 1 of the **sixth auxiliary request** reads as follows (amendments when compared to claim 1 of the **main request** are depicted in bold or struck through by the Board):

"A method for ~~maintaining~~ **everyday cleaning/maintenance of a polished** hard floor surface ~~comprising of~~ stone or stone-like material **using a scrubber/dryer combination machine,** the method comprising **simultaneous cleaning and polishing** treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers, having a density of 20-35 kg/m³,** in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of an effective amount of crystallization agent on the contact surface ~~and the treatment is performed using a~~

~~pad (1) comprising an open, lofty, three dimensional non-woven web of fibers~~ **and a gloss value of the floor surface is increased."**

Claim 1 of the **seventh auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for maintaining a hard floor surface ~~comprising~~ **of** stone or stone-like material, the method comprising treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers**, in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, **and** the treatment is performed in the absence of ~~an effective amount of~~ crystallization agent on the contact surface ~~and the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers."~~

Claim 1 of the **eighth auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for ~~maintaining~~ **cleaning** a hard floor surface ~~comprising~~ **of** stone or stone-like material **using a scrubber/dryer combination machine**, the method comprising **simultaneous cleaning and polishing** treatment of the surface with a flexible pad (1)

comprising an open, lofty, three dimensional non-woven web of fibers, in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of an ~~effective amount of~~ crystallization agent on the contact surface and ~~the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers~~ **and a gloss value of the floor surface is increased."**

Claim 1 of the **ninth auxiliary request** reads as follows (amendments when compared to claim 1 of the **main** request are depicted in bold or struck through by the Board):

"A method for ~~maintaining~~ **cleaning** a hard floor surface ~~comprising of~~ stone or stone-like material, the method comprising treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers, having a density of 20-35 kg/m³,** in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of an ~~effective amount of~~ crystallization agent on the contact surface and ~~the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers~~ **and a gloss value of the floor surface is increased."**

Claim 1 of the **tenth auxiliary request** reads as follows (amendments when compared to claim 1 of the **main request** are depicted in bold or struck through by the Board):

"A method for ~~maintaining~~ **everyday cleaning/maintenance of a polished** hard floor surface ~~comprising of~~ stone or stone-like material **using a scrubber/dryer combination machine**, the method comprising **simultaneous cleaning and polishing** treatment of the surface with a flexible pad (1) **comprising an open, lofty, three dimensional non-woven web of fibers, having a density of 20-35 kg/m³**, in the presence of abrasive particles, bonded to the pad on a contact surface between the pad (1) and the hard surface, wherein:

the abrasive particles comprise diamond particles, the treatment is performed in the absence of ~~an effective amount of~~ crystallization agent on the contact surface ~~and the treatment is performed using a pad (1) comprising an open, lofty, three dimensional non-woven web of fibers~~ **and a gloss value of the floor surface is increased."**

V. The documents cited in the present decision, originating from the opposition proceedings are the following:

D2: US-A-5 054 245,
D12: EP-A-0 562 919,
E1: 3M Technical Data Sheets Scotch-Brite™ TD101, TD102, TD103, TD106 and TD107, May 1997,

E5: 3M Technical Data Sheet Diamond Abrasive & Drive Pad TD123, July 2001,

E24: "The 3M non-diamond pads compared to the Twister Green diamond pad - Raise gloss" test results.

VI. Oral proceedings before the Board were held on 11 November 2010.

VII. The arguments of the appellant may be summarised as follows:

(i) The amendments made to claim 1 of the patent during the grant proceedings did not add subject-matter.

The overall teaching of the application was of cleaning wood and laminate floors in addition to stone or stone-like floors so that it is clear that the stone or stone-like floors can also include wood or laminate which means that the use of the word "comprising" in connection with "stone or stone-like" is justified. In this context the passage bridging pages 9 and 10 provides a clear basis for the amendment. Although it is not explicitly stated in that passage that the method may be used for hybrid surfaces it is implicitly clear to the skilled person that the method may be used for a stone or stone-like surface that may, for example, contain inlays of wood.

