

Publication in the Official Journal ~~Yes~~/ No

File Number: T 610/90 - 3.3.2  
Application No.: 85 302 655.7  
Publication No.: 0 164 197  
Title of invention: Self-healing water-swella-ble clay/sheet laminate

Classification: B23B 27/06

**D E C I S I O N**  
of 15 January 1992

Applicant: American Colloid Company

Headword: Clay Layer/AMERICAN COLLOID

EPC Article 84

Keyword: "Clarity - after amendment (yes)"

Headnote



Case Number : T 610/90 - 3.3.2

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.2  
of 15 January 1992

**Appellant :** AMERICAN COLLOID COMPANY  
5100 Suffield Court  
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Illinois 60077 (US)

**Representative :** Wain, Christopher Paul  
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**Decision under appeal :** Decision of Examining Division of the European  
Patent Office dated 30 January 1990 refusing  
European patent application No. 85 302 655.7  
pursuant to Article 97(1) EPC.

**Composition of the Board :**

**Chairman :** P.A.M. Lançon  
**Members :** I.A. Holliday  
E.M.C. Holtz

**Summary of Facts and Submissions**

I. European patent application No. 85 302 655.7 (publication No. 0 164 197) was refused by a decision of the Examining Division.

II. In a first communication dated 30 March 1988, the Examining Division made an objection of lack of inventive step in respect of both Claims 1 and 8, citing inter alia:

EP-A-0 050 906 (3)

JP-A-59 142 275 (Abstract) (4).

Claims 1 to 15, on which the decision to refuse was based, were filed in response to these objections.

A further communication dated 29 March 1989 indicated that the Examining Division was satisfied that Claims 1, 2 and 19 (sic) related to inventive subject-matter in terms of Article 56 EPC.

III. Independent Claims 1 and 8 read as follows:

"1. A multi-layer article characterised in that it comprises a first layer of flexible sheet or web material (38), and a second layer (22), adhered to said first layer, comprising water-swellaable clay in an amount of at least 35% by weight; polypropene, polybutene or mixtures thereof in an amount of 10% to 65% by weight; and 1% by weight or less of a silicic filler, all percentages based on the weight of the second layer.

8. A multi-layer article characterised in that it comprises a first layer (38) of a water-impermeable sheet of polymeric material adhered to a water-swellaable clay

composition second layer (22), wherein the second layer has 1% by weight or less of a silicic filler and comprises a water-swellable clay in an amount of 35% to 90% by weight, an elastomer in an amount of 1% to 20% by weight, and a plasticizer capable of extending said elastomer in an amount of 2% to 50% by weight, all percentages based on the weight of the second layer."

- IV. The grounds for the refusal were that, in the opinion of the Examining Division, the terms "polypropene" and "polybutene" used in Claim 1 and the word "elastomer" used in Claim 8 lacked clarity.

The Examining Division pointed to passages in the originally filed description on page 12, lines 13 to 18 and on page 11, line 27 in which it was stated that "in accordance with the principles of the invention" the degrees of polymerisation of the polypropene and polybutene were generally from 7 to 60 and from 6 to 45 respectively. The original description on page 16, line 31 to page 17, line 1, indicated that an elastomer having an elongation of at least 100% was suitable for the composition of Claim 8. Since the Applicant declined the Examining Division's invitation to incorporate the said limitations into Claims 1 and 8, it was held that there was a discrepancy between the said Claims 1 and 8 and the description which rendered the claims unclear and thus the requirements of Article 84 EPC were not satisfied.

- V. The Appellant lodged an appeal against the said decision arguing that the ranges mentioned in the description were merely exemplary and, since the Applicant had been the first to realise the possibility of combining polypropene and polybutene with a water-swellable clay, a broader monopoly should be granted. The Appellant also argued that polypropenes and polybutenes just outside the ranges of

degree of polymerisation specified above would also be suitable for the multi-layer articles of the application. The ranges of degrees of polymerisation represented merely preferred embodiments.

VI. In a letter received in the EPO on 19 November 1991 following a communication of the Board, the Applicant filed an amended set of Claims 1 to 19. Claim 1 reads as follows:

"1. A multi-layer article characterised in that it comprises a first layer of flexible sheet or web material (38), and a second layer (22), adhered to said first layer, comprising water-swellable clay in an amount of at least 35% by weight; polypropene, polybutene or mixtures thereof in an amount of 10% to 65% by weight, said polypropene and/or polybutene being such as to impart tack to the clay composition; and 1% by weight or less of a silicic filler, all percentages based on the weight of the second layer."

A corresponding functional limitation was applied to the method claim (new Claim 18, originally Claim 14). New Claims 2, 3, 13 and 14 were added to specify the preferred polypropenes and polybutenes.

