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**Datasheet for the decision
of 6 May 2025**

Case Number: T 1364/23 - 3.3.06

Application Number: 19205307.2

Publication Number: 3647484

IPC: D06N7/00

Language of the proceedings: EN

Title of invention:

SCRIM-REINFORCED CUSHION MAT FOR CARPET TILES

Patent Proprietor:

Johns Manville

Opponent:

Freudenberg Performance Materials B.V.

Headword:

Cushion Mat/Johns Manville

Relevant legal provisions:

EPC Art. 56

RPBA 2020 Art. 13(2)

Keyword:

Main Request, First Auxiliary Request - Inventive step -
obvious alternative

Auxiliary Requests 2-4 - Amendment after preliminary opinion -
exceptional circumstances (no)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1364/23 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 6 May 2025

Appellant: Freudenberg Performance Materials B.V.
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted on
31 May 2023 concerning maintenance of the
European Patent No. 3647484 in amended form.

Composition of the Board:

Chairman S. Arrojo
Members: R. Elsässer
C. Heath

Summary of Facts and Submissions

I. The appeal of the opponent is directed against the decision of the opposition division to maintain the European patent EP 3 647 484 in amended form, based on the first auxiliary request. The division found *inter alia* that claim 1 of this request was inventive over **D2** (US 6,060,145), when taking into account the teaching of **D5** (US 5,470,648).

II. Claim 1 of the request deemed allowable by the opposition division, with highlighted amendments compared to granted claim 1, reads as follows:

"1. A carpet tile comprising:

(I) a textile top member including:

(i) carpet yarns; and

(ii) a backing that is coupled with the carpet yarns so that the backing structurally supports the carpet yarns; and

(II) a cushion mat coupled with the textile top member via a thermoplastic material on the surface of the backing facing away from the carpet yarns, the cushion mat comprising:

(i) a polymeric material component comprising polymer fibers that are randomly oriented and entangled together; and

(ii) a scrim reinforcement that is disposed within the polymeric material component so that the scrim reinforcement is entirely covered and concealed by the entangled polymer fibers to prevent the scrim reinforcement from exposure to a user, the scrim reinforcement being configured to mechanically reinforce and stabilize the

polymeric material component and carpet tile, said polymeric material component comprises a first spunbond portion or volume and a second spunbond portion or volume formed simultaneously and the first spunbond portion or volume is positioned atop and the second spunbond portion or volume is positioned beneath the scrim reinforcement thereby concealing the scrim reinforcement."

- III. With its grounds of appeal, the appellant filed the new documents **D9** (*Spunbonded and Melt Blown Technology Handbook*), **D10** (*Nonwoven Fabrics Handbook*) and **D11** (*Handbook of Nonwovens*), and argued *inter alia* that claim 1 of the request deemed allowable by the opposition division was rendered obvious by **D2** when taking into account the teaching of **D5**.
- IV. With its reply to the appeal, the patent proprietor and respondent contested the appellant's objection and filed a main request and an auxiliary request whereby the main request corresponded to the set of claims found allowable by the opposition division.
- V. After having received the preliminary opinion of the board, the respondent filed with letter dated 27 February 2025 the new auxiliary requests 2, 3 and 4 and refiled the main and first auxiliary requests.
- VI. At the oral proceedings held on 6 May 2025, the final requests of the parties were established to be as follows:

The **appellant** requested to set aside the contested decision and to revoke the patent in its entirety.

The **respondent** requested to dismiss the appeal or, in the alternative, to maintain the patent based on one of the first, second, third or fourth auxiliary requests, all filed or re-filed with letter dated 27 February 2025.

