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**Datasheet for the decision
of 15 March 2007**

Case Number: T 1022/03 - 3.3.01

Application Number: 95308706.1

Publication Number: 0721004

IPC: C09D 5/02

Language of the proceedings: EN

Title of invention:

Water-dispersible powder composition for water-resistant coatings

Patentee:

ROHM AND HAAS COMPANY

Opponent:

WACKER-CHEMIE GMBH

Headword:

Polymer powder/ROHM AND HAAS

Relevant legal provisions:

EPC Art. 54(3)(4)

Keyword:

"Novelty (main and auxiliary request: no)"

Decisions cited:

-

Catchword:

-



Case Number: T 1022/03 - 3.3.01

D E C I S I O N
of the Technical Board of Appeal 3.3.01
of 15 March 2007

Appellant: ROHM AND HAAS COMPANY
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Respondent: WACKER-CHEMIE GMBH
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 25 July 2003
revoking European patent No. 0721004 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: A. Nuss
Members: J. Jonk
D. Rogers

Summary of Facts and Submissions

I. The Appellant (Proprietor of the patent) lodged an appeal against the decision of the Opposition Division revoking the European patent No. 0 721 004 (European patent application No. 95 308 706.1), the independent Claim 1 as granted reading as follows:

"A powder composition comprising a water dispersible admixture of:

film-forming polymer particles having at least one functional group, which group(s) provide for dispersibility of the polymer particles in water and react with a reactive component upon dispersion in water; and at least one reactive component which is dispersible or soluble in water and forms a non-ionic bond with said polymer functional group(s) following dispersion of the admixture in water."

II. The opposition was filed against the patent as a whole, and based on the grounds of lack of novelty and inventive step as indicated in Article 100(a) EPC. It was supported by several documents including:

- (1) US-A-3 256 221, and
- (6) US-A-4 581 395.

III. The Opposition Division held that the subject-matter of the then pending main request and first auxiliary request lacked novelty in view of documents (1) and (6), respectively, and that the subject-matter of Claim 1 of the then pending second auxiliary request did not meet the requirements of Article 123(2) and (3) EPC.

IV. In reply to the Appellant's grounds of appeal the Respondent (Opponent) submitted on 25 March 2004 an additional document, namely

(7) EP-A-0 694 577,

as prior art in the sense of Article 54(3) and (4) EPC.

He argued that the claimed subject-matter was not only not novel in view of the cited documents (1) and (6) but also having regard to the teaching of said document (7), since this document disclosed a mixture comprising a carboxyl functional copolymer (B) and a silicon functional copolymer (A).

V. Oral proceedings before the Board were held on 15 March 2007.

VI. The Appellant submitted during the oral proceedings before the Board a new main request and a new first auxiliary request.

Claim 1 of the new main request read as follows:

"A powder composition comprising a water dispersible admixture of:

particles of film-forming copolymer comprising as polymerized units monomer selected from alkyl acrylates and alkyl methacrylates; acrylamide or substituted acrylamides; styrene or substituted styrenes; butadiene; vinyl acetate and other vinyl esters, vinyl chloride, vinylidene chloride, N-vinyl pyrrolidone; acrylonitrile

or methacrylonitrile; and ethylene; and copolymerized ethylenically-unsaturated acid monomer in the range of 0.1% to 25%, and which group(s) provide for dispersibility of the polymer particles in water and react with a reactive component upon dispersion in water; and

at least one reactive component which is dispersible or soluble in water and forms a non-ionic bond with said polymer functional group(s) following dispersion of the admixture in water.",

and

Claim 1 of said new first auxiliary request concerned a powder composition comprising a water dispersible admixture of:

- a) a dry powder consisting of particles of film-forming copolymer as defined in Claim 1 of the present main request, and
- b) a dry powder consisting of at least one reactive component as defined in Claim 1 of the present main request.

VII. The Appellant argued with respect to document (7) that the subject-matter of the present main request and that of the present auxiliary request was novel, since that document did not directly and unambiguously disclose a powder composition comprising a water dispersible admixture of:

(a) a copolymer comprising ethylenically unsaturated acid monomer in the range of 0.1 to 25%, which was film-forming and dispersible in water; and

(b) a reactive component capable of forming a non-ionic bond with the acid groups of copolymer (a) following the dispersion of the admixture in water.