VII. The Appellant now requests that the decision of the Examining Division be set aside and a patent granted on the basis of Claims 1 to 19 received on 19 November 1991.

#### Reasons for the Decision

1. The appeal is admissible.

2. The claims of the Applicant's request satisfy the requirements of Article 123(2).
  - 2.1 New Claim 1 is based on Claim 1 as originally filed in combination with the description on page 6, lines 10 to 12 and page 12, lines 1 to 3.
  - 2.2 New Claims 2, 3, 13 and 14 are supported by the original description on page 11, lines 26 to 32 and page 12, lines 13 to 18.
3. It is apparent from the description, especially pages 2 to 4, that the problem underlying the present application concerns the provision, as a water sealing layer, of an alternative composition of expandable clay, e.g. bentonite, having a paste- or putty-like consistency. Having regard to this requirement, the polypropene or polybutene used therein must be of a nature so as to impart tackiness to the clay composition without impairing the swelling properties thereof (cf. original description, page 6, lines 10 to 14). For this purpose a high molecular weight rigid polypropene or polybutene would not be suitable unless used in conjunction with a plasticiser. The use of the word "comprising" in Claim 1 of the main request would permit the presence of additional materials. However, apart from the mere mention of "tackifiers" and "viscosity modifiers" on page 6, line 9, the description provides no basis for the presence of such additives.
  - 3.1 In ex-parte pre-grant procedures, it is the practice of the EPO and of the Boards of Appeal to adopt a liberal view concerning the application of Article 84 to the breadth of claims (see e.g. Decisions T 292/85, OJ EPO 1989, 275, especially Reasons, Point 3.3.4 and T 238/88 of 25 April 1991, especially Reasons, Point 5.1). As indicated in Guidelines, Part C III 6.2, this should in

particular apply in the examination procedure when an application opens up a new field. However, as is apparent from Examples 1 to 4 and 6 of document (3) and from document (4) compositions of liquid polybutene and bentonite were already known for use in water sealant compositions. It is also apparent that an unrestricted use of the terms "polypropene" and "polybutene" would include materials incapable of introducing tack which would be quite unsuitable for solving the underlying problem. Accordingly, in the opinion of the Board, the expressions "polypropene" and "polybutene" require qualification to reflect the requirement to impart tack.

4. The Board can accept the Applicant's arguments that to limit Claim 1 (and method Claim 18) to polypropenes and polybutenes having the degrees of polymerisation of 7 to 60 and 6 to 45 respectively would be an unfair restriction since it seems plausible that suitably tacky compositions might be prepared using, for example, a polybutene having a degree of polymerisation of 46. The overriding characteristic required of the polypropene and/or polybutene is that it is capable of imparting tack. Accordingly, the functional limitation specifying that "said polypropene and/or polybutene being such as to impart tack to the clay composition" is sufficient to satisfy the requirements of Article 84 EPC.
  
5. The Examining Division was of the opinion that the unrestricted use of the word "elastomer" in Claim 8 (now Claim 10) also offended against Article 84. However, according to the definitions of "Elastomere" which appears, for example, in Römpps Chemie-Lexicon, 8 Auflage, a characteristic of an elastomer is that it can be extended to double its original length and then recover its original dimensions. In other words, the qualification required by the Examining Division that the elastomer has

at least 100% elongation is embraced by this definition. The Board is accordingly satisfied that Claim 10 fulfils the requirements of Article 84.

6. As already indicated, the claims of the amended request satisfy the requirements of Article 84 EPC and thus the reasons for refusing the application no longer exist. As mentioned under II above, in a letter dated 29 March 1989, the Examining Division indicated that "Claims 1, 2 and 19" appear novel and inventive in the light of the cited prior art. New Claims 1 to 15 were filed by the Applicant on 19 September 1988, which were in fact the basis of a suggested set of claims submitted to the Applicant by the Examining Division in the same letter dated 29 March 1989. The Board can only conclude that, notwithstanding the apparently erroneous reference to Claim 19, the Examining Division had waived its inventive step objections.

6.1 The Board has no reason at this stage to differ from the view of the Examining Division concerning the novelty and inventive step of Claim 1. However, the Board is concerned that the Examining Division has apparently not commented on the patentability of Claim 8, the original version providing the basis for the present Claim 10. Accordingly the Board uses its powers, conferred by Article 111(1) EPC, to remit the case to the Examining Division to resume the examination with specific reference to Claim 10.

**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 to resume the examination on the basis of the claims received on 19 November 1991.

The Registrar:

The Chairman:

P. Martorana

P.A.M. Lançon