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**Datasheet for the decision
of 3 June 2016**

Case Number: T 1479/13 - 3.2.03

Application Number: 05812737.4

Publication Number: 1799935

IPC: E04F15/02, C09J7/02, B65H37/00,
A47G27/04

Language of the proceedings: EN

Title of invention:
SYSTEM AND METHOD FOR FLOOR COVERING INSTALLATION

Applicant:
INTERFACE, INC.

Headword:

Relevant legal provisions:
RPBA Art. 13(1), 13(3), 12(4)
EPC R. 137(3)
EPC Art. 84, 54, 56, 123(2)

Keyword:

Late-filed request - admitted (yes)
Amendments - added subject-matter (no)
Claims - clarity (yes)
Novelty - (yes)
Inventive step - (yes)

Decisions cited:

T 0246/08, T 0996/12

Catchword:



Beschwerdekammern
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Case Number: T 1479/13 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 3 June 2016

Appellant: INTERFACE, INC.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 20 February
2013 refusing European patent application No.
05812737.4 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman G. Ashley
Members: V. Bouyssy
E. Kossonakou

Summary of Facts and Submissions

- I. European patent application No. 05 812 737.4 (in the following: "the application") relates to carpet tiles that are interconnected to form a floating floor covering.
- II. The examining division decided that the applicant's main and auxiliary requests 1 to 3 before it contravened Articles 123(2) and 84 EPC and that the applicant's auxiliary request 4 lacked novelty. The examining division thus refused the application.
- III. This decision was appealed by the applicant (in the following "the appellant").
- IV. With the summons to oral proceedings, the Board sent a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA) indicating its preliminary opinion of the case.
- V. Oral proceedings before the Board were held on 3 June 2016. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the set of claims filed as amended auxiliary request in the oral proceedings before the Board.
- VI. Claims

Independent claim 1 of the appellant's sole request reads as follows (compared with claim 1 as originally filed, added features are indicated in bold, deleted features in strike-through):

"1. ~~A system for installing floor covering comprising~~ modular carpet tiles ~~(41-44, 61-64)~~, each having an underside, ~~on a floor surface without attaching the tiles being attached~~ to the floor surface, ~~the tiles being connected together by modular carpet tile connectors (20), the system comprising connectors each comprising;~~

- a) a film;
- b) a layer of ~~releasable~~ adhesive ~~(24)~~ located on a side of the film, ~~wherein the layer of adhesive is capable of forming a bond with the undersides of the tiles so that, when a connector spans adjacent edges of adjacent tiles so that the layer of adhesive contacts the underside of each of the adjacent tiles, the layer of adhesive prevents relative movement between the adjacent tiles while extending along only a portion of the adjacent edges;~~

wherein:

- i) ~~said connectors extend along only a portion of adjacent tile edges;~~
- ii) ~~said connectors are capable, in use, of forming a bond when contacting the undersides of adjacent tiles, the adhesive having sufficient shear strength so as to prevent relative movement between the adjacent installed tiles, and~~
- iii) ~~said film (22) is made of a material that is capable of being stretched 120-200% of its machine direction dimension and 150-170% of its cross-machine direction dimension before breaking and has a tensile strength between 160 and 270 MPa in the machine direction and between 165 and 210 MPa in the cross-machine direction."~~

Independent claim 15 defines a method for installing a floor covering as defined claim 1.

Dependent claims 2 to 14 and 16 to 21 define preferred embodiments of the floor covering of claim 1 and the installation method of claim 15.

VII. Cited evidence

The following prior art documents were cited in the search report:

D1: WO 2004 016848 A2
D2: US 5,217,552
D3: JP S 09-209546 A
D4: JP H 55-086714 A
D5: DE 26 49 644 A1
D6: US 2003/0071051 A1
D7: DE 201 11 113 U1
D8: US 5,401,547
D9: EP 0 017 986 A1
D10: EP 0 942 111 A1

Of these, D1 is cited in the decision under appeal.

VIII. The arguments of the appellant, insofar as relevant for the present decision, can be summarised as follows:

(a) Article 123(2) EPC

Claim 1 has been amended to overcome the objections under Article 123(2) EPC in the decision under appeal.