Actually, the skilled person had to select from the disclosure of said document with respect to the carboxyl groups containing copolymers as defined under (B) a dispersible one, since according to the examples of said document a soluble copolymer was used. Moreover, said document did not directly and unambiguously disclose that said copolymer (B) was a film-forming one and that the copolymer as defined under (A) contained a reactive group capable of forming a covalent bond with the carboxyl groups of copolymer (B), since the silicon compounds used for preparing copolymer (A) could have been hydrolysed or used up as a cross-linking agent.

VIII. The Respondent maintained his point of view that the claimed subject-matter was not novel over document (7), since it disclosed a powder mixture comprising powders of a carboxyl functional copolymer (B) and a silicon functional copolymer (A) falling within the scope of the claims of the main request and those of the auxiliary request.

IX. The Appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of Claims 1 to 6 of the main request or Claims 1 to 6 of the first auxiliary request, all filed on 15 March 2007 during the oral proceedings.

The Respondent requested that the appeal be dismissed.

- X. At the conclusion of the oral proceedings the Board's decision was pronounced.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request*
 - 2.1 *Amendments under Article 123(2) and (3) EPC*
 - 2.1.1 The subject-matter of Claim 1 of the patent in suit as granted was restricted with respect to the film-forming polymer by indicating that said polymer is a copolymer comprising as polymerized units monomer selected from alkyl acrylates and alkyl methacrylates; acrylamide or substituted acrylamides; styrene or substituted styrenes; butadiene; vinyl acetate and other vinyl esters, vinyl chloride, vinylidene chloride, N-vinyl pyrrolidone; acrylonitrile or methacrylonitrile; and ethylene; and copolymerized ethylenically-unsaturated acid monomer in the range of 0.1% to 25%. This amendment is supported by page 3, lines 13 to 18, of the application as filed.
 - 2.1.2 Present Claims 2 to 6 are supported by Claims 3 to 7 of the application as filed, respectively.
 - 2.1.3 Therefore, the amended subject-matter of the present claims does not contravene Article 123(2) and (3) EPC.

The Respondent did not raise any objection in this respect either.

2.2 Novelty

2.2.1 Document (7), which is a prior art document within the meaning of Article 54(3) and (4) EPC, discloses as indicated on page 2, lines 5 to 19, admixtures comprising

A) a copolymer substantially comprising

a) 30 to 99,99% by weight of major monomers selected from C₁-C₂₀-alkyl (meth)acrylates, aromatic vinyl compounds having up to 20 C-atoms, vinyl esters of up to 20 C-atoms containing carboxylic acids, ethylenically unsaturated nitriles, vinyl halides and aliphatic hydrocarbons having 2 to 8 C-atoms and 1 or 2 double bonds,

b) 0.01 to 5% by weight of hydrolysable silicon compounds, and

c) 0 to 69.99% by weight of further monomers different from those indicated under a) and b) as defined, and

B) a copolymer containing at least 5% by weight of ethylenically unsaturated monomers having at least one carboxyl group.

Like the compositions of the patent in suit, these admixtures are suitable for providing water-resistant coatings (see page 5, lines 1 to 6).

- 2.2.2 Said copolymer B) being a mandatory component of the disclosed copolymer admixtures preferably comprises styrene or an alkyl ester of (meth)acrylic acid as major monomers (see page 4, lines 37 and 38). Moreover, the copolymer can be used for preparing the copolymer admixtures in the form of its dispersion or as a spray dried powder (see page 4, lines 53 and 54). Therefore, this component (B) and its content correspond to the first component as defined in present Claim 1 within the range of overlap with respect to the content of the ethylenically unsaturated acid monomer in the copolymer, i.e. within the range of 5 to 25% by weight.
- 2.2.3 Said copolymer A) is based on at least one of the major monomers indicated under A) (point 2.2.1 above) and a hydrolysable silicon compound in the indicated amounts. A preferred hydrolysable silicon compound as co-monomer is e.g. 3-acryloxypropyltriethoxysilan (see page 3, line 34, and Table 1 on page 7). Furthermore, it has also been indicated that this copolymer can be used for preparing the copolymer admixtures in the form of its dispersion or as a spray dried powder (see page 4, lines 53 and 54). Thus, in view of the broad definition of the reactive component in present Claim 1 and the description of the patent in suit (see page 3, line 35 to page 4, line 17, in particular page 3, lines 51 and 52, in combination with page 4, line 4) this component A) corresponds to the reactive component as defined in present Claim 1.