(ii) The auxiliary requests filed with letter of 11 October 2010 should be admitted into the proceedings. Contrary to the opinion of the respondents they do not raise new matters. Although the exact wording used in some of the requests was not in the previous requests

the wordings are similar to the previous wordings which have been extensively discussed.

(iii) The amendments made to claim 1 of the first auxiliary request comply with Article 123(2) EPC.

The three dimensional non-woven pad is mentioned in a general manner in the application as originally filed on page 1, second paragraph, as well as in the embodiments on page 12. Also in the paragraph bridging pages 9 and 10 the stone or stone-like material is mentioned in a general manner. There is therefore no addition of subject-matter in mentioning these together in the claim.

(iv) The skilled person can carry out the teaching of claim 1 of all of the requests.

In particular, the skilled person can understand the expression "effective amount". There is a definition of the expression in paragraph [0024] of the description of the patent. In that definition a reference is made to "measurable gloss" which the skilled person can understand since there are known methods of measuring gloss. The skilled person can easily carry out the invention by not using any crystallisation agent at all. Although the amount which is an "effective amount" may vary depending upon a number of factors, e.g. the agent used, the skilled person will know what this amount in the particular circumstances is. A single numerical figure cannot therefore be given.

(v) The subject-matter of claim 1 of the first auxiliary request is novel over the disclosures of each of D12 and E5.

D12 does not disclose maintaining a hard floor surface. There is no disclosure of the treatment being in the absence of an effective amount of crystallization agent. Nor are diamond abrasive particles specifically mentioned. They are just one of many in a list from which the skilled person would have to choose.

E5 does not disclose maintaining a hard floor surface, nor that the diamond particles are arranged in "an open, lofty, three-dimensional non-woven web of fibers". Also, the sanding process described therein is part of a crystallization process so that the treatment is not in the absence of an effective amount of crystallisation agent.

(vi) The subject-matter of claim 1 of the first auxiliary request involves an inventive step.

E1 is the closest prior art document, in particular either the "Red" or "Blue" pads disclosed therein.

Claim 1 is distinguished over the disclosure of this document at least by the floor pads having diamond abrasive particles. The objective problem to be solved is to provide a cost efficient and environmentally friendly cleaning method that provides simultaneous cleaning and surface gloss improvement or maintenance.

Faced with this problem there is nothing that would lead the skilled person to use diamond abrasive

particles. Diamond particles are hard and more aggressive than particles of other materials so the skilled person would only have considered them where significant wear can be tolerated, e.g. heavy duty cleaning. There is no indication in the prior art that the gloss would be improved by using more aggressive particles such as the "Black" pad of E1. As shown in E24 the gloss is lower using the "Black" pad. The skilled person would thus have been prejudiced against using diamond abrasive particles. The invention therefore provides a surprising result.

(vii) The subject-matter of claim 1 of the second auxiliary request involves an inventive step.

The pads disclosed in E5 and D12 are not for everyday use. The "Blue" and "Red" pads of E1 are for everyday use but do not have diamond abrasive particles.

(viii) Claim 1 of each of the third to sixth and eighth to tenth auxiliary requests is clear.

The expression "gloss value" is a well established term and this value is increased by carrying out the method.

(viii) The subject-matter of claim 1 of the seventh auxiliary request involves an inventive step.

The extra feature of the claim means that the treatment is totally free of any crystallisation agent. In the method according to D12 there is always a crystallisation agent present in the treatment.

VII. The arguments of the respondents may be summarised as follows:

(i) The amendments made to claim 1 of the main request during the grant proceedings add subject-matter.

Claim 1 as originally filed simply specified maintaining a hard surface. Claim 1 as granted specifies the hard surface as "comprising stone or stone-like material". The use of the word "comprising" means that there can be other material in addition to the stone or stone-like material. In particular the surface could be a hybrid surface of wood or laminate together with stone or stone-like materials. Such a hybrid surface was not originally disclosed. The application as originally filed only ever mentioned wood and laminate separately from stone or stone-like material. The fact that a method is suitable for use on one surface does not automatically mean that it is suitable for use on other surfaces. Consequently the skilled person would not understand the original disclosure of "stone or stone-like material" as including, for example, wood inlays.