Claim 1 is now directed to a floor covering in the installed condition. Support for the wording of feature (i) of claim 1 can be found on page 5, lines 16 to 18 of the application as originally filed. The wording of feature (ii) is in conformity with the wording on page

14, lines 2 to 4. Feature (iii) is supported by the teaching on page 10, line 25 to page 11, line 6.

Corresponding amendments have been made to independent method claim 15.

(b) Article 84 EPC

Claim 1 has been amended to overcome the objections under Article 84 EPC in the decision under appeal.

It is now clear from its wording that the claimed subject-matter is a floor covering, whereby the modular tiles are part of the covering. With respect to feature (i), it is now apparent that it refers to a portion of the length of each individual tile edge.

Feature (ii) is a functional feature defining the shear strength of the adhesive by reference to a result to be achieved, namely "to prevent relative movement between the adjacent installed tiles". Contrary to the examining division's view, this feature does not jeopardise the clarity of claim 1 because the shear strength of the adhesive cannot be defined more precisely without unduly restricting the scope of the claim and feature (ii) provides instructions which are sufficiently clear for a skilled person to reduce them to practice without undue burden, if necessary with the routine peel test specified in the description (page 12, line 13 as amended).

Feature (iii) defines the elongation and the tensile strength of the film in clear and standard terms.

(c) Novelty and inventive step

D1 teaches assembling a floor covering without the need to attach the floor covering to the underlying floor surface, so that the modular floor covering "floats" on the underlying floor surface, by linking modular units using vinyl one-sided adhesive tape to secure the modules to each other (page 5, 2nd paragraph). For example, one-sided tape approximately the size and thickness of a standard business card is used to link modular units. The modular units of D1 may typically be conventional carpet tiles.

Claim 1 is novel over D1 because D1 fails to disclose that the film has the elongation and the high tensile strength required in feature (iii). A conventional vinyl tape, as disclosed in D1, exhibits a much lower tensile strength and can easily be torn in suitable dimensions by hand.

The technical problem objectively solved by distinguishing feature (iii) can be formulated as, how to improve the prevention of gaps forming between adjacent tiles.

The claimed solution to this problem is not obvious for the skilled person, i.e. a carpet installer. In D1, the vinyl tape is highly conformable to the tile backings in order to ensure a good bond between tape and tiles. Thus, starting from D1, a skilled person is not motivated to look for another material for the tape film. Instead, he would be more inclined to connect adjacent tiles by means of several pieces of vinyl tape having the size of a standard business card, or alternatively by using longer vinyl tapes running along the entire length of the adjacent tile edges.

Alternatively, as taught in D1 (page 5, 2nd paragraph), he would consider interlinking adjacent tiles with hook and loop type fasteners, magnets or magnetized material, adhesives, or other chemical bonding, such as epoxy. This, however, is not the claimed solution.

Reasons for the Decision

1. Consideration of the applicant's request
 - 1.1 The appellant's current request was filed for the first time during the oral proceedings before the Board, although the current request could arguably have been filed before the examining division, were it not for the examining division's decision not to admit any further requests into the proceedings.
 - 1.2 Nevertheless, for the following reasons, the Board decides to admit the appellant's request into the proceedings and to consider it, in accordance with Rule 137(3) EPC (which is applicable by virtue of Rule 100(1) EPC), Article 12(4) RPBA and Articles 13(1) and (3) RPBA.
 - 1.3 The examining division exercised its discretion under Rule 137(3) EPC and decided not to admit any further requests from the appellant because eight amended sets of claims had already been examined in the course of the written examination proceedings (see decision under appeal, point 2.7 of the reasons; points 39 to 42 of the minutes).
 - 1.4 However, in doing so, the examining division did not exercise its discretion under Rule 137(3) EPC according to the correct criteria.

It is established case law of the boards of appeal that the refusal of consent to amend made in advance of any amendment being submitted by an applicant is *ipso facto* a substantial procedural violation, since it potentially prevents the applicant from making an amendment which could not reasonably have been forbidden (see Case Law of the Boards of Appeal of the EPO, 7th edition, 2013, IV.B.2.5.4, in particular T 246/08, point 3.3 of the reasons).

