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**Datasheet for the decision  
of 21 April 2010**

**Case Number:** T 0604/08 - 3.2.03  
**Application Number:** 00987870.3  
**Publication Number:** 1242702  
**IPC:** E04F 15/04, B44C 5/04  
**Language of the proceedings:** EN

**Title of invention:**

A process for the manufacturing of surface elements

**Patentee:**

Pergo (Europe) AB

**Opponent:**

Bauer, Jörg R.  
Kronotex GmbH & Co. KG

**Headword:**

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**Relevant legal provisions:**

EPC Art. 123, 56

**Relevant legal provisions (EPC 1973):**

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**Keyword:**

"Amendments - broadening scope of claim (no)"  
"Inventive step - selection of closest prior art - non-obvious  
combination of known features - exclusion of hindsight"

**Decisions cited:**

G 0004/95

**Catchword:**

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Case Number: T 0604/08 - 3.2.03

**D E C I S I O N**  
**of the Technical Board of Appeal 3.2.03**  
**of 21 April 2010**

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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
4 March 2008 concerning maintenance of European  
patent No. 1242702 in amended form.**

**Composition of the Board:**

**Chairman:** U. Krause  
**Members:** G. Ashley  
I. Beckedorf

## Summary of Facts and Submissions

I. European patent EP-B1-1 242 702 was granted to Pergo (Europe) AB and relates to a process for manufacturing floor elements which have a decorative upper surface. Grant of the patent was opposed by Jörg R. Bauer (Opponent I) and Kronotex GmbH & Co KG (Opponent II). The cited grounds of opposition were lack of inventive step (Article 100(a) EPC) and insufficient disclosure of the invention (Article 100(b) EPC). The Opposition Division decided that the patent could be maintained on the basis of the set of claims filed during the oral proceedings as the fourth auxiliary request.

II. The above decision, posted on 4 March 2008, was appealed by all parties as follows:

Opponent I (Appellant OI) filed notice of appeal on 18 April 2008, paying the appeal fee on the same day. A statement containing the grounds of appeal was filed on 11 June 2008.

Opponent II (Appellant OII) filed notice of appeal on 22 March 2008, paying the appeal fee on the same day. A statement containing the grounds of appeal was filed on 11 July 2008.

The Patent Proprietor (Appellant III) filed notice of appeal on 13 May 2008, paying the appeal fee on the same day. A statement containing the grounds of appeal was filed on 14 July 2008.

III. In accordance with Article 15(1) of the Rules of Procedure of the Boards of Appeal, the Board issued a

preliminary opinion on the subject of inventive step, together with a summons to attend oral proceedings. The ground of opposition under Article 100(b) EPC was not taken up by the parties in the appeal proceedings.

In response to the provisional opinion, Appellant III filed new claims (see letter of 22 February 2010); Appellant OII submitted a further prior art document (US-A-5 763 048, see letter of 9 March 2010) and requested that Dr Kalwa be allowed to speak at the oral proceedings (see letter of 8 April 2010).

The oral proceedings were held on 21 April 2010.

#### IV. Requests

- (a) Appellants OI and OII requested that the decision under appeal be set aside and the patent be revoked. They requested further that the appeal of Appellant III be dismissed.
- (b) Appellant III 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 the main request during the oral proceedings. It further requested that the appeals of Appellants OI and OII be dismissed.

#### V. Claims

Claim 1 reads as follows:

"1. A process for manufacturing of floor elements (1) which are intended to be joined to become a floor

covering material and which each comprise a supporting core (5) and a decorative upper layer (2), wherein

