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Datasheet for the decision of 16 January 2019

Case Number: T 1408/16 - 3.3.05

Application Number: 06782207.2

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Language of the proceedings: EN

Title of invention:
TRANSPARENT FILM

Applicant:
National Institute of Advanced Industrial Science and Technology

Headword:
Transparent film/NATIONAL INSTITUTE

Relevant legal provisions:
EPC Art. 54(1), 54(2), 84, 111(1), 123(2)

Keyword:
Amendments - allowable (yes)
Claims - clarity (yes)
Novelty - implicit disclosure (no) - burden of proof on applicant (no)
Remittal to the department of first instance - (yes)

Decisions cited:
T 0131/03, T 1764/06

Catchword:

Europäisches Patentamt
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Beschwerdekammern

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Case Number: T 1408/16 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 16 January 2019

Appellant: (Applicant)	National Institute of Advanced Industrial Science and Technology 3-1, Kasumigaseki 1-chome, Chiyoda-ku Tokyo 100-8921 (JP)
Representative:	Richards, John Ladas & Parry LLP Temple Chambers 3-7 Temple Avenue London EC4Y 0DA (GB)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 27 January 2016 refusing European patent application No. 06782207.2 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	E. Bendl
Members:	A. Haderlein
	O. Loizou

Summary of Facts and Submissions

I. The applicant (appellant) lodged an appeal against the decision of the examining division to refuse application No. 06 782 207.

II. The reasons given in the decision under appeal for refusing the application, as far as relevant to the present decision, can be summarised as follows:

The feature "synthetic smectite" contained in claim 1 of the main request and auxiliary requests 1 and 2 that formed the basis of the decision under appeal in the then claimed context was not directly and unambiguously derivable from the application documents as filed. The subject-matter of claim 1 of auxiliary request 3 lacked novelty in view of

D1: EP 1 679 285 A1.

In particular, claims 1, 4 and 9 of D1 disclosed a clay based self-supporting film with a gas permeation coefficient of less than $3.2x10^{-11}cm^2\ s^{-1}\ cm\ Hg^{-1}$ and comprising up to 30 wt% of a resin as claimed. D1 explicitly mentioned saponite as well as synthetic clays in claims 2 and 3. D1 also disclosed an optical transmissivity of the clay film of 85% or higher at 500 nm. Although D1 did not explicitly disclose a total light transmissivity above 80%, it described the same method as in the examples of the present application using the same raw materials and the same process conditions. Hence the resulting product inherently had the same properties as those claimed. In particular, the total light transmissivity of claim 1 of auxiliary request 3 was disclosed in D1.

III. The additional objections raised by the search and examining divisions in the proceedings leading up to the impugned decision, as far as relevant for the present decision, may be summarised as follows:

Although not explicitly mentioning the average surface roughness, D1 described the same method as in the present application, with the same raw material and the same process, so that one can assume that the resulting product will have the same average surface roughness (see European search opinion item 2.2).

Because the product disclosed in D1 has inherently the same properties as those claimed in the present application, the applicant bore the burden of proof to show that this was not the case, as ruled in T 131/03 and T 1764/06 (see communication of 22 July 2015, item 3.2.3), but failed to do so.

The expression "total light transmissivity" lacked clarity (communication of 3 December 2015, item 1.3).

IV. With the grounds of appeal, the appellant filed a main request and an auxiliary request.

V. The board issued a communication under Article 15(1) RPBA. It raised objections in respect of lack of clarity within the meaning of Article 84 EPC and of non-compliance with Article 123(2) EPC.

VI. In its letter dated 14 December 2018, the appellant filed amongst others the following document:

D4: declaration by Takeo Ebina.

VII. At the oral proceedings, the appellant filed a main request as its sole request and withdrew all previously filed requests.

VIII. The sole independent claim 1 of the appellant's sole request reads as follows:

"1. A transparent and self-supporting film comprising: a layered synthetic saponite and a water-soluble resin; the weight ratio of the saponite being not less than 70% relative to total solids; the film having a total light transmissivity exceeding 80% as determined by JISK7105:1981; and gas barrier properties wherein the permeability coefficient of the film to oxygen gas is less than $3.2 \times 10^{-11} cm^2\ s^{-1}\ cm\ Hg^{-1}$ at room temperature, wherein the water-soluble resin is one or more selected from the group consisting of epsilon caprolactam, dextrin, starch, cellulose resin, gelatin, agar, wheat flour, gelatin, chitin, chitosan, polylactic acid, an alkyd resin, a polyurethane resin, an epoxy resin, fluororesins, an acrylic resin, a methacrylic resin, a phenolic resin, a polyamide resin, a polyester resin, a polyimide resin, a polyvinyl resin, polycarbonate, polyethylene glycol, polyacrylamide, polyethylene oxide, a protein, deoxyribonucleic acid, ribonucleic acid, a polyamino acid, a benzoic acid compound, and an acrylic acid resin, wherein the weight proportion of the water soluble resin relative to total solids is less than 30%, and wherein the light transmissivity of the film at 500 nm is not less than 80% as measured by an ultraviolet-visible spectroscope, and the light transmissivity of the film at 500 nm after heating at $200^{o}C$ for 1 hour under normal air conditions is not less than 75%, as measured by an ultraviolet-visible spectroscope and wherein the average surface roughness of the film is not greater than 20 nm, as measured by

an atomic force microscope."

IX. Dependent claims 2 to 7 relate to preferred embodiments of the film according to claim 1.

X. The appellant's arguments, as far as relevant to the present decision, may be summarised as follows:

The claims complied with the requirements of clarity and novelty. In particular, D1 neither disclosed the required average surface roughness nor the total light transmissivity as required in claim 1.