Reasons for the Decision

1. Main Request - Inventive Step
 - 1.1 The board has come to the conclusion that the subject-matter of claim 1 does not involve an inventive step.
 - 1.2 The present invention is directed to a structurally reinforced cushioned impact-dampening component in carpet tiles, or in other words, to a modified secondary backing to be used in carpet tiles.
 - 1.3 Document **D2** is directed to a very similar subject-matter, namely a reinforced secondary backing with cushioning properties that can be used in carpets and carpet tiles (column 11, line 15-19). It is undisputed that this document is a suitable starting point for the assessment of inventive step - in fact, the respondent explicitly requested not to admit any other objection not starting from **D2** (page 5 of the reply to the appeal).
 - 1.4 Regarding the distinguishing features, the board agrees with the appellant and the opposition in that, while **D2** is novelty destroying for granted claim 1, it does not disclose the added features of the present main request, namely "*said polymeric material component comprises a first spunbond portion or volume and a second spunbond portion or volume formed simultaneously*

and the first spunbond portion or volume is positioned atop and the second spunbond portion or volume is positioned beneath the scrim reinforcement thereby concealing the scrim reinforcement."

The respondent argued that, in addition to the distinguishing features mentioned above, **D2** failed to disclose carpet tiles where the scrim reinforcement was entirely concealed by the entangled polymer fibers, as required by the claim.

The board has however come to the conclusion that this feature is implicitly disclosed in **D2**, which teaches on column 6, line 13-17, column 16, line 11-29 and Figure 6 that the fibrous floor side 51 of the secondary backing has a "smooth, soft surface" and is "uninterrupted by the scrim". For the board, this implies that the scrim filaments are covered and thereby concealed by the entangled filaments 46 of the fibrous web placed onto the scrim and attached to it by needling (Figure 2).

It follows that the claimed subject-matter is distinguished over the disclosure of the prior art **D2** by the features added to granted claim 1.

- 1.5 As no effects are reported in the patent as resulting from the distinguishing features, even less so in comparison to the closest prior art **D2**, the board agrees with the appellant that the problem to be solved is the mere provision of an alternative.

With regard to the advantages mentioned in paragraph [0006] of the patent for the cushioned backings of the invention in general, namely mechanical strength and the cushioning effect, the board notes that the

backings of **D2** are disclosed to have similar properties (column 5, line 1-5, 23-26 and 54) so that these effects cannot be considered in the formulation of the problem to be solved.

The respondent argued that spunbonded nonwovens possessed superior mechanical properties, but stopped short of explicitly formulating the problem to be solved in a more ambitious way.

The board is not convinced that such technical effect should be taken into account for reformulating the problem, in particular in view of the fact that the mechanical properties of the secondary backing of **D2** (and of the cushion mat of the patent) are primarily governed by the reinforcing scrim, so that it is not self-evident that the nature of the fibrous component influences the mechanical properties of the composite in a detectable way. Furthermore, there is no evidence on file to back up this allegation. Therefore, the board holds that the problem to be solved is the provision of an alternative tile, having good dimensional stability.

It is however noted for the sake of completeness that even if the problem were reformulated in a more ambitious way, the subject-matter of claim 1 would still be rendered obvious by the cited prior art (see point 1.15 below).

- 1.6 As a solution to the problem of providing an alternative, claim 1 proposes a carpet tile having a scrim sandwiched between first and second spunbond portions, whereby these first and second spunbond portions are formed simultaneously with the first spunbond portion or volume positioned atop and the

second spunbond portion positioned beneath the scrim reinforcement, thereby concealing the scrim reinforcement.

- 1.7 The board has come to the conclusion that this solution is rendered obvious by the teachings of **D5**.

This document discloses a modified secondary backing for carpets that can be made up by two layers of needled or hydroentangled continuous filaments, which sandwich a scrim layer in the centre of the composite (claims 1, 5 and 6).

Starting from **D2** and faced with the problem to be solved, the skilled person would consider **D5**, as this document addresses dimensional stability and thereby a problem similar to the one underlying **D2**. Concretely, **D5** discloses a backing that is strong and flexible and provides good dimensional stability, in particular in the presence of moisture which, with conventional backings, can lead to the carpet becoming distorted and buckled (column 1, line 12-32). While cushioning properties are not explicitly mentioned in **D5**, the skilled person knows from the starting document **D2** that these are provided by the fibrous layer(s) which are also present in **D5**.

The board thus disagrees with the respondent's argument that **D5** would not be considered, because it was directed to a different problem.