(ii) The auxiliary requests filed with the letter of 11 October 2010 should not be admitted into the proceedings. Some of the requests raise new matters not previously dealt with in the proceedings. Also, they all contain an amendment which moves the definition of the pad from the characterising portion to the preamble of claim 1. This amendment is not occasioned by a ground of opposition and therefore is not admissible pursuant to Rule 80 EPC.

(iii) The amendments made to claim 1 of the first auxiliary request do not comply with Article 123(2) EPC.

There is no general disclosure in the application as originally filed of using a flexible pad comprising an open, lofty three dimensional non-woven web of fibres on a surface of stone or stone-like material.

(iv) The skilled person cannot carry out the teaching of claim 1 of any of the requests which make reference to "effective amount".

In particular the skilled person cannot understand the expression "effective amount". The definition of this expression in the description of the patent does not help because that definition refers to a "measurable gloss" which is equally unclear because there is no definition of this expression either. The skilled person has to be able to carry out the invention throughout the complete range of the claim. If the skilled person does not know the limits of the range then he cannot carry it out.

(v) The subject-matter of claim 1 of the first auxiliary request lacks novelty in view of each of D12 and E5.

In D12 the use of a crystallisation agent is not mandatory. This is shown in the patent itself which refers to the type of non-woven pad as being well known from amongst others D12 (see paragraph [0006]). The document discloses floor polishing (see page 4, lines 3-5) and, separately, crystallisation which only applies to marble floors.

The opposition division was wrong to consider that claim 1 was novel over E5 by virtue of the feature that the abrasive particles are "bonded to the pad, on a contact surface between the pad (1) and the hard surface". In E5 the abrasive particles are bonded to the discs which are in turn bonded to the non-woven synthetic fibre floor pad. The term "bonded" must be understood broadly.

(vi) The subject-matter of claim 1 of the first auxiliary request lacks an inventive step.

Taking E1 as the nearest prior art document the claim is distinguished by the abrasive particles being diamond abrasive particles. In D12, page 2, lines 23 to 32 shows that it is state of the art to use diamond particles in increasingly finer grades up to the final polishing step, to achieve a high gloss. The term "maintenance" as used in the claim is a very general term and covers the treatments disclosed in that part of D12, which are (final) polishing treatments. Also D2, see column 4, lines 21 to 24 and claims 4 and 5, discuss the use of the finer diamond grade to achieve a glossy finish.

(vii) The subject-matter of claim 1 of the second auxiliary request lacks an inventive step.

Also the method known from D12 can be used for daily use and that can include using diamond abrasive particles. Paragraph [0024] of the patent indicates that a method using diluted crystallisation agent can be used on a daily basis. There is no prejudice against

using diamond abrasive particles for everyday use. In any case no prejudice has been proven and this would have to be shown to be a general prejudice.

(viii) Claim 1 of each of the third to sixth and eighth to tenth auxiliary requests is not clear as required by Article 84 EPC.

The expression "a gloss value for the floor surface is increased" is not clear. First of all the use of the indefinite article "a" implies that there is more than one measure of gloss value. The particular measure is not indicated so that already for this reason the expression is not clear. In any case the term "gloss value" is not clear and the essential features to achieve an increase in the gloss value have not been stated in the claim which just gives a result.

(ix) The subject-matter of claim 1 of the seventh auxiliary request lacks an inventive step.

The deletion of the feature concerning the effective amount of crystallisation agent does not change anything since E1, which is the closest prior art document, does not mention a crystallisation agent at all.

Reasons for the Decision

Main request

1. *Added subject-matter (Article 100(c) EPC)*
 - 1.1 The opposition division decided that the amendment to claim 1 of the patent application during grant proceedings whereby the wording "comprising stone or stone-like material" was added to the claim extended the content of the claim so that the objection under Article 100(c) EPC succeeded.
 - 1.2 The claim in the application as originally filed specified a "method of maintaining a hard surface" which was amended during the grant proceedings to "method for maintaining a hard floor surface comprising stone or stone-like material". The opposition division considered that the presence of the term "comprising" meant that the surface could be a hybrid surface, e.g. including both wood and stone, and that there was no disclosure in the application as originally filed of a method of cleaning such surfaces.
 - 1.3 The appellant has agreed that the amended expression covers hybrid surfaces, e.g. wood inlays in the stone or stone-like surface, but considered that the paragraph bridging pages 9 and 10 of the application as originally filed provided a basis for the amendment.