XI. The appellant requested that the decision be set aside and that a patent be granted on the basis of the set of claims of its sole request as filed during oral proceedings.

Reasons for the Decision

1. Amendments - Article 123(2) EPC

1.1 Claim 1 is based on originally filed claims 1, 4, 7, 8 and 10 and on paragraph [0010], subparagraphs (4), (7), (8) and (10), paragraph [0019], and paragraph [0012] with the additional features being found in the following passages of the application as filed:

1.1.1 The feature "synthetic saponite": in examples 1 to 4 and 7 to 13 a synthetic saponite is used; therefore there is a pointer in the application as filed to select synthetic saponite from the list of inorganic layered compounds disclosed in paragraph [0012].

1.1.2 The feature "as determined by JISK 7105:1981" is disclosed in the examples (see paragraphs [0031],

[0038],[0044]) as the method for determining the total transmissivity.

1.1.3 The feature relating to the weight proportion of the water-soluble resin can be found in paragraph [0014].

1.2 The dependent claims find their basis in the originally filed documents as follows:

Claim 2: claim 6, paragraph [0010], (6);
claim 3: claim 9, paragraph [0010], (9);
claim 4: claim 11, paragraph [0010], (11);
claim 5: claim 12; paragraph [0010], (12);
claim 6: claim 14; paragraph [0010], (14), and see the examples where the unit of the thermal expansion coefficient is "ppm $\mathbf{K^{-1}}$" (emphasis added by the board);
claim 7: claim 15; paragraph [0010], (15).

1.3 Thus, the claims comply with the requirement of Article 123(2) EPC.

2. Clarity

The requirement of clarity of the claims set forth in Article 84 EPC is complied with; the term objected to in the examination proceedings (see III above, last paragraph) has been defined more precisely.

3. Novelty

3.1 Neither the claims of D1 nor any of the working examples thereof disclose the combination of the following features: a synthetic saponite, a member of the list of water-soluble resins called for in claim 1, a total light transmissivity exceeding 80% as determined by JISK 7105:1981 and an average surface

roughness of not greater than 20 nm as measured by an atomic force microscope. In particular, none of examples 8, 10, 15 and 18 (relating to the combination of synthetic saponite and an additive) of D1 disclose such a total light transmissivity and such a roughness.

3.2 While it is true that in the examples of D1 (which has the same applicant as in the present application) a method for obtaining the film is used in a similar way to the one of the examples of the present application, D1 discloses only that the dispersion is poured into a flat-bottomed polypropylene or brass tray (see the examples). Neither the average surface roughness of the film obtained nor that of the flat-bottomed tray is disclosed.

3.3 In contrast, the present application contains an enabling teaching concerning the method for obtaining the claimed average surface roughness, i.e. if the surface supporting the film is not sufficiently smooth, its irregularities are transferred to the film's surface resulting in the effect of surface scattering of light which, in turn, results in impairing light transmittance (paragraph [0015], last sentence; paragraph [0060], last sentence). Moreover, the application contains examples explicitly disclosing average surface roughness values of the film in the claimed range (see for instance examples 7 to 9).

3.4 In view of this enabling disclosure, which is not contained in D1, the appellant cannot be said to bear the burden of proof to show that the film known from D1 does not possess an average surface roughness in the claimed range. This finding is also in line with the jurisprudence cited by the examining division in the proceedings leading up to the impugned decision

(see III above, penultimate paragraph). In the present case, for the reasons set out above, there is no "strong presumption that an unusual parameter as used to define the claimed subjected-matter is inherently disclosed in" D1 (see T 131/03, Headnote and Reasons 2.7). Moreover, in particular in view of the above enabling disclosure, the average surface roughness cannot be considered an "unusual parameter feature [representing] the only distinction over otherwise identical known products" (see T 1764/06, Catchword and Reasons 2.12).

3.5 D1 teaches that "the optical transmissivity [...] can be adjusted to 85% or higher" (paragraph [0024]). Amongst the examples in which "the optical transmissivity" is measured (examples 4, 9, 16 and 48), example 16 is the only one in which a value falling within the claimed range is disclosed. In these examples, however, a different method from the one referred to in present claim 1 is used. The method used in D1 involves immersing the film in ethanol in a quartz rectangular cell. In contrast, the method to be used according to present claim 1 is JISK7105:1981 which involves measuring transmissivity under atmosphere (see D4, item 7). Employing this method generally results in smaller values (see D4, items 12 and 13) such that the total transmissivity of example 16 of D1 would be below the lower limit of the claimed range (see D4, item 14). For these reasons and considering that light transmissivity is dependent on surface roughness (see 3.3 above), it cannot be said that D1 discloses total light transmissivity values falling within the claimed range, let alone such values in combination with the remaining features of present claim 1.

3.6 In conclusion, the subject-matter of the sole independent claim 1 differs from the disclosure of D1 at least in the average surface roughness and in the total light transmissivity.

3.7 Thus, the requirement of novelty set forth in Article 54(1),(2) EPC is complied with.

4. Remittal

The decision under appeal deals only with the provisions of Articles 123(2) and 54(1),(2) EPC and in particular does not deal with the requirements of Article 56 EPC. The board thus exercises its discretion (Article 111(1) EPC) and remits the case to the department of first instance for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution on the basis of the set of claims of the sole request filed during oral proceedings.

The Registrar: The Chairman:

C. Vodz E. Bendl

Decision electronically authenticated