- i) a supporting core (5) with the desired format is manufactured, having an upper surface (1') and a lower surface (4),
- ii) a décor (2') is directly printed onto the upper surface (1') of said supporting core (5), which décor (2') is orientated towards a predetermined fixed point on the supporting core (5), and
- iii) the upper surface (1') of said supporting core (5) is provided with a protecting wear layer (2'') which is at least partly translucent, is constituted of a UV curing or electron beam curing resin or lacquer or is constituted by one or more sheets of  $\alpha$ -cellulose impregnated with a thermosetting resin or lacquer, and comprises hard particles with an average particle size in the range of 50 nm - 150  $\mu$ m,

wherein

the décor (2') to be printed onto the upper surface (1') of the supporting core (5) is obtained by digitising an actual archetype, or is at least partly created in a digital medium, which digitised décor (2') is stored digitally in order to be used as a control function and original, together with control and/or support programs, when printing the décor (2') onto the upper surface of said supporting core (5)

and at least one surface structured matrix which forms at least one surface structure segment is positioned on the decorative side of the surface element (1) during the step in the process where the wear layer (2") is applied on the surface element (1) and is pressed towards this whereby the wear layer (2") receives a surface that enhances the realistic impression of the décor (2')."

Dependent claims 2 to 24 concern preferred embodiments of the process defined in claim 1.

VI. State of the Art

The following documents cited during the opposition proceedings are relevant for this decision:

D2: EP-A2-0 761 438

D6: WO-A1-97/31776

As mentioned above, a further document (D9: US-A-5 763 048) was submitted by Appellant OII together with the letter dated 9 March 2010.

VII. Submissions of the Parties

The submissions of the parties are summarised as follows.

(a) Late-filed Requests

(i)

The present set of claims is based upon a set filed by Appellant III with the letter of 22 February 2010 as

the second auxiliary request. Appellant III argued that these claims were filed in response to the provisional opinion issued by the Board with the summons to oral proceedings, and in particular it addressed the comments concerning inventive step with regard to the combination of documents D2 and D6. Appellant OI argued that the provisional opinion highlighted the issue of which document could be taken as the closest prior art; as the new claims submitted by Appellant III did not relate to this issue and were filed late, they should not be admitted into the proceedings.

(ii)

In its letter of 8 April 2010 Appellant OII requested that Dr N. Kalwa, an expert on the manufacture of wood-based panels, be heard on the subject of combining D2 with D6 from the point of view of the skilled person. Appellant III submitted that the request to hear Dr Kalwa could have been made earlier in the proceedings and, given that there was little he could add to the arguments that had already been presented, the request should not be allowed.

(iii)

Appellant OII submitted document D9 with its letter of 9 March 2010 in order to show that it was well known in the art to provide a decorated surface with protective layer containing hard particles of the claimed size.

(b) Article 123 EPC

Concerning the present claim 1, Appellant OII argued that the use of UV curing or electron beam curing resin or lacquer, as defined in original and granted claims 8,

was disclosed only in combination with the particular techniques of applying the resin or lacquer as defined in original claim 1 and claim 2. Since claim 1 is not restricted to these application techniques, the scope of the claim has been extended contrary to Article 123(3) EPC.

Appellant III argued that, although granted claim 2 defines methods of applying the wear layer, this does not detract from the disclosure of the material from which the wear layer is made. The introduction of this feature into claim 1 reduces the scope of protection and hence does not lead to an infringement of Article 123 EPC.

(c) Inventive Step (Article 56 EPC)

(i)

Appellant III argued that claim 1 is clearly directed to the manufacturing of flooring and, as D6 is concerned with the same subject-matter, it must be the closest prior art.

The claimed process differs from that of D6, in that an original décor is digitalised and used to control printing directly onto the supporting core. This addresses the problem of mismatched floor elements resulting from distortion of the décor sheet, as occurs in the process of D6; in addition, the claimed process can be adapted more easily to different décors compared with D6.

The skilled person has no reason to consult D2, as this document relates to the printing of objects of



different heights and shapes; there is no mention of the problems addressed by the process of claim 1. Any assertion that D2 provides the solution to the posed problems can only be made with knowledge of the invention.

(ii)

Appellants OI and OII argued that there is a lack of inventive step starting from D2. This document discloses a large range of objects, indicating that the process of D2 is applicable to any object that can be printed. Specifically, wooden boards, panels and floor beadings are listed, which is a further indication that floor elements would also be considered. D2 can therefore be taken as the closest prior art.

According to the process of D2, a décor is digitised, stored in a computer and then printed directly on the surface of the object. The process of claim 1 differs in that the upper surface is provided with a wear layer, into which is pressed a surface structure.

Starting from D2, the objective problem to be solved is to provide protection for the décor and to match the protection to the décor.

