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**Datasheet for the decision
of 14 October 2019**

Case Number: T 1744/17 - 3.3.09

Application Number: 07844895.8

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IPC: C09J153/00, C09J153/02

Language of the proceedings: EN

Title of invention:

BLENDS OF BLOCK COPOLYMER AND ACRYLIC ADHESIVES

Applicant:

3M Innovative Properties Company

Headword:

Relevant legal provisions:

EPC Art. 84

Keyword:

Claims - clarity - main request (no) - clarity - auxiliary requests 1 to 5 (no)



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Case Number: T 1744/17 - 3.3.09

D E C I S I O N
of Technical Board of Appeal 3.3.09
of 14 October 2019

Appellant: 3M Innovative Properties Company
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 27 February
2017 refusing European patent application No.
07844895.8 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman D. Rogers
Members: F. Rinaldi
M. Ansorge

Summary of Facts and Submissions

- I. This decision concerns the applicant's appeal against the decision of the examining division to refuse European patent application No. 07 844 895.8.
- II. The examining division's decision was based on a main request filed under cover of a letter dated 21 May 2015 and an auxiliary request filed under cover of a letter dated 13 January 2017.

Claim 1 of the main request reads as follows:

"A pressure sensitive adhesive composition comprising:
(A) 92 to 99.9 parts of a block copolymer adhesive composition comprising a first block copolymer which is a multi-arm block copolymer of the formula Q_n-Y ,
wherein:

- (a) Q represents an arm of the multi-arm block copolymer and each arm independently has the formula R-G, wherein:
 - (i) R represents the rubbery block comprising a first polymerized conjugated diene, a hydrogenated derivative thereof, or combinations thereof; and
 - (ii) G represents the glassy block comprising a first polymerized monovinyl aromatic monomer;
- (b) n represents the number of arms and is a whole number of at least 3; and
- (c) Y is the residue of a multifunctional coupling agent; and

(B) 0.5 to equal to or less than 8 parts of an acrylic adhesive composition comprising the reaction product of:

- (i) 70 to 100 parts of at least one acrylic or methacrylic ester of a non-tertiary alkyl alcohol,

wherein the non-tertiary alkyl alcohol contains 4 to 20 carbon atoms; and
(ii) 0 to 30 parts of a copolymerized reinforcing monomer."

Claim 1 of the auxiliary request reads as follows (deletions over claim 1 of the main request are struck through and additions are underlined):

"A pressure sensitive adhesive composition comprising:
(A) 92 to 99.9 parts of a block copolymer adhesive composition ~~comprising~~ consisting of:

a first block copolymer which is a multi-arm block copolymer of the formula Q_n-Y , wherein:

(a) Q represents an arm of the multi-arm block copolymer and each arm independently has the formula R-G, wherein:

(i) R represents the rubbery block comprising a first polymerized conjugated diene, a hydrogenated derivative thereof, or combinations thereof; and

(ii) G represents the glassy block comprising a first polymerized monovinyl aromatic monomer;

(b) n represents the number of arms and is a whole number of at least 3; and

(c) Y is the residue of a multifunctional coupling agent,

optionally a second block copolymer comprising at least one rubbery block comprising a polymerized second conjugated diene, a hydrogenated derivative thereof, or combinations thereof; and at least one glassy block comprising a second polymerized monovinyl aromatic monomer,

optionally a first high Tg tackifier having a Tg of at least 60 degrees C, wherein the first high Tg tackifier is compatible with at least one rubbery block,

optionally, a second high Tg tackifier in addition to the first high Tg tackifier, the second high Tg tackifier having a Tg of at least 60 degrees C, wherein the second high Tg tackifier is compatible with the at least one glassy block; and

(B) 0.5 to equal to or less than 8 parts of an acrylic adhesive composition ~~comprising~~ consisting of the reaction product of:

(i) 70 to 100 parts of at least one acrylic or methacrylic ester of a non-tertiary alkyl alcohol, wherein the non-tertiary alkyl alcohol contains 4 to 20 carbon atoms; and

(ii) 0 to 30 parts of a copolymerized reinforcing monomer."

In the decision under appeal, the examining division decided that claim 1 of the main request lacked clarity. In a pressure sensitive adhesive composition comprising a multi-arm block polymer, an acrylate copolymer and tackifiers, it was not clear whether the tackifiers were assigned to the block copolymer adhesive composition ("composition A"), the acrylic adhesive composition composition ("composition B") or the pressure sensitive adhesive composition as such. This was illustrated with reference to a composition described in the examples of the application. Moreover, the subject-matter of claim 1 of the auxiliary request included added subject-matter.

III. In its statement setting out the grounds of appeal, filed under cover of a letter dated 10 July 2017, the applicant (appellant) requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or, alternatively, auxiliary requests 1 or 2, all requests filed with the grounds of appeal.

Claim 1 of the main request is identical to claim 1 of the main request of the examination proceedings (wording, point II).

