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Datasheet for the decision of 13 March 2024

Case Number: T 0340/20 - 3.3.10

Application Number: 14735010.2

Publication Number: 3004272

IPC: C09J5/06

Language of the proceedings: EN

Title of invention:
PACKAGED HOT-MELT PRESSURE SENSITIVE ADHESIVE

Patent Proprietor:
H. B. Fuller Company

Opponent:
Henkel AG & Co. KGaA

Headword:

Relevant legal provisions:
EPC Art. 54(2), 56

Keyword:
Novelty - (yes)
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0340/20 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 13 March 2024

Appellant: (Opponent)	Henkel AG & Co. KGaA Henkelstrasse 67 40589 Düsseldorf (DE)
Representative:	Viering, Jentschura & Partner mbB Patent- und Rechtsanwälte Hamborner Straße 53 40472 Düsseldorf (DE)
Respondent: (Patent Proprietor)	H. B. Fuller Company 1200 Willow Lake Boulevard P.O. Box 64683 St. Paul, Minnesota 55164-0683 (US)
Representative:	Maiwald GmbH Elisenhof Elisenstraße 3 80335 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 25 November 2019 rejecting the opposition filed against European patent No. 3004272 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chair	M. Kollmannsberger
Members:	R. Pérez Carlón
	T. Bokor

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the opposition division rejecting the opposition against European patent No. 3 004 272.

II. Claim 1 of the patent as granted, which is the respondent's (patent proprietor) main request in appeal, reads as follows:

"A packaged hot-melt pressure sensitive adhesive comprising

(a) a hot-melt pressure sensitive adhesive composition (b) a coextrusion coating consisting of neat low-density polyethylene, neat polypropylene or neat ethylene vinyl acetate having a melt flow index between 20g/10min and 300g/10min, wherein the melt flow index is determined according to ASTM D 1238 (190°C, 2.16kg)."

III. Notice of opposition had been filed on the grounds of insufficiency of disclosure, lack of novelty and lack of inventive step (Articles 100(a) and 100(b) EPC).

IV. The following documents are relevant to the present decision:

D1 WO 01/46019 A1
D2 WO 2012/016842 A1
D3 US 6,716,527 B1
D12 Epolene C-13 Polymer, Product Data Sheet, Westlake Chemical Corporation
D13 Epolene C-17 Polymer, Product Data Sheet, Westlake Chemical Corporation

D14 Sales Specification, Epolene C-17 Polymer, 15 February 2007, Westlake Chemical Corporation
D16 Experimental Report by H.B. Fuller Company
D18 Epolene C-13P Wax from Eastman Chemical Company retrieved from www.infochems.co.kr/chemD8/product_content.asp?product_id=12004
D19 CHEManager Europe, 1/2007, 1-20
D20 A.V. Shenoy and D.R. Saini, "Melt Flow Index: More Than Just A Quality Control Rheological Parameter. Part I", Advances in Polymer Technology, vol. 6, 1, 1986, 1-58

V. The opposition division concluded that the claimed invention was sufficiently disclosed (Article 100(b) EPC. This finding was not contested in appeal.

The claimed adhesive was novel and involved an inventive step, regardless of whether D1, D2 or D3 was considered closest to the claimed invention.

VI. The appellant's arguments were as follows.

D1 disclosed the use of Epolene C-13 and C-17 coatings for preventing adhesive agglomeration. Epolene C-13 and C-17 were low-density polyethylenes having the melt flow index (MFI) required by claim 1. D1 also disclosed coating by coextrusion. D1 thus disclosed all features of claim 1 of the patent as granted.

Regardless of whether D1 or D2 was closest to the claimed invention, the sole problem which could be considered credibly solved was providing an alternative. The claimed solution, characterised by the material of the coating, would have been obvious to a skilled person in view of D1, D2, D3 or D20.

VII. The respondent's arguments were as follows.

It could not be considered proven that Epolene C-13 or Epolene C-17 had the MFI required by claim 1, which was novel for this reason alone.

Regardless of whether D1 or D2 were closest to the claimed invention, the problem underlying it was to provide an improved non-agglomerating adhesive. If, nevertheless, the problem were to be considered merely to provide an alternative, the prior art taught neither the use of neat polymers nor of polymers having the required MFI. The claimed solution was thus inventive.

VIII. The board informed the parties in a communication dated 18 June 2021 that it was of the preliminary view that the claimed adhesive was novel over D1 but not inventive considering D2 as the closest prior art.

IX. The parties' final requests were as follows.

The appellant requested that the decision be set aside and the patent revoked.