Indeed an examining division should first investigate whether the proposed amendments are *prima facie* allowable or not, i.e. whether they overcome the existing objections without raising new ones (see Guidelines for Examination in the EPO, November 2015, H-II, 2.3; see also T 996/12, point 6.2 of the reasons). This applies even when an applicant, as the current appellant, has already had a fair number of opportunities to file amendments in the course of the written proceedings.

- 1.5 The set of claims of the new request differs from that of the first auxiliary request filed with the statement of grounds of appeal dated 21 June 2013 in that method claim 22 has been deleted and independent claim 1 corresponds to the combination of claims 1 and 2, whereby it no longer comprises the feature that the film is "made of a material having a stiffness so that if formed into a 7.62 cm by 7.62 cm (3 inch by 3 inch) square connector having a thickness between 0.00127 cm (0.0005 inches) and 0.0381 cm (0.015 inches), with half of the surface area of the connector positioned in contact with the underside of the carpet tile, said modular carpet tile connector will project beyond the edge of the tile in roughly the same plane as the underside of the tile without significantly curling or

drooping down from the underside of the tile so as to facilitate positioning of the projecting portion of the connector so as to make appropriate contact with an adjacent tile".

- 1.6 These amendments are in response to objections under Articles 82 and 84 EPC which were raised for the first time in the Board's communication pursuant to Article 15(1) RPBA. They clearly overcome all outstanding objections and they do not result in an entirely fresh case. As with previous requests, the new request aims to distinguish the invention from D1 by defining specific physical properties of the connectors' film. In the new request these physical properties are the elongation and tensile strength of the film (feature (iii)), instead of its flexural stiffness or strength present in all requests previously filed in the appeal proceedings.
- 1.7 It is thus apparent that the appellant's current request is a *bona fide* attempt to overcome all the objections discussed before both the examining division and the Board without introducing any new issues and it is clearly allowable.
2. Article 123(2) EPC
 - 2.1 Claim 1 differs from claim 1 as originally filed in that
 - (a) it is directed to a "floor covering comprising modular carpet tiles ... connected together by modular carpet tile connectors", instead of a "system for installing modular tiles ... comprising connectors";
 - (b) it lacks the feature that the connectors' adhesive is "releasable";

- (c) it requires that the connectors "extend along only a portion of adjacent tile edges" (feature (i)), instead of the feature of "the layer of adhesive ... extending along only a portion of the adjacent edges";
- (d) it requires that the connectors are "capable, in use, of forming a bond when contacting the undersides of adjacent tiles, the adhesive having sufficient shear strength so as to prevent relative movement between the adjacent installed tiles" (feature (ii)), instead of the features that "the layer of adhesive is capable of forming a bond with the undersides of the tiles so that, when a connector spans adjacent edges of adjacent tiles so that the layer of adhesive contacts the underside of each of the adjacent tiles" and "prevents relative movement between the adjacent tiles";
- (e) it requires that the connectors' film "is made of a material that is capable of being stretched 120-200% of its machine direction dimension and 150-170% of its cross-machine direction dimension before breaking and has a tensile strength between 160 and 270 MPa in the machine direction and between 165 and 210 MPa in the cross-machine direction" (feature (iii)).

2.2 These amendments are supported by the information in the application documents as originally filed. Support for amendment (a) can be found on page 1, lines 9 and 10, page 9, line 21 and claim 11 of the original application (published as WO 2006/044928 A2). With respect to amendment (b), it is readily apparent from the general disclosure of the invention on page 5 that the feature that the connectors' adhesive is "releasable" is entirely optional (see lines 5 and 6, "Each connector includes a film and an adhesive layer

coated on one side of the film"). This is confirmed by the teaching on page 12, lines 16 and 17. Support for amendment (c) can be found on page 5, lines 17 and 18. Support for amendment (d) can be found on page 14, lines 2 to 4. Amendment (e) is based on the teaching on page 10, line 25 to page 11, line 6.

