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**Datasheet for the decision
of 29 June 2021**

Case Number: T 2421/16 - 3.3.10

Application Number: 08728917.9

Publication Number: 2115087

IPC: C09J151/06, C09J5/06,
C09J11/06, C09J11/08

Language of the proceedings: EN

Title of invention:
HOT MELT ADHESIVES

Patent Proprietor:
Henkel AG & Co. KGaA

Opponent:
H.B. Fuller Company (a Minnesota company)

Headword:

Relevant legal provisions:

EPC Art. 54(3)
RPBA Art. 12(4)
RPBA 2020 Art. 13(2)

Keyword:

Novelty - (no)

Late-filed request - admitted (no)

Decisions cited:

Catchword:



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Case Number: T 2421/16 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 29 June 2021

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
16 August 2016 concerning maintenance of the
European Patent No. 2115087 in amended form.**

Composition of the Board:

Chair M. Kollmannsberger
Members: R. Pérez Carlón
F. Blumer

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the interlocutory decision of the opposition division on the maintenance of European patent No. 2 115 087 in the form of the main request then pending.

II. Notice of opposition had been filed on grounds including that of lack of novelty (Article 100(a) EPC).

III. Relevant for the present decision is document

D12 WO 2007/146875 A2

filed with the appellant's statement of grounds of appeal.

IV. The main request of the respondent (patent proprietor) in these appeal proceedings was also the main request before the opposition division.

Claim 1 of the main request and of auxiliary request I reads as follows:

*"A hot melt adhesive comprising
i) a functionalized metallocene polyethylene copolymer,
ii) a tackifier and
iii) a wax; wherein
the functional group of i) is maleic anhydride."*

Claim 1 of auxiliary requests II and III reads as follows:

*"A hot melt adhesive comprising
the following components:*

- (a) *from about 20 to about 50 wt%, based on the total weight of the components, of a maleic anhydride modified functionalized metallocene polyethylene copolymer component i);*
- (b) *from about 20 to about 40 wt% based on the total weight of the components, of a wax component iii); and*
- (c) *from about 20 to about 45 wt%, based on the total weight of the components, of a tackifier component ii),*

wherein said maleic anhydride modified functionalized metallocene polyethylene copolymer i) contains from about 0.3 to 8 weight %, based on weight of the non-functionalized metallocene polyethylene copolymer of i), of maleic anhydride functional group."

Claim 1 of auxiliary requests IV and V relates to a method of sealing and/or forming a case, carton, tray or book comprising using a hot melt adhesive as defined in claim 1 of auxiliary requests II and III.

During the oral proceedings before the board of appeal, which took place on 29 June 2021, the respondent filed auxiliary request VI. Claim 1 relates to a hot melt adhesive having the features of claim 1 of auxiliary requests II and III and requiring the polyethylene copolymer i) to be prepared from ethylene and 1-octen monomer.

V. The arguments of the appellant relevant to the present decision were as follows.

Document D12 was filed with the statement of grounds of appeal and was thus part of the opposition appeal proceedings unless the board made use of its discretion under Article 12(4) RPBA 2007 not to admit it into the

proceedings. Relevance was not a criteria under Article 12(4) RPBA 2007. The mere possibility that it could have been filed earlier was not enough for the board to make use of its discretion not to admit it. There must be reasons why it should, not only could, have been filed before. The respondent, furthermore, had ample time to address it. There was thus no reason why D12 should not be admitted into the proceedings.

Document D12 was state of the art according to Article 54(3) EPC. The adhesive composition on page 43, lines 6-15, of D12 in combination with the preferred functionalisation of component i) with maleic anhydride and one of the two options disclosed for the obtention of that copolymer resulted in a hot melt adhesive according to claim 1 of the main request and of auxiliary request I. The amounts of the components disclosed in D12 largely overlapped with those required by claim 1 of auxiliary requests II and III. D12 also disclosed a method for sealing using that compositions. For these reasons, claim 1 of the main request and of auxiliary request I to V was not novel.

Auxiliary request VI should not be admitted into the proceedings following Article 13(2) RPBA 2020, as there were no exceptional circumstances which could justify its admission.