The respondent requested that the appeal be dismissed or that the patent be maintained with the claims filed as auxiliary requests 1 to 3 with its reply to the grounds of appeal dated 7 August 2020.

X. At the end of the oral proceedings, which took place on 13 March 2024, the decision was announced.

Reasons for the Decision

1. The appeal is admissible.

Novelty

2. The board informed the parties in its communication in preparation for oral proceedings dated 18 June 2021 that it was of the preliminary view that D1 did not disclose in combination coextrusion coating and Epolene C-13 or Epolene C-17. The claimed adhesive was thus novel over that in D1, regardless of whether Epolene C-13 and Epolene C-17 had the melt flow index (MFI) required by claim 1.

The appellant filed no reply to the board's communication and at the oral proceedings before the board only referred to its written submissions. The board thus sees no reason to depart from its preliminary view that the adhesive in claim 1 is novel (Article 54 EPC).

Inventive step

3. Starting from D2

3.1 Like the claimed invention, D2 relates to preventing agglomeration of adhesive materials by coating, preferably by coextrusion (page 10, lines 9 and 10). D2 discloses ethylene/vinyl acetate (EVA), low-density polyethylene and polypropylene among the suitable coating polymers (page 8, lines 14 to 22).

3.2 It was undisputed that D2 did not disclose polymers having the MFI required by claim 1.

The parties disagreed, however, as to whether D2 taught coextruded coatings consisting of neat polymers.

3.3 D2 requires the outside shell of the pellets to be made of a film-forming material comprising at least one thermoplastic elastomer, not tacky up to 45°C (D2, page 8, lines 9 and 10). The polymers can be selected according to their molecular weight, glass transition temperature or chemical composition.

Page 9, first full paragraph discloses two embodiments, one including, in addition to the elastomer, low molecular weight wax-like materials, and another including a plasticiser.

3.4 The appellant argued that the first full paragraph on page 9 disclosed that the film-forming material "can" include other additives and auxiliaries but only if required by the processing of the adhesive. In view of this formulation, D2 disclosed the use of neat polymers in coextrusion coatings.

3.5 However, the broadest embodiment in D2 discloses a coating comprising a number of elastomers, including those required by claim 1. This embodiment is silent on the presence or absence of further components.

When the disclosure becomes more specific, the coating contains the elastomers and further additives having a relevant role for the processing.

Thus the board concludes that D2 does not disclose a coating consisting of a neat elastomer.

3.6 Problem underlying the claimed invention

The parties disagreed as to what problem could be considered credibly solved by the claimed invention.

In the following, the board examines the inventive step under the assumption that the technical problem underlying the claimed invention is the provision of an alternative non-blocking hot-melt pressure sensitive adhesive, as argued by the appellant.

3.7 Solution

The solution to this technical problem is the claimed adhesive having a coextrusion coating of low-density polyethylene, polypropylene or EVA, characterised in that the coating polymer is neat and has an MFI between 20 and 300 g/10 min determined according to ASTM D 1238 (190°C, 2.16 kg).

3.8 Success

It is undisputed that the claimed adhesive solves the problem of providing an alternative, non-blocking adhesive.

3.9 It thus remains to be decided whether the proposed solution to the objective problem defined above would have been obvious to a skilled person in view of the prior art.

3.9.1 In view of paragraphs [0139] and [0140] of the patent, coatings having MFI values outside the range in claim 1 do not lead to suitable products. No evidence has been provided showing the contrary. The MFI in claim 1 is thus not an arbitrary selection.

It was undisputed that the MFI was a known rheological parameter (D20).

3.9.2 D2 does not contain any working example. A skilled person trying to put the teaching of D2 into practice would have to seek suitable materials for the adhesive's coating. D2 is silent on neat polymers and MFI values and thus does not hint at the claimed invention.

3.9.3 The appellant argued at the oral proceedings that the MFI was related with the molecular weight of a polymer but provided no evidence for this. Even if that were the case, there is no hint at the allegedly linked molecular weights, let alone at the MFI required by claim 1, for coextrusion coating.

3.9.4 The appellant argued that the claimed invention was a selection within the subject-matter of D2 which could only be inventive if linked to an unexpected technical effect.

However, regardless of whether it is or not a selection within D2, the issue is whether the claimed solution, or the claimed selection, would have been obvious to a skilled person, which should be examined in view of the facts of the case at hand. For the reasons provided, the board considers that D2 does not teach the claimed invention, even if the problem is considered the mere provision of an alternative. The reasoning is the same if the claimed subject-matter is considered to be a selection from the disclosure of D2.