2.2.4 The Appellant argued, that document (7) did not directly and unambiguously disclose

- (a) that copolymer B) had to be film-forming and dispersible in water, and
- (b) that copolymer A) contained a reactive group capable of reacting with the carboxyl groups of copolymer B) upon dispersion in water to form a non-ionic bond.

He considered that under these circumstances the skilled person had to make multiple selections in order to arrive at something falling under present Claim 1, so that the disclosure of document (7) would not be prejudicial to the novelty of the claimed subject-matter.

However, the Appellant's suggestion that copolymer B) would not be film-forming and dispersible in water within the range of overlap with respect to the content of the ethylenically unsaturated acid monomer in the copolymer, i.e. within the range of 5 to 25% by weight, has not been supported by any evidence and is even in contradiction to the technical information in document (7) and in the description of the patent in suit. In fact said copolymer B) corresponds to the first component as defined in present Claim 1 within the range of overlap with respect to the content of the ethylenically unsaturated acid monomer in terms of its technical features, i.e. its specified copolymer structure. Therefore, a copolymer B) falling under the scope of the first component of present Claim 1 must

have the same properties including film-forming and dispersibility.

Furthermore, Appellant's allegation that copolymer A) might not have reactive silicon groups, since these groups could have been hydrolysed or used up by cross-linking during the preparation of the copolymer, and that, consequently, probably no reaction would occur between copolymers A) and B), has not been substantiated and, therefore, cannot be accepted by the Board either. This allegation is contrary to the disclosure of document (7), since according to this document it has been found that admixtures of copolymers A) and B) are suitable for providing water-resistant coatings, sealants and adhesives containing a high proportion of inorganic fillers (see page 2, lines 36 to 38, and page 5, lines 1 to 19). Therefore, the skilled person would immediately understand that said technical effect results from the particular structures of copolymers A) and B), and in particular from the mandatory hydrolysable silicon compounds b) in copolymer A) and the mandatory carboxyl groups in copolymer B) being capable to react with each other. This point of view of the Board is indeed confirmed by the description of said document indicating that by combining the copolymers having the silyl ether groups with those containing the acid groups the water-resistant properties of the products had been improved (see page 2, lines 39 to 41, in combination with lines 25 to 27).

2.2.5 Thus, in view of these considerations, the Board concludes that document (7) as a whole directly and unambiguously discloses a powder composition falling

within the scope of present Claim 1 rendering the subject-matter of this claim not novel within the meaning of Article 54(3) and (4) EPC.

- 2.2.6 In this context, the Board observes that it is true that document (7) does not disclose an actual example falling under the claims of the patent in suit. This is because copolymer B) in the examples of document (7) consists of 60% by weight of styrene and 40% by weight of acrylic acid (see page 7, line 13) and therefore contains the ethylenically unsaturated acid monomer in an amount beyond the range of 0.1 to 25% as claimed in the patent in suit.

However, according to the established jurisprudence of the boards of appeal it is necessary to consider the whole content of a citation when deciding the question of novelty. In applying this principle, the evaluation of the cited document (7) is therefore not to be confined merely to a comparison of the claimed subject-matter with the examples, but has to extend to all the technical information therein (see discussion in point 2.2.4 above).

3. *First auxiliary request*

3.1 *Amendments under Article 123(2) and (3) EPC*

- 3.1.1 The subject-matter of Claim 1 of this request has further been restricted to a powder composition as defined in Claim 1 of the present main request, except that the film-forming copolymer and the reactive component are both present in the form of a dry powder.

This embodiment is supported by page 6, lines 1 to 4, of the patent application as filed.

3.1.2 Furthermore, present Claims 2 to 6 are supported by Claims 3 to 7 of the application as filed, respectively.

3.1.3 Therefore, the Board considers in agreement with the Respondent that the amended subject-matter of the claims of this request does not contravene Article 123(2) and (3) EPC either.

3.2 *Novelty*

3.2.1 In view of the fact that document (7) discloses that in order to produce admixtures of the copolymers A) and B) said copolymers can be mixed in the form of their spray-dried powders (see page 4, lines 53 and 54), the Board's considerations set out above concerning the novelty of the claims of the main request also apply to the subject-matter of this request.

3.2.2 Therefore, the Board concludes that the disclosure of document (7) as a whole directly and unambiguously makes available to the skilled person a powder composition falling within the scope of Claim 1 of the auxiliary request. Thus the subject-matter of the claim is not novel within the meaning of Article 54(3) and (4) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

N. Maslin

A. Nuss