That paragraph indicates that the tool may be used for "any hard surface, such as surfaces of wood, laminate, marble, granite, concrete, terrazzo etc." The paragraph further indicates that the tool is "particularly

effective for hard stone or stone-like surfaces, such as granite, concrete, terrazzo, etc." The tool includes a pad having a particular distribution of diamonds. Also on page 9 there is an indication (see lines 5 to 9) that the method "is particularly applicable where the surface is stone or stone-like" and that "Examples of such surfaces are concrete, terrazzo, granite etc."

- 1.4 The passages of the application as originally filed quoted by the appellant all refer to lists of particular surfaces. The first passage lists particular examples of a "hard surface". The second and third passages refer to "stone or stone-like" surfaces and then list examples of such surfaces. There is no indication that the surfaces could be mixed or "hybrid" surfaces, i.e. combinations of the surfaces listed as "stone or stone-like" and other surfaces listed as being a "hard surface". Claim 1 was amended to specify the hard floor surface "comprising" stone or stone-like material and thus extends its scope also to the above mentioned combinations with hard surfaces.

The appellant suggested that it was implicitly clear to the skilled person that the method could be used for stone or stone-like surfaces which also include wood inlays.

However, as pointed out by the respondents, this is not automatically the case since these surfaces have differing properties. There is in fact no indication in the application as originally filed that the method could be applied to hybrid surfaces.

1.5 The Board concludes that this amendment added subject-matter to the application.

Therefore, at least one amendment made during the examination proceedings extended the content of the application with the result that the ground under Article 100(c) EPC succeeds.

2. *Admissibility of the auxiliary requests*

2.1 With its grounds of appeal the appellant filed auxiliary requests 1, 1a-1c, 2, 2a-2c, 3, 3a-3c and 4 whereby each "a" request had the same extra wording compared to the corresponding unlettered request as did each "b" and each "c" request.

With its submission dated 11 October 2010, i.e. one month before the oral proceedings, the appellant filed a new set of auxiliary requests 1-10. With the exception of auxiliary request 5, which introduced a feature from claim 9 as granted, each of these requests was similar to one of the requests filed with the appeal grounds.

2.2 The respondents have both pointed out (see their submissions each dated 4 November 2010 respectively) that though they may be similar to the previous requests some of them contain new wording which in their opinion raises new questions. The respondents requested therefore that the requests should not be admitted into the proceedings.

2.3 It was argued by the respondents that the amendment in claim 1 of each of the auxiliary requests of moving the

definition of the pad as comprising an open, lofty three dimensional non-woven web from the characterising portion of the claim to the preamble was not in response to a ground of opposition, contrary to Rule 80 EPC.

The Board notes, however, that it was argued by the respondents in the opposition proceedings that the claim could be interpreted as defining two pads and not just one. This interpretation could have an effect on the discussion of novelty and/or inventive step since it would change the scope of the claim.

The amendment is intended to remove the possible interpretation of the claim as granted that the pad referred to in the preamble is not the same as the one referred to in the characterising portion. This interpretation would clearly affect the discussion of novelty and/or inventive step since the features of the claim would be different in this interpretation.

The Board concludes that the amendment complies with Rule 80 EPC. This would therefore not be a reason for not admitting the requests.

- 2.4 The Board considers that the auxiliary requests do not change essentially the matters to be discussed compared to the previous requests and that they are partly in response to the provisional opinion of the Board which accompanied the summons to oral proceedings. As pointed out by the appellant even where the exact wording is new it is similar to a previously used wording or is contained in a dependent claim so that no undue burden is placed upon the respondents.