Claim 1 of auxiliary request 1 is based on claim 1 of the auxiliary request of the examination proceedings (wording, point II), however, the term "consisting of" is replaced by the term "comprising". Furthermore, the term "the reaction product of" is deleted.

Claim 1 of auxiliary request 2 is identical to claim 1 of the auxiliary request of the examination proceedings (wording, point II).

- IV. The board summoned the appellant to oral proceedings and issued a communication setting out its preliminary opinion.
- V. Under cover of a letter dated 13 September 2019, the appellant filed auxiliary requests 3 to 5.

Claim 1 of auxiliary request 3 is identical to claim 1 of the main request filed on appeal.

Claim 1 of auxiliary request 4 is based on claim 1 of auxiliary request 1 filed on appeal, the only difference being that the term "the reaction product of" is re-introduced.

Claim 1 of auxiliary request 5 is identical to claim 1 of auxiliary request 2 filed on appeal.

- VI. Oral proceedings were held before the board on 14 October 2019.

VII. The appellant's arguments relevant for the decision may be summarised as follows:

Main request:

The pressure sensitive adhesive composition of claim 1 comprised a certain amount of a block copolymer adhesive composition and a certain amount of an acrylic adhesive composition. The skilled reader would understand that the acrylic adhesive composition was present in an amount of equal to or less than 8 percent with respect to the pressure sensitive adhesive composition. This limitation was sufficient to distinguish the subject-matter of the main request from the closest prior art. Thus, claim 1 was broad but it was still clear. In addition, claims 2, 5 and 6 clarified the scope of claim 1: these claims defined that composition A might further comprise a second block copolymer, a first high Tg tackifier and a second high Tg tackifier.

Auxiliary request 1:

Claim 1 of this request made it clear that if any one of second block copolymer, first high Tg tackifier and second high Tg tackifier were part of the claimed composition, then they were assigned to composition A.

Auxiliary request 2:

Compositions A and B had been defined to consist of specified components. It was clear from the wording used that the second block copolymer, the first high Tg tackifier and the second high Tg tackifier were assigned to composition A and that the acrylic adhesive composition (Composition B) contained no further component other than the reaction product.

Auxiliary requests 3 to 5:

No further comments were made.

- VIII. The appellant's final request was to set aside the decision of the examining division and to grant a patent on the basis of the main request or auxiliary requests 1 or 2 (filed under cover of a letter dated 10 July 2017) or auxiliary requests 3 to 5 (filed under cover of a letter dated 13 September 2019).

Reasons for the Decision

1. *Main request*

- 1.1 Claim 1 of the main request is directed to a pressure sensitive adhesive composition (in the following also referred to as: "whole composition") comprising:
(A) 92 to 99.9 parts of a block copolymer adhesive composition ("composition A") comprising a first block copolymer which is a multi-arm block copolymer having a specified formula; and
(B) 0.5 to equal to or less than 8 parts of an acrylic adhesive composition ("composition B") comprising a specified reaction product.

- 1.2 The appellant argued that the composition of claim 1 comprised a certain amount of composition A and a certain amount of composition B. From these two indications of amounts the skilled reader would understand that composition B was present in an amount of equal to or less than 8 percent with respect to the whole composition. This limitation was sufficient to distinguish the subject-matter of claim 1 of the main

request from the closest prior art. Thus, although claim 1 was broad it was still clear.

- 1.3 However, "claims must be clear for the sake of legal certainty, as their purpose is to enable the protection conferred by the patent to be determined" (Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, Chapter II.A.1.1., third paragraph). In the present case, the issue is not whether claim 1 is broad or not. To comply with the requirements of Article 84 EPC a claim has to be drafted so that it is possible to determine what falls within the scope of the claim and what does not.
- 1.4 As to the scope of claim 1, aspects to be considered include the following:
 - 1.4.1 Within the whole composition, composition A is present in an amount of 92 to 99.9 parts and composition B in an amount of 0.5 to equal to or less than 8 parts. Even if one considered in favour of the appellant that the parts refer to the weight of compositions A and B, there is no information in claim 1 as to how the parts of compositions A and B relate to the whole composition. Due to the term "comprising", the whole composition may include further components.
 - 1.4.2 The appellant argued that the parts of composition A and B defined in claim 1 are suited to describe a proportion in which these two compositions are present within the whole composition. However, claim 1 provides no information about the actual amounts of first block copolymer and of reaction product which are present in the whole composition.

1.4.3 Moreover, further components may typically be added to adhesive compositions including those mentioned in the depending claims, e.g. a second block copolymer or tackifiers. These components may be assigned to each of the three compositions of claim 1 (whole composition/composition A/composition B) and therefore the difficulty arises in deciding to which composition such a further component belongs.

1.5 In the decision under appeal (reasons for the decision, point 2.3), this was illustrated with reference to the disclosure of the examples of the present application.