VI. The arguments of the respondent relevant to the present decision were as follows.

The appellant had ample time to file D12 before the opposition division. Filing this document only in appeal was an abuse of procedure, and D12 was prima facie not relevant for the claimed invention. For all these reasons it should not be admitted into the

proceedings.

The respondent did not dispute at the oral proceedings before the board that document D12 was state of the art according to Article 54(3) EPC. D12 did not disclose the features of claim 1 in combination. It related not only to hot melt adhesives but also to pressure sensitive adhesives and even to applications in the field of personal care and cosmetic products. Component i) did not necessarily have to be obtained by metallocene chemistry. Tackifier and wax were merely optional, and an interpolymer was not a synonym of a copolymer, as required by claim 1. For these reasons, the adhesive of claim 1 of the main request and of auxiliary request I was novel.

Claim 1 of auxiliary requests II and III was novel, as the relative amounts of components i) to iii) disclosed in D12 differed from those required by claim 1. The method of sealing using that composition of claim 1 of auxiliary requests IV and V was novel for the same reason.

Auxiliary request VI was a reaction to the unexpected change of view of the board on the issue of novelty with respect to its preliminary opinion, and should be admitted into these appeal proceedings. It was a bona fide attempt to solve the outstanding issues and did not introduce any new issue into the discussion.

VII. The final requests of the parties were as follows:

- The appellant requested that the decision under appeal be set aside and that the European patent No. 2 115 087 be revoked.

- The respondent requested that the appeal be dismissed, or subsidiarily, that the patent be maintained on the basis of one of auxiliary requests I to VI, auxiliary requests I to V as filed with the reply to the grounds of appeal dated 5 May 2017, auxiliary request VI as filed during oral proceedings before the board.

VIII. At the end of the oral proceedings, the decision was announced.

Reasons for the Decision

1. The appeal is admissible.
2. Admissibility of D12 into the proceedings
 - 2.1 Document D12 was filed with the appellant's statement of grounds of appeal and is thus part of these appeal proceedings following Article 12(4) RPBA 2007, unless the board decides to hold it inadmissible on the reasons that it could have been presented or were not admitted in the opposition proceedings.
 - 2.2 The respondent requested that the board makes use of its discretion not to admit D12 into the proceedings. It argued that the appellant had three years to file D12 before the opposition division, and its filing represented an abuse of proceedings. It also argued that D12 was not prima facie relevant.
 - 2.3 The admissibility criteria in Article 12(4) RPBA 2007 do not include relevance, or prima facie relevance. This argument of the respondent is thus not convincing.

2.4 Document D12 was filed as early as possible in appeal, more than four years before the oral proceedings before the board. The respondent had ample time to address the objections arising from it. No abuse of proceedings is thus apparent.

2.5 If an opponent files a piece of evidence with its statement of grounds of appeal, opposition proceedings inevitably preceded its filing. Any piece of evidence could thus have been filed already during opposition proceedings. The issue under Article 12(4) RPBA 2007 is rather whether there are objective reasons why such evidence not only could but should have been filed before. The respondent has provided no reasons in this respect. The board thus decided not to make use of its discretion.

2.6 Document D12 is part of these opposition appeal proceedings.

3. Main request, auxiliary request I. Novelty

3.1 Claim 1 of the main request relates to a hot melt adhesive having the following components:

- i) a metallocene polyethylene copolymer, functionalised with maleic anhydride,
- ii) a tackifier and
- iii) a wax

3.2 It was not disputed at the oral proceedings that document D12 is state of the art according to Article 54(3) EPC for the claimed invention.

3.3 It was also not disputed that document D12 discloses all the features of claim 1 of the main request. The parties were, however, divided on whether these

features had been disclosed in combination.

3.4 Document D12 discloses on page 43, lines 6-15, an adhesive composition comprising, in its most preferred form

- (a) 20 to 65 wt% of one functionalised ethylene interpolymer, preferably an ethylene/alpha-olefin interpolymer,
- (b) 10 to 60 wt% of a tackifying resin, and
- (c) 5 to 35 wt% of a wax.