3.9.5 Document D20 merely discloses that the MFI should be "high" for extrusion (see Table XII on page 31). In view of D1 (see last entry of Table 1 on page 22) and D3 (column 4, lines 51 to 56), values almost one order of magnitude higher than the upper limit in claim 1 can be envisaged. D20 thus does not hint at the claimed

invention, either.

3.9.6 D1 discloses materials allegedly having the required chemical nature and MFI in claim 1, such as Epolene C-13. It also discloses the MFI of other materials (see Table 1). However, D1 deals primarily with the use of preformed films for coating (see examples). A skilled person would thus not have combined the teaching of D1 with that of D2 as a matter of course and had no reason to assume that the properties of the materials suitable for preformed films would also fit adhesives coated by coextrusion. The properties of the coating influence not only the agglomeration of the final product but also its ability to properly coat the adhesive core.

D1 thus does not teach the claimed invention, either, regardless of whether it discloses materials having the required MFI, a point on which the parties disagreed.

3.9.7 Document D3 discloses EVA coatings (column 4, lines 51 to 56) and their MFI, but not the temperature or load. Even if the measurement conditions were those required by claim 1, D3 relates to a different type of coating formation, namely spray-coating (see step e in claim 20 and the examples), and the materials suitable are not necessarily suitable for coextrusion. D3 thus does not hint at the claimed invention.

4. Starting from D1

4.1 Like the patent, document D1 relates to preventing agglomeration of hot-melt pressure sensitive adhesives by coating (page 2, first full paragraph). The passage bridging pages 5 and 6 of D1 discloses that the film can be formed, among other possibilities, by coextrusion with a non-tacky thermoplastic coating. D1

primarily relates to coating with a preformed film. Particularly suitable materials are ethylene/alpha-olefin interpolymers (page 7, last paragraph; ethylene/octene copolymers are used in the examples, see Table 1). This type of polymer is not covered by claim 1 of the patent. Page 11 of D1 discloses other suitable materials, including Epolene C-13 and C-17.

The parties disagreed whether Epolene C-13 and D-17 were materials according to part b) of claim 1. In the following and in the appellant's favour, the board proceeds on the assumption that their MFI values are as required by claim 1.

D1 does not disclose any specific material for coextrusion coating.

4.2 Problem underlying the claimed invention

In the following, the question of inventive step for the claimed subject-matter will be examined under the assumption that the problem underlying the claimed invention is the mere provision of an alternative non-agglomerating adhesive, as argued by the appellant.

4.3 Solution

The claimed solution is the adhesive having the coextrusion coating of claim 1, characterised in that the coating consists of neat low-density polyethylene, neat polypropylene or neat ethylene vinyl acetate and has an MFI between 100 and 300 g/10 min, where MFI is determined according to ASTM D 1238 (190°C, 2.16 kg).

4.4 Success

It was undisputed that the claimed adhesive solves the problem of providing an alternative non-agglomerating adhesive.

4.5 Obviousness

The arguments on obviousness do not differ from those set out for D2 above. The materials disclosed in D1 are linked to the embodiment of preformed films. D1 does not teach the precise materials of claim 1, it does not suggest using them neat, nor suggests the required MFI for coextrusion coating.

As explained above, D2 teaches neither the use of neat polymers nor the MFI as claimed in claim 1. D3 deals with a different coating technique and does not hint at the claimed solution, either.

5. Starting from D3

The appellant argued in writing that D3 could also be considered a suitable starting point. It did not argue this at the oral proceedings before the board. D3 deals with a different type of coating for the purposes of preventing adhesive agglomeration. D3 is not closer to the claimed invention than D1 or D2.

6. Since the solution to the problem of providing a mere alternative is not regarded by the board as obvious, it is not necessary to examine whether a more ambitious problem is also solved.

The adhesive as defined in claim 1 of the patent as granted is thus inventive (Article 56 EPC).

7. Other issues

At the oral proceedings, the respondent relied on D16 to show that the claimed subject-matter credibly solved the problem of providing an improvement. The board has examined inventive step disregarding the alleged improvement (see points 3.6 and 4.2), and thus there is no need to examine the results in D16.

Documents D12, D13, D14, D18 and D19 were cited to show that the substances Epolene C-13 and Epolene C-17 had the MFI value required by claim 1. Since the board concluded that the claimed subject-matter is inventive even if these substances had the required MFI, there is no need to further elaborate on the content of these documents, whether they are prior art or whether they could be admitted into the proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chair:

C. Rodríguez Rodríguez M. Kollmannsberger

Decision electronically authenticated