2.5 The Board therefore decides to admit the requests into the proceedings.

First auxiliary request

3. *Added subject-matter (Article 123(2) EPC)*

3.1 Claim 1 of this request contains the amendment compared to claim 1 of the patent as granted according to which the feature that the pad comprises "an open, lofty, three-dimensional non-woven web of fibers" is moved from the characterising portion of the claim to the preamble. The Board considers that this amendment makes it clear that there is only one pad being defined in the claim and that it eliminates an interpretation of the claim that had been made by the respondents during the opposition proceedings that the claim specified two pads, one in the preamble and one in the characterising portion.

The Board considers that this allegedly possible interpretation would in fact have been a misinterpretation since the claim was clearly defining features of the pad some of which were considered to be known from the closest prior art document and hence specified in the preamble and some of which were not considered to be known from that document and hence specified in the characterising portion. The movement of the feature concerning the pad to the preamble does not alter the fact that only one pad was being specified but just eliminates a possible misinterpretation of the claim.

This amendment therefore does not add subject-matter.

- 3.2 There is also an amendment to claim 1 of this request compared to claim 1 of the main request whereby the wording "comprising stone or stone-like material" is changed to "of stone or stone-like material".

This amendment eliminates the possibility that the claim covers the maintenance of "hybrid" surfaces. This possibility was the reason why the main request was refused. The wording of claim 1 of this request is directly based on the disclosure of the description of the application as originally filed (see page 9, line 32 to page 10, line 2).

The respondents argued that this amendment brought together the combination of the general definition of the pad with the specific application to stone or stone-like material. However, as pointed out by the appellant the pad in the application as originally filed was specified as one which was flexible and comprising "an open, lofty, three-dimensional non-woven web of fibers" (see page 12, lines 10 to 12 and 28 to 32), so that the application as filed includes applying this pad to the stone or stone-like material.

Also, this amendment therefore does not add subject-matter.

- 3.3 The amendments to the claim therefore comply with Article 123(2) EPC.

4. *Insufficiency (Article 100(b) EPC)*

4.1 The respondents argued that the feature of claim 1 that the treatment "is performed in the absence of an effective amount of crystallization agent" could not be carried out by the skilled person since he would not know what an "effective amount" is. The respondents argued that the skilled person should be able to carry out the invention throughout the whole range without undue burden.

4.2 The patent specification in paragraph [0024] contains an explanation of the meaning of "effective amount". The respondents, however, have argued that this explanation is insufficient for the skilled person since it refers to a "measurable gloss" which they considered to be unclear.

4.3 The Board notes that in the present case the feature which the respondents argue is insufficiently disclosed is a negative feature, i.e. the effective absence of crystallization agent. As pointed out by the appellant in order to perform the method of claim 1 the skilled person only needs therefore to avoid using such an agent. In order to do this the skilled person has no need to know the precise limit of an "effective amount". There is therefore no need for the skilled person to carry out any testing so that there can be no undue burden.

The argument raised by the respondents of whether it would be clear if a particular treatment falls within the scope of the claim is not relevant since that is a

matter of the clarity of the claim and lack of clarity is not a ground of opposition.

As indicated in paragraph [0024] and pointed out by the appellant the amount will depend upon the agent being used so that it is not possible to give a single numerical value of the maximum amount which is still not effective.

Since the skilled person can carry out the invention by not using a crystallization agent there is no need to consider whether or not the skilled person can understand the expression "measurable gloss".

4.4 The Board concludes therefore that the method specified in claim 1 of the first auxiliary request, and in other auxiliary requests in so far as the ground was raised against the above wording, can be carried out by the person skilled in the art so that the ground under Article 100(b) EPC does not succeed.

5. *Novelty*

5.1 The respondents allege lack of novelty of the subject-matter of claim 1 over the disclosure of each of D12 and E5.

5.2 The appellant argues that the subject-matter of claim 1 is novel over the disclosure of D12 because the novel and inventive method disclosed therein is not one of maintaining a surface and the method requires the presence of a crystallization agent rather than its absence as required by the claim.

It is not necessary to consider whether the treatment disclosed as the invention in D12 comes within the scope of the term "maintaining" since the method disclosed therein as the invention explicitly requires the presence of a crystallization agent in an effective amount which is specifically outside of the scope of claim 1 of the patent.