The section "Functionalization" of D12 starts on page 26. Preferred are free-radical grafting reactions (page 26, lines 7-8). Grafting molecules include maleic anhydride (page 26, line 12).

D12 continues with a section on free radical initiators suitable for grafting, starting on page 31, and a section on maleic acid anhydride functionalised olefin interpolymers on page 33. This is the only functionalisation specifically addressed. Maleic anhydride grafting is thus the most preferred functionalisation. This is also disclosed on page 33, second paragraph: the invention provides in particular maleic anhydride-grafted ethylene interpolymers, preferably ethylene/alpha-olefin interpolymers.

The relative amount of maleic anhydride disclosed in D12 is up to 10 weight percent with respect to the total weight of the reactive composition - anhydride, copolymer and initiator -, preferably 0.5 to 5 weight percent (page 35, third full paragraph).

3.5 Starting on page 41, document D12 contains a section with the heading "Adhesive Compositions". It discloses

two types of adhesive compositions, namely hot melt adhesives and pressure sensitive adhesives.

The compositions of D12 are disclosed as suitable for both types of adhesives. D12 thus discloses hot melt adhesives having a maleic anhydride grafted ethylene/alpha-olefin copolymer, a tackifier and a wax.

- 3.6 It remains to be examined whether D12 also discloses a grafted polymer obtained by metallocene catalysis in the context of that adhesive composition.

The skilled reader, in order to put the invention of D12 into practice, would look for detailed information about ethylene/alpha olefin copolymers and find that information on page 20 of D12.

The second and third paragraphs on page 20 of D12 relate to examples of ethylene interpolymer suitable for adhesive compositions. Commercial copolymers AFFINITY (R) and ENGAGE (R) are mentioned. It was not disputed that both of them are ethylene/1-octene metallocene copolymers.

The following paragraph discloses that the polymers suitable for the adhesive compositions of D12 could be obtained using constrained geometry catalysts (page 20, line 16) or metallocene catalysts (page 20, line 22). These are the sole two options disclosed with respect to the copolymer synthesis.

- 3.7 The skilled reader merely needs to select one of these two options (copolymer prepared by metallocene catalysis) in order to arrive at the claimed invention. In addition, D12 explicitly discloses two of these types of polymers, namely AFFINITY (R) and ENGAGE (R)

interpolymers (page 20, first full paragraph), and mentions no other. This prompts the skilled reader towards the metallocene option.

3.8 The hot melt adhesive of claim 1 of the main request and of auxiliary request I is thus not new over that of D12.

3.9 The respondent argued that D12 was not primarily directed to hot-melt adhesives, and relied in this respect on the second paragraph of page 1, and on page 6, first and second full paragraphs. Page 6 even disclosed the use of the compositions of D12 in personal care and cosmetic products, which was unrelated to adhesives.

However, D12 is silent on any difference in composition between hot melt adhesives and pressure sensitive adhesives. The skilled reader would thus consider any of the disclosed compositions, including that on page 43, lines 6-15, to be suitable for both applications. In fact, only three embodiments of adhesive compositions are disclosed (pages 43 and 44), all of them very similar. D12 thus discloses that both hot melt and pressure sensitive adhesives could contain a combination of functionalised copolymers - which are at the core of the invention according to D12 - wax and tackifier.

With respect to the use in personal care and cosmetic products on page 6 of D12, it remains in the context of adhesives (such as for containers' labelling). There is no other application disclosed in D12 over and above adhesives.

This argument is thus not convincing.

- 3.10 The respondent further argued that metallocene copolymers were not the focus of D12 and were not used in the examples. In fact there was no example directed to an adhesive composition.

The examples of D12 relate to the preparation and properties of maleated copolymers, which are at the core of D12. The embodiment on page 43, line 7ff discloses an adhesive composition according to claim 1 of the main request, containing these maleated copolymers. Whether or not there are specific examples directed to a specific adhesive composition containing said polymers is not relevant for the issue of novelty, as the above mentioned embodiment has all the features of claim 1.

