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Datasheet for the decision of 2 April 2019

Case Number: T 0970/15 - 3.3.02

Application Number: 02732642.0

Publication Number: 1401972

IPC: C09D17/00, C09B67/00, C09D167/08

Language of the proceedings: EN

Title of invention:
PIGMENT PASTE

Patent Proprietor:
Akzo Nobel Coatings International B.V.

Opponent:
PPG Research & Development A'dam (RDA)

Headword:

Relevant legal provisions:
EPC Art. 83

Keyword:
Sufficiency of disclosure - main request (yes)
Remittal to the department of first instance - (yes)

Decisions cited:
T 0339/05, T 0809/07

Catchword:

Europäisches Patentamt
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Beschwerdekammern

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Case Number: T 0970/15 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 2 April 2019

Appellant: (Patent Proprietor)	Akzo Nobel Coatings International B.V. Velperweg 76 6824 BM Arnhem (NL)
Representative:	Akzo Nobel IP Department Velperweg 76 6824 BM Arnhem (NL)
Respondent: (Opponent)	PPG Research & Development A'dam (RDA) Oceanenweg 2 1047BB Amsterdam (NL)
Representative:	Appleyard Lees IP LLP 15 Clare Road Halifax HX1 2HY (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 5 March 2015 revoking European patent No. 1401972 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	M. O. Müller
Members:	S. Bertrand
	L. Bühler

Summary of Facts and Submissions

I. The appeal by the patent proprietor (hereinafter "appellant") lies from the decision of the opposition division to revoke European patent No. EP 1 401 972.

II. The contested patent contained a set of 17 claims, independent claim 1 of which reads as follows:

"1. Pigment paste for tinting a coating composition, the pigment paste comprising at least one branched alkyd having a viscosity below 5 Pa.s at 23°C at a shear rate of 100 s^{-1}."

III. The following documents are referred to in the present decision:

D1: US 5,158,608 A, and

D9: Extract from "Principles of Polymer Chemistry" P.J. Flory, published in 1953.

IV. In its decision, the opposition division had come to the conclusion that the invention as defined in claim 1 of each of the requests was insufficiently disclosed.

V. In its statement setting out the grounds of appeal, the appellant contested the reasoning of the opposition division and submitted that the invention of granted claims 1, 5 and 6 is sufficiently disclosed.

VI. The opponent (hereinafter "respondent") filed a reply to the statement of grounds of appeal.

VII. By letter of 29 January 2019, the appellant filed auxiliary requests 1, 2, 2a, 3, 3a, 4 and 4a.

VIII. Oral proceedings before the board were held on 2 April 2019.

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

The patent provided, in paragraphs [0007]-[0019], guidance to the skilled person with respect to the preparation of the alkyds to be used in the pigment paste of the invention. It showed the relevance of the number average molecular weight along with its adjustment by chain extenders and chain stoppers, of the oil length, and of the degree of branching, including ways to control it.
Even if in a first attempt to prepare an alkyd according to claims 1, 5 or 6 the required viscosity or degree of branching was not achieved, the skilled person would be able to adjust the two parameters without any undue burden such that they would be within the claimed ranges. Consequently, the patent itself, without any need to look into D1, provided sufficient teaching to carry out the invention.

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

A person skilled in the art was provided with no guidance for adjusting the viscosity to values as required by claim 1. Furthermore, there was no guidance in the patent to achieve both a viscosity as defined in claim 1 and a degree of branching as required by claims 5 and 6. As regards the degree of branching, the patent did not state any reproducible way of measuring this parameter. The calculation mentioned in the opposed patent required the use of a proprietary software which was not generally available. The mathematical approach

disclosed in D9 did not provide a calculation applicable to cases where two tri- or higher functional monomers were applied.

The patent's reference to D1 was not helpful. No shear rate was stated in D1 and therefore there was no example in D1 showing an alkyd resin having the properties as required by claim 1 of the patent.

XI. The parties' final requests were the following:

- The appellant (patent proprietor) requested that the decision under appeal be set aside and the case be remitted to the opposition division for examination of the further grounds of opposition under Article 100(a) EPC, or, alternatively, that the patent be maintained as granted, or, alternatively, that the patent be maintained in amended form on the basis of the claims of one of auxiliary requests 1, 2, 2a, 3, 3a, 4 and 4a filed with its letter dated 29 January 2019.

- The respondent (opponent) requested that the appeal be dismissed.

Reasons for the Decision

1. Sufficiency of disclosure (Article 100(b) EPC) - main request

1.1 Claim 1 refers to a pigment paste comprising, inter alia, at least one branched alkyd having a viscosity below 5 Pa.s at 23°C at a shear rate of $100s^{-1}$.

1.1.1 The respondent argued that the opposed patent did not provide enough guidance to enable the skilled person to adjust the viscosity of an alkyd so that its viscosity fell within the range specified in claim 1 of the patent. The board does not agree. The opposed patent teaches the skilled person the following:

1.1.2 Adjusting the viscosity may be done by controlling the number average molecular weight of the alkyd as explained in the patent in paragraph [0008]:

"*[0008] A possible parameter for controlling viscosity is the number average molecular weight Mn of the alkyd, which preferably is more than 1,500, more preferably between 2,000 and 2,400 g/mole.*"

The viscosity may be adjusted by the oil length as disclosed in paragraph [0009] of the patent:

"*[0009] Oil length has an influence on viscosity. Therefore, it is preferred to use an alkyd having an oil length of at least 76 and preferably below 84.*"

In addition, the viscosity may be adjusted by controlling the degree of branching as described in paragraph [0010] of the patent:

"*[0010] Controlling the degree of branching is another way to obtain an alkyd with the required viscosity while the molecular weight can still be kept high.... Preferably, the degree of branching of the alkyd is at least 0.35 and more particularly below 0.42. The degree of branching can be increased by increasing the average functionality of the monomers.*"

1.1.3 The skilled person aiming to reproduce the pigment paste of clam 1 would thus find in paragraphs [0008]-[0010] of the patent enough guidance as to the tools to be used for adjusting the viscosity.