1.5.1 Composition Adh-1 (table 2) includes, apart from a polymodal, asymmetric star block polymer (*i.e.* a first block copolymer, as defined in claim 1), *inter alia* styrene-isoprene-styrene (SIS) block copolymer, tackifiers, antioxidant, plasticiser. Depending on whether these components are assigned to composition A, composition B or the whole composition, the composition Adh-1 does or does not fall under the scope of claim 1. In this context the examining division provided detailed calculations which the appellant has not contested.

1.5.2 In view of these considerations, the examining division correctly concluded that for a given composition it was not possible to tell whether it fell under the scope of claim 1.

1.6 The appellant argued that the second block copolymer and the first and second high Tg tackifiers were not mentioned in independent claim 1 but they were described in dependent claims 2, 5 and 6 as components of composition A. Thus, the skilled person would understand that these components, if present in the

composition of claim 1, would be assigned to composition A.

1.6.1 This is not convincing. Even if the depending claims were to provide some limitation of independent claim 1, this would not render the subject-matter of claim 1 *per se* clear. The board sees no reason why one should consult the depending claims to understand the scope of independent claim 1. If this measure has to be taken to elucidate the scope of independent claim 1, then this simply demonstrates that the claim is ambiguous.

1.6.2 Moreover, from a technical point of view, there is nothing that would prevent the person skilled in the art from assigning the second block copolymer or tackifiers to the pressure sensitive adhesive composition (and not to compositions A or B). In fact, this is even confirmed by the application itself (e.g. paragraph [0018]).

1.7 Thus, claim 1 of the main request lacks clarity, Article 84 EPC.

2. *Auxiliary request 1*

2.1 Claim 1 of auxiliary request 1 is directed to:

"A pressure sensitive adhesive composition comprising:
(A) ... a block copolymer adhesive composition comprising a first block copolymer ..., optionally a second block copolymer ..., optionally a first high Tg tackifier ..., optionally, a second high Tg tackifier ...; and
(B) ... an acrylic adhesive composition comprising ..." (emphasis added by the board).

2.2 The appellant's understanding of claim 1 is that if any one of second block copolymer, first high Tg tackifier or second high Tg tackifier is present in the claimed composition, then it must be included in composition A.

2.3 The board cannot agree with this reading of claim 1. Claim 1 simply defines that composition A may comprise these components. However, the comprising language of claim 1 implies that no limitation applies to those components which may be assigned to composition B or the pressure sensitive adhesive composition. Therefore, the amendment in claim 1 of this request does not resolve the issue of lack of clarity.

2.4 Thus, claim 1 of auxiliary request 1 lacks clarity, Article 84 EPC.

3. *Auxiliary request 2*

3.1 Claim 1 of auxiliary request 2 is directed to:

"A pressure sensitive adhesive composition comprising:
(A) ... a block copolymer adhesive composition consisting of: a first block copolymer ..., optionally a second block copolymer ..., optionally a first high Tg tackifier ..., optionally, a second high Tg tackifier ...; and
(B) ... an acrylic adhesive composition consisting of the reaction product ... " (emphasis added by the board).

3.2 The appellant's reading of claim 1 was that if a second block copolymer was present in the pressure sensitive adhesive composition, then it can only be included in composition A (and in no other composition of claim 1).

3.3 The definition of a composition as "consisting of" compulsory and optional components in fact provides a "closed" composition, *i.e.* a composition from which elements other than those explicitly mentioned are excluded. Typically, the expression "consisting of" is used to characterise the entire composition to which an independent claim is directed.

3.4 However, in claim 1 the pressure sensitive adhesive composition is defined by an "open" formulation (in view of the term "comprising"). In this context, the fact that compositions A and B are defined using the term "consisting of" does not assist the skilled person in understanding what is the subject-matter for which protection is sought: the usual reading of this term does not make sense because the presence of any further component in the whole composition is already permitted by the "open" formulation. Therefore, the plain reading of claim 1 says nothing more than that no limitation applies to the number or the amount of those components which may be assigned to the pressure sensitive adhesive composition. As already explained above, assigning a second block copolymer to the pressure sensitive adhesive composition (but not to composition A) is technically not unreasonable and it is even suggested in the application as filed.

3.5 Thus, claim 1 of auxiliary request 2 lacks clarity, Article 84 EPC.

4. *Auxiliary requests 3 to 5*

4.1 Claim 1 of auxiliary requests 3 to 5 correspond to claim 1 of the main request and of auxiliary requests 1 and 2, respectively. The slight rewording in claim 1 of auxiliary request 4 (see point V) has no impact on the

clarity issues discussed above. Furthermore, the appellant provided no further argument as to these auxiliary requests. Consequently, the same conclusions as for the higher-ranking requests apply.

4.2 Thus, auxiliary requests 3 to 5 are not allowable either (Article 84 EPC).

5. In view of the fact that there is no allowable request on file, it is not necessary to discuss whether the requests comply with other requirements of the EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Magliano

D. Rogers

Decision electronically authenticated