- 3.11 The respondent also argued that interpolymer was not a synonym of copolymer according to the definition provided in D12, paragraph bridging pages 49 and 50. The term interpolymer included not only copolymers (prepared from two different polymers) but also polymers prepared from more than two different types of monomers.

Page 43, line 9, discloses an ethylene/alpha-olefin interpolymer, i.e. a polymer obtained from two monomers. Such polymer is a copolymer not only in the usual meaning of the term (a polymer obtained from more of one type of monomer) but also under the uncommon definition of D12. This argument is also not convincing.

- 3.12 The respondent also argued that tackifier and wax were merely optional, as their lowest amount could be 0%.

However, the most preferred, narrower embodiment of D12 requires these components (page 43, lines 6-15). This argument is also not convincing.

3.13 The main request and auxiliary request I are thus not allowable.

4. Auxiliary requests II and III. Novelty

4.1 Claim 1 of auxiliary requests II and III relates to a hot-melt adhesive containing 20-50 wt% of component (i), 20-40 wt% of wax and 20-45 wt% of tackifier.

These relative amounts largely overlap with those most preferred in D12, namely 20-65 wt% of (i), 5-35 wt% of wax and 10-60 wt% of tackifier (page 43, lines 4-15). The relative amounts of components (i)-(iii) cannot thus distinguish the claimed adhesive from that of D12.

Claim 1 of auxiliary requests II and III also requires copolymer (i) to contain 0.3 to 8 wt% of maleic anhydride functional group, based on the weight of non-functionalised polymer. On page 35, line 26, D12 discloses that the most preferred relative amount of maleic anhydride is 0.5 to 5 weight percent with respect to the weight of the "reactive composition", which contains copolymer, maleic anhydride and initiator. The amount of the latter can be considered negligible. The relative amount with respect to copolymer is inevitably slightly higher than 0.5 to 5 wt%, but falls nevertheless square within 0.3 to 8 wt%, required by claim 1.

It is thus concluded that claim 1 of auxiliary requests II and III is not novel and these requests not

allowable.

- 4.2 The respondent argued that a number of features of D12 needed to be picked and combined in order to arrive at the composition of claim 1, in particular with respect to the required amounts.

However, the issue is whether D12 makes available to the skilled reader the claimed hot melt adhesive. Due to the large extent of the overlap, the board decided that it was the case. This argument is thus not convincing.

5. Auxiliary requests IV and V. Novelty

Claim 1 of auxiliary requests IV and V relates to a method of sealing and/or forming a case, carton, tray, bag or book comprising using an adhesive as defined in claim 1 of auxiliary requests II and III to seal and/or form the case, carton, tray, bag or book.

Document D12 discloses on page 46, fourth full paragraph, that the adhesives are ideally suited for use in the packaging industry for case and carton sealing, and for tray forming. This passage of D12 thus discloses the method of claim 1 of auxiliary requests IV and V, which are for this reason not novel.

These requests are therefore not allowable.

6. Auxiliary request VI, admissibility

- 6.1 Auxiliary request V was filed towards the end of the oral proceedings before the board of appeal. It is an amendment to the respondent's case whose admissibility is governed by Article 13(2) RPBA 2020, and could only

be taken into account under exceptional circumstances, justified by cogent reasons. The appellant requested that this request not be admitted into the proceedings.

6.2 The respondent argued that auxiliary request VI was a bona fide attempt to address the outstanding objections pending. It did not raise any new issue, and was a response to the change of the board's view on novelty with respect to its preliminary opinion.

6.3 None of the reasons in the previous point can be considered exceptional circumstances.

Not raising any new issue is arguably a necessary condition, but not sufficient for a request filed during oral proceedings to be admitted.

The board's communication only conveyed a preliminary opinion based on the parties' arguments, and did not raise any issue beyond those already on file. A change on the board's view with respect to its preliminary opinion is by no means an exceptional circumstance. In fact, if a change on the board's view could not be expected, there would be no reason for oral proceedings.

Auxiliary request VI is thus not admitted into the proceedings (Article 13(2) RPBA 2020).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chair:



C. Rodríguez Rodríguez

M. Kollmannsberger

Decision electronically authenticated