1.1.4 The board also notes that the above paragraphs of the opposed patent refer to different preferred embodiments, i.e. a preferred number average molecular weight of between 2000 and 2400 g/mol, a preferred oil length of 76 to 84, and a preferred degree of branching of 0.35-0.42. The skilled person is thus also provided with guidance to select the preferred ranges for the above tools and subsequently prepare an alkyd having a viscosity as required by claim 1.

1.1.5 Even if the alkyd so prepared were to exhibit a viscosity above the upper limit of the range defined in claim 1 ("below 5 Pa.s"), the skilled person would, with the help of the tools disclosed in the description of the patent, have been able to reduce the viscosity, e.g. by reducing the number average molecular weight of the alkyd. As not disputed by the respondent, the skilled person would know that chain stoppers, as referred to in paragraph [0014] of the patent, are ingredients used to reduce the molecular weight.

1.1.6 The present case does not represent, therefore, a situation where the skilled person has to find out by trial and error which compounds meet the parameter set out in the claim, since the description of the patent provides sufficient guidance towards the alkyds having the required viscosity. The present case is thus different from other cases where the board decided that the claimed invention was insufficiently disclosed because sufficient guidance was missing in the

description (see, e.g., T 339/05, Reasons 3.6; T 809/07, Reasons 3.1 and 3.2).

1.1.7 Consequently, the board considers the invention as defined in claim 1 to be sufficiently disclosed.

1.2 Claims 5 and 6 refer to a pigment paste comprising inter alia at least one branched alkyd having a viscosity as defined in claim 1 and a degree of branching of at least 0.35 (claim 5) or of at least 0.35 but below 0.42 (claim 6).

1.2.1 The respondent argued that the opposed patent did not provide enough guidance to adjust both the viscosity and the degree of branching such that both are within the claimed ranges.

1.2.2 The board does not agree. The opposed patent (paragraphs [0010]-[0012]) teaches the skilled person that the degree of branching is controlled by adjusting the average functionality of the monomers:

"[0011] The degree of branching can be lowered by using more di-functional monomers."

"[0012] Suitable triols for increasing the degree of branching if so required are for example ...".

Thus, the opposed patent provides the skilled person with the necessary tools for adjusting the degree of branching as required by claim 5 or 6.

1.2.3 The respondent has not provided any arguments, let alone shown on the basis of verifiable facts, that the

viscosity required by claim 1 and the degree of branching according to claim 5 or 6 are not achievable at the same time. In the absence of such evidence the board fails to see how preparing an alkyd according to claim 5 or 6 can pose any undue burden on the skilled person.

1.2.4 The respondent argued that the method for calculating the degree of branching referred to in paragraph [0009] of the patent was not applicable in cases of two tri- or higher functional monomers.

Paragraph [0009] of the patent defines the degree of branching and refers to a method for calculating it:

"The degree of branching is defined as the probability that a randomly selected functional group of a branch unit is connected to another branch unit either directly or via a chain of bifunctional units (P.J. Flory, Principles of Polymer Chemistry, Cornell University Press, Ithaca, N.Y., 1953). A suitable computer program for calculating the degree of branching is Recom 36X, of Akzo Nobel Resins, Bergen op Zoom, The Netherlands."

The relevant pages of the book of P. J. Flory mentioned in the above passage of the opposed patent are referred to in the present appeal proceedings as D9. The following is mentioned on page 351 of this document:

"This scheme [i.e. the calculation method disclosed in D9] is not completely general, however. For example, two multifunctional [i.e. tri- or higher functional] units, one bearing A and the other B groups, may be present. ... In general, an α can be calculated from the proportions of reactants and the extent of reaction

by a procedure resembling that given above but adapted to the particular type of reaction involved" (insertion in squared brackets by the board).

Hence, it is true that the calculation method given in D9 is not applicable without modification for two tri- or higher functional monomers. However, it is stated in D9 itself that it is possible to adapt the calculation depending on the particular type of reaction involved. The respondent has not shown that the skilled person would not be able to carry out such adaptation.

More importantly, any ambiguity introduced by applying the non-adapted calculation method of D9 to tri- or higher functional monomers could represent, at most, an objection of lack of clarity under Article 84 EPC. It has not been shown by the respondent that this lack of clarity (if any) does give rise to a lack of sufficiency. In fact, as set out above, the opposed patent contains enough guidance to achieve a viscosity and a degree of branching as required by claims 5 or 6.

1.2.5 Thus, the invention defined in claims 5 and 6 is sufficiently disclosed.

1.3 The respondent also argued that both the reference to D1 and the example contained in the opposed patent did not enable the skilled person to carry out the claimed invention. Since, however, the passages of the description of the patent discussed above, without taking D1 or the example of the patent into consideration, provide the skilled person with sufficient guidance to carry out the invention, the respondent's argument does not need to be dealt with any further.

1.4 The board therefore comes to the conclusion that the ground under Article 100(b) EPC does not prejudice the maintenance of the patent on the basis of the main request.

2. Remittal (Article 111(1) EPC)

The appealed decision was restricted to the question of sufficiency of disclosure. Therefore, and in conformity with the appellant's request, the case is remitted to the opposition division 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 opposition division for further prosecution on the basis of the patent as granted.

The Registrar: The Chairman:

N. Maslin M. O. Müller

Decision electronically authenticated