The respondents referred to page 4, lines 3 to 5, arguing that the document discloses a polishing method and then a separate crystallization step. The Board cannot agree with that argument. On page 4, lines 3 to 5 only the article is being described, not the method. This is clear in lines 14 to 30 of the same page where first a system of article and crystallization agent is described and then a method which uses this combination, i.e. it specifically includes treatment with a crystallization agent.

- 5.3 E5 concerns diamond pads for maintenance of marble floors. In particular the "White" pad, which has a mineral grade of 20 μ (see "Product Specifications") could be considered as being used for maintenance since it is used before a crystallization process (see "3M Drive Pad Description and intended use"). It is intended that four pads of the same colour and grade be used with a "3M Driver Pad" (see "Direction for use"). Although it is described as a "Diamond Abrasive and Drive Pad" the diamond abrasive, however, is not disclosed as being bonded to a pad comprising "an open, lofty, three dimensional non-woven web of fibers" as required by the claim.

The respondents argue that diamond particles are bonded to a disc which in turn is attached to a floor pad, making the particles "bonded to the pad".

However, there is no indication that the attachment of the discs is a bonding type of attachment. Indeed the situation is the opposite since the discs must be removed and washed to make them ready for re-use (see "Direction for use"). Such a removable connection cannot be considered to be a "bonded" connection which by its nature is intended to be permanent unless broken in an essentially irreparable manner.

5.4 The subject-matter of claim 1 is therefore novel in the sense of Article 54 EPC.

6. *Inventive step*

6.1 The appellant argues that the closest prior art is the "Red" or "Blue" pad disclosed in E1. The Board agrees with this assessment.

6.2 The appellant further argues that the method specified in claim 1 is distinguished over the disclosure of this document by the feature that the abrasive particles comprise diamond particles. The Board agrees with this assessment also. In the description of the "Red" pad of E1 the particles are described as "Polishing particles" (see left hand column, first paragraph) and in the description of the "Blue" pad of E1 the particles are described as "Cleaning particles" (see left hand column, first paragraph). The material of the particles is not specified.

6.3 The appellant considers that this feature solves the problem of providing a cost efficient and environmentally friendly cleaning method that provides simultaneous cleaning and surface gloss improvement or maintenance.

The Board cannot agree with this problem in its entirety. There is no evidence for cost efficiency or environmental friendliness. The Board also cannot agree that the problem to be solved is to provide simultaneous cleaning and improved gloss. As will be explained below the Board does not consider that an improvement in surface gloss has been demonstrated, or that any improvement is unexpected.

Also, the claim contains no indication of the sizes of the diamond particles so that within its scope is the possibility of particles being used whose size will mean that they will not improve the gloss but rather destroy it.

The problem to be solved is therefore to provide an alternative abrasive particle for the open, lofty, three dimensional non-woven web pads, used for floor maintenance.

6.4 D12 is directed to a method of floor treatment as its invention. On page 2, lines 29 to 33, there is an explanation of how a newly installed marble floor is treated according to the state of the art at the time of the filing date of D12. First of all the surface is honed with coarse abrasives to remove lippage and to produce a smooth level surface. After this treatment there is a "mechanical polishing with increasingly

finer grades of diamond abrasives" which yields "a very high gloss". The Board understands from this statement that it was known to use diamond as a polishing abrasive and that it was used in any case in the last step before the surface was considered to be polished with a high gloss, i.e. the diamond abrasive polishing produced the high gloss. This means that diamond was known to be used in a treatment step which did not require aggressive particles but rather polishing particles. As indicated in the cited passage it is the grade of the diamond particle, i.e. "increasingly finer grades of diamond", which determines how the particles perform rather than just the material from which they are made.

- 6.5 The appellant argues that there is a prejudice against using diamond particles because they are considered to be aggressive abrasive particles which would only be used if extremely heavy duty cleaning was required. In this respect the appellant referred to the hardness of diamond as a material and stated that diamond particles would hence produce scratching of the surface.