- 2.3 Corresponding amendments have been made to independent claim 15 which defines a method for installing the floor covering of claim 1 and is based on method claim 58 and page 8, lines 7 to 14 as originally filed.
- 2.4 The dependent claims are also supported by the teaching in the application as originally filed. Claim 2 finds support on page 12, line 19 to page 13, line 8. Claims 3 to 6 respectively correspond to claims 2 to 4 and 6 as originally filed. Claim 7 finds support on page 11, line 13. Claims 8 and 9 are based on the teaching on page 11, lines 9 and 10. Claims 10 and 11 find support in figures 5 to 8. Claim 12 is based on page 24, line 10 and figure 7. Claim 13 finds support on page 11, lines 23 and 24. Claim 14 is based on claim 15. Claim 16 finds support on page 8, lines 10 to 12. Claim 17, 18 and 20 respectively find support in claims 35, 37 and 39. Claim 19 is based on claim 38 and page 7, lines 15 and 16. Claim 21 is based on claim 36 and page 7, lines 22 and 23.
- 2.5 In conclusion, the amendments to the claims meet the requirements of Article 123(2) EPC.
3. Article 84 EPC
- 3.1 The claims are directed to a reader having knowledge of carpet tiles and how to install them, including common general knowledge in adhesive tapes appropriate for

carpet tile installation. For this skilled reader, the language of claim 1, in particular of features (i) to (iii), is sufficiently clear.

3.2 Feature (i) requires that the connectors "extend along only a portion of adjacent tile edges". In the context of claim 1, this feature is clear and can only be given the meaning that the connectors have such a size that they do not extend along the entire length of the adjacent edges but only along a portion of it.

3.3 Feature (ii) of claim 1 requires that the connectors are "capable, in use, of forming a bond when contacting the undersides of adjacent tiles, the adhesive having sufficient shear strength so as to prevent relative movement between the adjacent installed tiles". This feature thus attempts to define the minimum required shear strength of the adhesive by referring to a result to be achieved.

It is apparent that the shear strength of the adhesive cannot be defined more precisely without unduly restricting the scope of the claim. Indeed, the minimum required shear strength is a function of the surface properties of the tile backings and of the size, thickness and shape of the adhesive layer, and it would be inappropriate to limit claim 1 to these further features.

Moreover, the Board has not reason to doubt that a skilled reader of claim 1 could reduce feature (ii) to practice without undue burden. In fact, as explained by the appellant, for a given set of carpet tiles he could directly and reliably verify whether a given adhesive achieves the desired result or not, if necessary by way of routine tests such as the standard peel test

specified in the description (page 12, lines 13 and 14 as amended).

For these reasons, functional feature (ii) is sufficiently clear in the context of claim 1 (see Case Law of the Boards of Appeal of the EPO, 7th edition, 2013, II.A.3.4).

3.4 Feature (iii) defines the elongation and the tensile strength of the film in clear and standard terms.

3.5 Claim 15 defines a method for installing the floor covering of claim 1. For the reasons set out above, its language is also comprehensible and non-ambiguous.

3.6 The amended claims thus meet the requirements of Article 84 EPC.

4. Novelty

4.1 D1 discloses square-shaped carpet tiles which are interlinked with connectors in the form of vinyl one-sided adhesive tapes to form a floating floor covering, whereby each adhesive tape is approximately the size and thickness of a standard business card (page 5, paragraph 2). These vinyl tapes form connectors in the sense of claim 1. Each tape consists of a film-shaped vinyl backing carrying a layer of adhesive, which is capable of preventing relative movement between adjacent tiles (feature (ii)). Even though there is no standard for business card dimensions, the typical business card size in the US is 3.5 inches by 2 inches. This is certainly much smaller than the carpet tiles. Thus, it is implicitly disclosed that, in the installed condition of the carpet tiles, the tapes extend along only a portion of adjacent tile edges (feature (i)).