The same applies to the argument that the skilled person would not consider **D5** because it was only directed to carpet backings but not to backings suitable for carpet tiles. In fact, the closest prior art **D2** explicitly confirms that the same type of

backing can be used for both applications, the only difference being the relative amount of fibers positioned above and below the scrim (column 11, line 1 to line 19). This difference would however not deter the skilled person from considering the teaching of **D5**, as it is immediately obvious that, in the backings disclosed therein, the fiber ratio can be easily modified according to the teaching of **D2**, by selecting fabrics having the desired weights for the individual layers.

Therefore, the board has concluded that, when starting from **D2** and attempting to find a solution for the problem to be solved, the skilled person would consider the teaching of **D5**.

- 1.8 What remains to be examined is whether the distinguishing features identified above are actually taught by **D5**.

In this context, the respondent pointed to column 4, lines 31-50 of the document, where spunbond fabrics are explicitly disclosed as being unsuitable due to the fact that their filaments are fixedly connected to each other at each intersection and could thus not move freely. The respondent argued that this was a known characteristic of spunbond webs which was also confirmed by the disclosure on column 9, line 16-21 of **D2**. Since **D5** explicitly taught away from using spunbond webs, it could not render obvious the subject-matter of claim 1.

In contrast, the webs made from continuous filaments according to the invention of **D5** consisted of unbonded filaments that were merely entangled with each other by needling or hydroentanglement (claims 1,5 and 6; column

4, line 51-59). In other words, since these fabrics could not be considered as spunbond portions in the sense of claim 1, this teaching in **D5** could also not render the claimed subject-matter obvious.

- 1.9 These arguments have not convinced the board, because they are based on an excessively narrow interpretation of the term "spunbond".

In fact, **D11**, which is a textbook and therefore representative of the common general knowledge in the field, discloses on page 155 ("Route I") that there are indeed spunbond processes which inherently lead to webs made of filaments connected to each other at their crossing points. However, there are other variants of the process where this is not the case. Likewise, **D11** discloses that in the context of spunbonding, consolidation methods can be used, such as thermobonding, which lead to webs made up of filaments fused or bonded to each other at their cross-over points (page 158, point 4.5.1).

The same passage also discloses that this method is the most widely used consolidation method in spunbonding, which might explain why **D2** teaches that this type of fiber bonding is inherent in spunbonding. The same applies to **D5**, which discloses the filament bonding at the cross-over points as a necessary feature of spunbond fabrics. However, this finding is incorrect, as textbook **D11** explicitly teaches that alternative consolidation methods, such as hydroentanglement or needling - both involving physical entangling rather than thermal bonding of the filaments - can also be applied to make spunbonded webs (page 160, point 4.5.3).

In view of this disclosure and taking into account the general principle that a technical term in a claim should be interpreted in the broadest technically reasonable way, the board has concluded that the term "spunbond" does not imply that the filaments are bonded or stuck together at their cross-over points.

- 1.10 Based on this interpretation of the claim, **D5** renders the claimed subject-matter obvious, because it teaches to use as a secondary carpet backing a composite made up by a scrim that is sandwiched between two layers of entangled, continuous filaments (claim 1, 5 and 6). The two filament layers constitute spunbond portions in the sense of the claim so that, by replacing the modified scrim disclosed in **D2** with the one disclosed in **D5**, the skilled person arrives at the subject-matter of claim 1 without having to exercise any inventive skills.
- 1.11 The fact that the authors of **D5** manifestly applied a narrower interpretation of the term spunbond (see point 1.9), does not change the validity of the argumentation set out above.
- 1.12 With regard to the feature "formed simultaneously", the board has come to the conclusion that in a product claim, this cannot be considered as limiting. It can be safely assumed that the two continuous filament fabrics used to make the composites of **D2** were made at another production site. However, whether or not they were made sequentially, for instance at the same production unit, or simultaneously, for instance at two identical units, would not necessarily be recognisable in the final product. Even if the feature "formed simultaneously" were to be understood as implying an inline process - i.e. a process where the two spunbond webs are not provided on rolls but are made inline and then directly

used in the making of the composite - this process feature would not be limiting, since there is no detectable difference between a composite produced in such a process and a composite made from rolls.