The skilled person is aware from his general knowledge that a décor printed on the surface of an object requires protecting. D6 discloses a technique for protecting décor and specifically refers to floor beadings and wall panels, which are also mentioned in D2. The skilled person is thus motivated to seek the solution in D6. Since D6 teaches the application of a wear layer of the type that is defined in claim 1, and

which is provided with a surface structure to enhance the appearance of the décor, the subject-matter of claim 1 lacks an inventive step.

(iii)

Appellants OI and OII also submitted that the claimed process lacks an inventive step in light of documents D6 and D2.

D6 discloses a process for manufacturing floor elements comprising a support onto which a decorative sheet is placed; this décor layer is protected by a wear resistant layer having a surface structure that enhances the décor. The process of claim 1 differs in that the décor is stored digitally and printed directly onto the floor elements.

Starting from D6, there are two objective problems to be solved, namely to provide an alternative method of manufacturing printed products which avoids the drawback of format changes of the décor paper, and secondly, to provide the option of a more flexible design of the décor to allow for customer driven manufacturing.

The solutions to both of these problems are to be found in D2, which discloses a method for directly printing a digitalised décor onto objects of different thicknesses. D6 and D2 belong to the same technical field as the disputed patent. This is emphasised by the fact that both documents, and indeed the disputed patent, mention *inter alia* work tops, wall panels and floor beading as suitable objects. Consequently, the skilled person is

in a position to consult both documents and derive the claimed solution to the objective problem.

## **Reasons for the Decision**

1. The appeals are admissible.
2. *Late-Filed Requests*
  - 2.1 The set of claims filed by Appellant III as the second auxiliary request with the letter of 22 February 2010, and which forms the basis of the present sole request before the Board, was filed in response to the provisional opinion given by the Board. In particular, the amended claims are an attempt to address the comments made concerning inventive step in light of the combination of D2 and D6. The amended features are such that they can be considered by the Board and the parties without any delay to the proceedings. The Board therefore admits the claims into the proceedings.
  - 2.2 Appellant OII requested in its letter of 8 April 2010 that Dr N. Kalwa be heard on the subject of combining D2 with D6 from the point of view of the skilled person. The Board emphasised that Dr Kalwa was not present as a witness giving independent expert evidence, but rather was an accompanying person presenting an opinion of Appellant OII, and who was acting under the guidance of the appointed professional representative. Taking account of the criteria set out in G 4/95, the Board exercised its discretion to allow Dr Kalwa to make a submission during the oral proceedings.

2.3 Regarding document D9, filed on 9 March 2010, Appellant OII submitted that it provided further evidence that the claimed wear layer was well known in the art. In the view of the Board, D9 adds nothing beyond the disclosure of D6. Given that D9 is not *prima facie* highly relevant, it is not admitted into the proceedings.

3. *Article 123 EPC*

Compared with granted claim 1, the present claim defines the wear layer as being constituted of, amongst other things, one or more sheets of  $\alpha$ -cellulose impregnated with thermosetting resin and lacquer. This feature is present in claim 1 of the application as originally filed (WO-A-01/48333) and in dependent claim 2 of the granted patent, which reads as follows:

"2. A process according to claim 1, wherein said wear layer (2") is applied to the upper surface (1') of said supporting core (5) by spray coating, roller coating, curtain coating or immersion coating or by providing the upper surface (1') of said supporting core (5) with at least one sheet of  $\alpha$ -cellulose which is impregnated with a thermosetting resin or lacquer."

Whilst it is true that several techniques for applying a wear layer are mentioned in claim 2, these are clearly disclosed as examples, making it clear that it does not matter which technique is used. Defining one of these techniques (using an impregnated sheet of  $\alpha$ -cellulose) in claim 1 reduces the scope of the granted claim and does not lead to an infringement of Article 123(3) EPC, as was argued by Appellant OII.

Since the feature was present in the application as originally filed, there is also no objection under Article 123(2) EPC.