- 4.2 There is no indication in D1 of the elongation and the tensile strength of the vinyl tape backing. However, it is generally known in the art that the backing of conventional vinyl tapes, such as floor marking tapes or electrical tapes, is highly stretchable so as to conform to virtually any shape and that it has a low tensile strength so that it is easy to tear by hand. In fact, the tensile strength required by feature (iii) is several times higher than that of typical vinyl tapes.
- 4.3 The floor covering of claim 1 thus differs from that of D1 by feature (iii). Hence, it is novel.
5. Remittal of the case
- 5.1 The appealed decision only deals with objections under Articles 123(2), 84 and 54 EPC. The question of whether or not the inclusion of feature (iii) in the floor covering of D1 involves an inventive step was not addressed by the examining division.
- 5.2 However, in the summons to oral proceedings, the examining division had expressed the view that the selection of a high tensile strength as defined in feature (iii) would be a routine operation for the skilled person and therefore obvious (point 6 of the communication dated 11 November 2011).
- 5.3 Given the provisional view of the examining division and the fact that the evaluation of D1 and the other cited prior art was straightforward and could be dealt with within the framework of the oral proceedings, and taking into consideration the need for procedural efficiency, the Board considered that it was not

appropriate to remit the case but decided to instead deal with it itself (Article 111(1) EPC).

6. Inventive step

6.1 Among the prior art documents cited by the examining division, the above mentioned floating floor covering disclosed in D1 forms the most promising starting point for the assessment of inventive step. D2 and D5 disclose a floor covering comprising carpet tiles which do not float on the underlying floor surface but are directly attached to it by using a layer of adhesive (D2) or double-sided adhesive tapes (D5). D3 and D4 are not concerned with the installation of floating carpet tiles; they disclose the use of adhesive tapes to interconnect tiles before embedding them in a bed of mortar or adhesive.

6.2 Distinguishing feature (iii) implies that, compared to D1, the connectors' film exhibits a much higher tensile strength and thus the carpet better resists stretching under foot traffic, rolling traffic and stresses applied during cleaning and maintenance (see page 10, line 23 to page 11, line 6 in the application as originally filed).

6.3 Starting from D1, the technical problem objectively solved by feature (iii) can thus be formulated as how to better counteract the development of undesired gaps between adjacent tiles.

6.4 The claimed solution to this problem is not part of common general knowledge of the skilled person and is neither disclosed nor suggested in the cited prior art documents.

- 6.5 As explained by the appellant, it is generally known that typical vinyl tapes as disclosed in D1 are highly conformable and this is advantageous when seeking to securely attach the vinyl tapes to the underside surface of the carpet tiles, as taught in D1. Therefore, when seeking to solve the above problem, the skilled person would rather not replace the vinyl tapes by tapes having another backing. Instead, it would be an obvious modification for the skilled person to use a larger number of short vinyl tapes having the size of a standard business card, or possibly to replace them by long vinyl tapes running along the entire length of the adjacent tile edges. In either case, the skilled person would not arrive at feature (iii) of claim 1.
- 6.6 Alternatively, the skilled person might seek to optimise the tensile properties of the vinyl tapes disclosed in D1, as suggested by the examining division. However, there is no evidence indicating that feature (iii) would be the result of a mere routine optimisation of the tensile properties of the vinyl film. On the contrary, the high tensile strength required in feature (iii) appears to be far removed from the tensile strength of typical vinyl tapes.
- 6.7 In the event that the skilled person were not satisfied with the vinyl tapes disclosed in D1, he might consider using other adhesive tapes. However, there is no evidence that he would use adhesive tapes based on a film having the high tensile strength within the range defined in feature (iii).
- 6.8 Finally, D1 discloses a number of alternatives to the vinyl tapes for linking the tiles together to form a floor covering: they may be linked using "hook and loop" type fasteners, magnets or magnetized material,

adhesives, or other chemical bonding, such as epoxy, or any other suitable link" (page 5, paragraph 2). For the skilled person facing the above problem it would thus be straightforward to apply one or the other of these alternative solutions. This, however, cannot lead to the claimed solution.

- 6.9 In conclusion, with regard to the prior art cited by the examining division, the subject-matter of claim 1 involves an inventive step in the sense of Article 56 EPC.
- 6.10 The above reasoning applies also to the subject-matter of method claim 15.
7. The description has been brought into conformity with the amended claims.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division with the order to grant a patent in the following version:
 - claims 1 to 21 of the sole request filed in the oral proceedings before the Board as amended auxiliary request;
 - description, pages 1 to 19 filed in the oral proceedings before the Board; and
 - figures 1 to 8 of the application as published.

The Registrar:

The Chairman:



C. Spira

G. Ashley

Decision electronically authenticated