- 1.13 Finally, the board is convinced that also in the composite of **D5** the scrim is entirely covered and concealed by the entangled polymeric fibers, as required by the claim. This follows for instance from column 5, line 5-10, where it is disclosed that the filamentary layers act as a protective surface for the fibreglass scrim, an aim that can only be achieved if the scrim is covered by the filaments.
- 1.14 It follows from the above that, faced with the problem of providing an alternative to the carpet tile of **D2**, the skilled person would arrive at the claimed subject matter without having to exercise any inventive skills by incorporating the teaching of **D5**.
- 1.15 The same conclusion would be reached even if the problem to be solved were to be formulated more ambitiously, as the provision of an improved carpet tile having superior mechanical properties, as hinted at on page 9, third paragraph of the reply to the appeal.

These effects are not disclosed in the patent so that they can only be considered if they form part of the common general knowledge. The board accepts that it is indeed common general knowledge in the field that, due to their continuous filaments, spunbond fabrics have superior mechanical properties compared to staple fiber nonwovens, such as the carded webs which **D2** discloses as preferred (claim 7).

However, the same common general knowledge would lead the skilled person to the continuous filament webs of D5, because they would expect them to have the required improved mechanical properties.

1.16 It follows from the above that the main request does not meet the requirements of Article 56 EPC and is thus not allowable.

2. Auxiliary request 1

Since claim 1 at issue is identical to that of the main request, the first auxiliary request is not allowable for the same reasons as the main request.

3. Auxiliary requests 2 to 4

3.1 Since these requests were filed after having received the communication under Article 15(1) RPBA, they can only be admitted if justified by exceptional circumstances (Article 13(2) RPBA) and if they, on a *prima facie* basis, overcome the issues raised, without giving rise to new objections (Article 13(1) RPBA). For the following reasons, the board has exercised its discretion not to admit these requests into the proceedings:

3.1.1 Auxiliary request 2 was amended with the intention to overcome an objection under Article 123(2) EPC. It has not been argued that the amendments are suitable to overcome the objection under Article 56 EPC so that, on a *prima facie* basis, the board has concluded that the objections raised against the main request have not been overcome. Therefore, the request was not admissible.

3.1.2 Auxiliary requests 3 and 4 were filed in order to address the objection under Article 56 EPC. In this regard, the respondent did not provide cogent reasons as to why they filed the requests only after having received the preliminary opinion of the board. The argument that the requests were filed in reaction to the board's finding that the skilled person had no reason to assume that carpets and carpet tiles were structurally different is not convincing, because the consequence of this statement is merely that the skilled person would consider **D5**, when starting from **D2**, which does not go beyond the objection formulated by the appellant in its grounds of appeal.

Moreover, the feature "said carpet tile satisfies the industry standard Aachen DIN STD 54318", which is present in claim 1 of both requests, is not clearly allowable under Article 123(2) EPC, since paragraph [0016] of the originally filed description merely discloses that this standard is used to determine the dimensional stability, which does not mean that the standard defines minimum requirements that can be "satisfied" by a carpet tile. In this context, the respondent referred to the following sentence in said paragraph, which reads: *"The scrim reinforcement is sufficient to stabilize the carpet tile to impart the required dimensional stability."* However, this sentence, even when read together with the previous reference to the Aachen standard, does not mean that the required dimensional stability is defined in said standard - it could also be the dimensional stability expected by the consumer or the stability required for carpet tiles to be usable as such.

As no cogent reasons have been provided for the filing of the requests and the requests are not clearly

allowable on a *prima facie* basis, the board has exercised its discretion not to admit these requests into the proceedings.

4. Conclusion

Since the main request and the first auxiliary request are not allowable under Article 56 EPC and the second, third and fourth auxiliary requests are not admissible, the patent had to be revoked.

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:



A. Wille

S. Arrojo

Decision electronically authenticated