4. *Inventive Step (Article 56 EPC)*

4.1 The disputed patent relates to the manufacture of floor elements having a decorative upper surface. According to the introduction to the patent, such elements are usually made by printing the décor onto paper which is then laminated together with a supporting layer and a protective upper layer. A problem existing with this technique is that the décor paper can distort during production of the laminate, which means that it is difficult to achieve a match between elements when laying a floor (see paragraph [0005] of the patent). This is the underlying problem that the invention in question sets out to address.

4.2 In accordance with the problem - solution approach for assessing inventive step, a piece of prior art must be identified, which the skilled person would take as the starting point for further development. In the present case the Opposition Division considered that D2 formed the closest prior art; Appellants OI and OII have analysed inventive step starting from either D2 or D6. Whereas it is perfectly reasonable to consider inventive step from different documents in the alternative, each document must form a reasonable starting point; thus it is necessary to assess whether both of the documents D2 and D6 could be considered as such.

4.3 D6 discloses a process for manufacturing laminates for floors. The laminates comprise a support layer, a décor sheet and protective surface layer that is provided with a structure to make the décor more realistic (see page 1, paragraphs 1 to 3). D6 represents the prior art mentioned in introduction to the patent from which the disputed invention was made, and is therefore clearly an appropriate starting point.

4.4 D2 discloses an apparatus for printing a décor directly onto the surface of objects. The invention of D2 enables printing to be carried out, not just on flat products, but also on objects of different heights and shapes (see column 1, lines 18 to 20, 32 to 34, and 52 to 59). A list of suitable objects for the process of D2 is given in column 3 (lines 1 to 10), which include t-shirts, wooden puzzles, wooden figures and packaging. Although wooden boards and panels are also mentioned, there is no specific reference to floor elements that are intended to be joined to form a floor covering material, as is defined in claim 1, and there is no mention of providing the objects with a wear layer having surface structure.

4.5 It is well established case law of the boards of appeal that a suitable starting point must not only have the most relevant technical features in common, but must also have the same purpose or relate to the same technical problem as the disputed patent (see Case Law of the Boards of Appeal, sections I.D. 3.1 to 3.5). Claim 1 of the disputed patent is specifically directed to the manufacture of floor elements, and addresses the problem of providing them with a décor that can be matched to give a coherent floor pattern. D2 neither

discloses floor elements nor discusses the problem of matching the décor of printed objects. In light of D6, which specifically discloses a process for applying décor to floor elements, document D2 cannot provide a suitable starting point for assessing inventive step of claim 1.

4.6 Claims 1 of all the requests before the Opposition Division were more broadly drafted than the present claim 1; they concerned the manufacture of surface elements in general, not just floor elements. Consequently, the Opposition Division considered D2 as being the closest prior art. The Board agrees with this approach taken by the Opposition Division, but in the present case, the claim under consideration is limited to flooring and to the specific problems relating to flooring, as set out above.

4.7 The claimed process differs from that disclosed in D6 in two aspects.

Firstly, the décor is printed directly onto the upper surface of the supporting core, rather than firstly onto a décor sheet that is then positioned onto the core.

Secondly, the décor itself is obtained by digitising an archetype, which is then used as an original and as a control function for printing.

4.8 Starting from D6, the objective problem to be solved is the same as the problem outlined in the introduction to the contested patent, namely to provide a more accurate surface décor that enables better matching of floor

elements, and to create a more flexible process that can easily adapt to changes in décor in response to customer requirements.

- 4.9 Appellants OI and OII argue that the solution is to be found in D2. However, as set out above, this document is concerned with something different from the contested patent, namely the printing of objects of different sizes. There is no mention in the context of floor elements, or indeed of any other object, of the disadvantages of printing a décor onto a sheet or of the difficulty in producing a décor that matches. Thus, there is no motivation for a skilled person of average ability, who is faced with the objective problem, to seek its solution in D2.

The Board agrees with Appellants OI and OII that, having read D2, the solution appears to be obvious; but this is an assessment of inventive step made with the benefit of hindsight. When looked at objectively, with no prior knowledge of the invention, the process of claim 1 and its dependent claims has an inventive step.



**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 with the following claims and description and sole figure to be adapted:

Claims 1 to 24 filed as the main request during the oral proceedings.

The Registrar:

The Chairman:

A. Counillon

U. Krause