The Board cannot agree with this view. First of all the appellant has produced no evidence which supports its argument of the existence of a prejudice. The Board considers on the contrary that the above cited passage of D12 indicates also to use diamond particles to perform polishing that results in a very high gloss. A very high gloss would not include a scratched surface. As indicated in that passage it is the grade of the diamond particles that is important. The same information can be found in D2, column 6, lines 21 to

24, referring to the cleaning pads with finer diamond particles (see claims 4 and 5) for polishing purposes.

Also, there is no reason why the fact that diamond is hard would produce a prejudice when it is known that fine diamond particles are used for polishing. As the respondents pointed out hardness cannot be equated to aggressiveness. Indeed, the fact that diamond is hard means that it does not wear out quickly and this is well known. The hardness of diamond is thus an incitement to use it to improve the life cycle of a pad.

6.6 The appellant referred to the results obtained in comparison tests to prior art pads as set out in E24. These tests compare the gloss improvement for pads according to the invention called "Green Twister" with prior art pads made by 3M (respondent I). However, in response to a question from the Board at the oral proceedings the appellant responded that the properties of the prior art pads, including the materials for the abrasive particles, were not known. The Board considers that if the properties of the comparative examples are not known then no meaningful conclusions can be drawn from the results. The Board also notes that even for the pads according to the invention no indication of their actual properties is given in the document and that there was only one example, which logically cannot provide proof of an effect across the full width of the claim.

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

Second auxiliary request

7. *Inventive step*

7.1 The amendment to claim 1 indicates that it is for "everyday maintenance of a polished hard floor surface". It is not necessary to consider whether or not the amendment complies with Article 123(2) EPC for reasons that will become apparent below.

7.2 The Board notes that the "Red" floor pad referred to in E1 is stated therein to be for "routine spray cleaning" (see left-hand column last paragraph) and the "Blue" floor pad is stated to be for "regular maintenance" (see left-hand column last paragraph). The Board understands each of these uses to mean that they are suitable for everyday maintenance. Also in D12, as explained above with respect to claim 1 of the first auxiliary request (see point 6.4 above), the last step of the preparation of the polished marble floor is polishing with a fine diamond abrasive. Since the floor is then ready for use this last step must have been one which could also be used on its own in regular polishing.

The Board concludes therefore that the arguments which lead to the conclusion that the method of claim 1 of the first auxiliary request lacks an inventive step also apply to claim 1 of the present request.

7.3 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 to sixth and eight to tenth auxiliary requests

8. *Clarity (Article 84)*

8.1 Claim 1 of each of these requests includes as an amendment the feature that "and a gloss value of the support surface is increased".

Such a feature could be considered to be either a result of the foregoing features or to be an independent feature.

The feature cannot simply be considered to be a result of the foregoing features since in that case it would be preceded by the wording "so that" or "such that". This is not case here as it is preceded by the word "and" which implies that it is an independent feature.

The feature states that a gloss value is increased. The question, raised by the respondents, of whether a reference to "a" gloss value is unclear as it could imply that there may be more than one such value may be left aside for reasons which will become evident below.

The feature states a result - "gloss value ... is increased" without indicating any means for achieving this result. Such a statement of result is not a clear definition of a technical feature since it merely indicates a wish without indicating any means for making the wish come true. A claim containing such a feature is therefore not clear.

8.2 Therefore, claim 1 of each of these requests is not clear contrary to the requirements of Article 84 EPC.

Seventh auxiliary request

9. *Inventive step*

9.1 Compared to claim 1 of the first auxiliary request claim 1 of this request omits the reference to "an effective amount" with respect to the crystallisation agent. According to the appellant this means that there is absolutely no crystallisation agent present.

In the view of the Board for the purposes of assessing inventive step there is no difference as to whether there is no effective amount of crystallisation agent, as specified in claim 1 of the first auxiliary request, or simply no crystallisation agent, as specified in claim 1 of the present request, since by definition there is no functional difference. Also in respect of the closest prior art method of E1 this amendment does not make a difference, as the methods using the "Red" or "Blue" pads do not use any crystallization agent. Therefore the arguments with respect to inventive step which applied to the first auxiliary request apply also to this request.

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

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders