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D E C I S I O N
of 12 August 1997

Case Number: T 0468/95 - 3.3.1
Application Number: 87630110.2
Publication Number: 0265363
IPC: C09D 5/44

Language of the proceedings: EN

Title of invention:
Nonyellowing cathodic electrocoat

Patentee:
BASF CORPORATION

Opponent:
Herberts GmbH

Headword:
Electrocoat/BASF CORP.

Relevant legal provisions:
EPC Art. 111(1), 114(2)

Keyword:
"Convincing arguments only during oral proceedings"
"Remittal to the first instance"

Decisions cited:
T 0124/87, T 0153/85

Catchword:
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Boards of Appeal

Chambres de recours

Case Number: T 0468/95 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 12 August 1997

Appellant: Herberts GmbH
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 5 April 1995
rejecting the opposition filed against European
patent No. 0 265 363 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: R. K. Spangenberg
Members: P. Bracke
R. E. Teschemacher

Summary of Facts and Submissions

I. This appeal lies from the Opposition Division's decision rejecting an opposition against European patent No. 0 265 363, which was granted with two claims, the only independent claim reading:

"1. A method of preventing the yellowing of the outermost clear coating of a multicoat top coat coating system comprising:

a. depositing onto a conductive substrate by cathodic electrodeposition a primer coating comprising at least one layer of an amine-epoxy resin adduct and a blocked cross-linking agent;

b. depositing a pigmented base coat/clear outer coat coating system as a top coat onto the primer coating by initially depositing, at least one layer of a pigmented film-forming base coat onto the primer, said base coat comprising pigment and resin, said base coat having a conventional viscosity and said base coat further having a dry film thickness of 17.8 to 35.6 μm (0.78 to 1.4 mils) and then depositing directly onto the pigmented base coat at least one layer of a clear film-forming outer coat, said clear coat having a dry film thickness of 30.5 to 45.7 μm (1.2 to 1.8 mils) and then curing the base coat and clear coat to form the base coat/clear coat top coat coating,

characterized in that after said deposition by cathodic electrodeposition said primer coating is cured to a hard durable film, said blocked cross-linking agent in the primer coating being a fully blocked cross-linking agent selected from the group consisting of aliphatic polyisocyanates containing at least six carbon atoms, the isocyanurates of aliphatic polyisocyanates

containing at least six carbon atoms, aromatic polyisocyanates having a molecular weight greater than 174 and the isocyanates of aromatic diisocyanates having a molecular weight greater than 174 the polyisocyanate or isocyanurate blocked with a blocking agent."

II. The Opposition Division considered three documents, among them

GB-A-2 051 072 = document (3).

Its main reason for rejecting the opposition was that it was not derivable from the teaching of document (3) that by using fully blocked polyisocyanates in primer coats containing an epoxy/amine adduct the yellowing of base coat/clear coat top coat coating systems disposed on the primer coats could be prevented or reduced, and that document (3) rather taught away from using fully blocked isocyanates.

III. Oral proceedings took place on 12 August 1997.

IV. During the oral proceedings, the Appellant (Opponent) submitted that the pigmented base coat/clear coat deposited as a top coat on the primer coating according to the claimed method was to be considered as a single coating layer and, consequently, that the claimed method concerned a method of preparing two-coat finishes, similar, if not identical, to the ones mentioned in document (3). Moreover, relying in particular on Example 6 of document (3), the Appellant disputed that this document would teach away from using fully blocked isocyanates, as was held in the decision under appeal. He stated that any unblocked or partially blocked isocyanate in a mixture with an amine-epoxy adduct would have immediately reacted with that adduct, and that the reaction product thereby obtained was a

mixture of a "modified" amine-epoxy adduct with a fully blocked isocyanate. Since modified amine-epoxy adducts were preferably to be used according to the patent in suit, the decision under appeal was clearly based upon a misinterpretation of the content of document (3). Therefore, so the Appellant argued, the subject-matter of the patent in suit, which taught no more than to reduce the undesirable yellowing of the top coat by avoiding the use of toluene diisocyanate (TDI) as a cross-linking agent in the primer coat, did not involve an inventive step.

- V. The Respondent (Proprietor) disputed the Appellant's submission that the patent in suit aimed at avoiding the use of TDI, since this diisocyanate could well be used after conversion in a prepolymer, eg by reacting it with trimethylolpropane. He further disputed that amine-epoxy adducts "modified" as described in document (3) were covered by the term "amine-epoxy resin adduct" used in Claim 1 as granted. However, he no longer contested the fact, that document (3) suggested using "non-yellowing isocyanates", such as aliphatic or alicyclic polyisocyanates, and particularly isophorone diisocyanate, for avoiding the yellowing of the top-coat in a two-coat finish, and that the primer coating according to document (3) contained, as the binder component, a reaction product of an amine-epoxy adduct with an unblocked and a partially blocked diisocyanate, and, as the cross-linking agent, a **fully blocked** diisocyanate. According to his submission the claimed method was nevertheless inventive, since it could not be expected that the yellowing of the base coat/clear top coat system could be reduced by using a fully blocked polyisocyanate, the problems encountered with the yellowing of a top coat of the type disclosed in document (3) not being comparable with those relating

to top coats containing a pigmented base coat/clear coat outer coat coating system. However, he admitted that he did not have any evidence supporting this submission.

After the above-summarised submissions the Respondent filed two sets of amended claims as his first and second auxiliary requests. The set according to the second auxiliary request, comprised two claims, with the only independent claim reading:

"1. A method of preventing the yellowing of the outermost clear coating of a multicoat top coat coating system comprising:

- a. preparing an aqueous electrodepositable cathodic coating composition by
 1. preparing an amine-epoxy resin adduct from
 - 1.1 polyepoxides containing at least an epoxy group or such polyepoxides modified by the chain extension with a water miscible or water soluble polyol or modified by a fatty acid; and
 - 1.2 amines
- or from
- 1.1 the aforementioned polyepoxides and
 - 1.2 the aforementioned amines
 - 1.3 the resulting amine-epoxy resin adducts modified by fatty acids or monoepoxides;

and

2. mixing the aforementioned amine-epoxy resin adducts with a blocked cross-linking agent;
- b. depositing the said aqueous electrodepositable cathodic coating composition onto a conductive substrate by cathodic electrodeposition to obtain primer coating comprising at least one layer of the said amine-epoxy resin adduct and the said blocked cross-linking agent;
- c. depositing a pigmented base coat/clear outer coat coating system as a top coat onto the primer coating by initially depositing at least one layer of a pigmented film-forming base coat onto the primer, said base coat comprising pigment and resin, said base coat having a conventional viscosity and said base coat further having a dry film thickness of 17.8 to 35.6 μm (0.78 to 1.4 mils) and then depositing directly onto the pigmented base coat at least one layer of a clear film-forming outer coat, said clear coat having a dry film thickness of 30.5 to 45.7 μm (1.2 to 1.8 mils) and then curing the base coat and clear coat to form the base coat/clear coat top coat coating,

characterized in that after said deposition by cathodic electrodeposition said primer coating is cured to a hard durable film, said blocked cross-linking agent in the primer coating being a fully blocked cross-linking agent selected from the group consisting of aromatic polyisocyanates having a molecular weight greater than 174, the isocyanates of aromatic diisocyanates having a molecular weight greater than 174 and prepolymers of such aromatic polyisocyanates including toluylidene diisocyanate and polyols, the polyisocyanate, the isocyanurate and the prepolymers blocked with a blocking agent."

VI. In reply to a question of the Board, the Appellant submitted that he was unable to comment during the oral proceedings on the question whether the claims according to the second auxiliary request met the requirements of the EPC, including those of Articles 84 and 123(2) EPC.

VII. The Appellant requested that the decision under appeal be set aside and that the patent in suit be revoked. Alternatively, he requested that the case be remitted to the first instance.

The Respondent withdrew his former main and first auxiliary requests and requested, as his sole remaining request, that the case be remitted to the first instance for further prosecution on the basis of Claims 1 and 2 as submitted during the oral proceedings as second auxiliary request.

Reasons for the Decision

1. The appeal is admissible.
2. Although the Appellant had already argued in the written statement setting out the grounds of appeal that, according to the teaching of document (3), fully blocked polyisocyanates were present in the primer coat as cross-linking agents (see the paragraph bridging pages 4 and 5 of the letter of 15 August 1995), it was only during the oral proceedings that the Appellant provided the convincing arguments that the reaction products described in document (3) were to be considered to consist of **a modified amine-epoxy resin adduct** as binder and a fully blocked aromatic polyisocyanate as the sole remaining cross-linking agent (see point IV.), and that it followed from Example 6 of this document that the top coat of two-

coat finishes containing as primer the baking product of a reaction product of an amine-epoxy resin adduct and a fully blocked aromatic polyisocyanate having a molecular weight greater than 174 was only slightly discoloured after baking of the top coat.

The correctness of this submission was admitted by the Respondent. Although this submission changed the factual basis of the present appeal to a considerable extent, it is based exclusively on evidence filed within the opposition period and thus in due time. Although the Board considers it highly undesirable that the Appellant had not drawn attention earlier to these relevant facts, it cannot, in the present case, find any indication that the Appellant attempted, by this late submission, to abuse his procedural rights by delaying the proceedings before the EPO. Therefore, in contrast to the situation which had arisen in the case decided in decision T 124/87 (OJ EPO, 1989, 491, reasons point 4), Article 114(2) EPC is, in the Board's judgment, not applicable in the present case and the late submission is to be taken into account. Furthermore, it follows from the summary of the decision under appeal in point II above that this undisputed submission destroys the basis of the reasoning in favour of inventive step in that decision and is therefore highly relevant to the question of patentability of the subject-matter of the patent in suit.

3. It is, however, also clear that in view of this submission the Respondent was confronted during the oral proceedings with a situation which could hardly have been foreseen, and could thus have been expected neither to provide the necessary arguments and evidence for substantiating the patentability of the claimed

method in the light of the now relevant interpretation of the state of the art, which was no longer in dispute during oral proceedings, nor to submit any suitable auxiliary requests earlier.

In this exceptional situation it is, in the Board's judgment, not justified to restrict the Respondent's right to amend the patent in suit to the submission of amendments which are "clearly allowable" in the sense that their filing during the oral proceedings does not prevent the Board from taking a final decision at the end of these proceedings (see T 153/85, OJ EPO 1988, 1, reasons point 2.1).

4. The Board is satisfied that the amendment requested by the Respondent can be regarded as a fair attempt (in the sense that it is not immediately apparent that the maintenance of the patent would contravene the EPC) to react to the objections made in the oral proceedings and to restrict the claims to patentable subject-matter for the following reasons:

In the present case there is no *prima facie* objection under Article 123 or 84 EPC against the present set of claims. Furthermore, it is not excluded that the subject-matter of these claims meets the requirement of novelty, as the Appellant agreed during the oral proceedings before the Board of Appeal that document (3) is silent about the possibility of using a base coat/clear coat layer as a top coat (see point III above), so that there is no clear and unmistakable disclosure of all the features of the claimed subject-matter in that document. Moreover, the filing of this set of claims can be considered as an attempt to distinguish the amine-epoxy resin adducts to be used in the primer coat according to the claimed method from those used for the same purpose according to the teaching of document (3), which are obtained by heating

a mixture of an amine-epoxy resin with specified amounts of fully blocked aromatic polyisocyanates, partially blocked aromatic polyisocyanates and difunctional polyisocyanates before electrodepositing the composition to a substrate. Since the use of these specific reaction products as binders is an essential element of the solution to the problem of avoiding the yellowing of the top coat, disclosed in document (3), this amendment of the set of claims as granted is not *prima facie* unsuitable for meeting the existing objection pursuant to Articles 100(a) and 56 EPC.

In this respect the Board considers that the presence of an inventive step cannot *prima facie* be denied either solely because, during the oral proceedings, it came to light that it is questionable whether even the above-mentioned technical problem has been credibly solved by all embodiments of the claimed method, since, according to the data in the table on page 13 of the patent in suit, with Samples 2A, 2B and 2D, the non-yellowing effect has only been obtained at relatively low curing temperatures. Since this question became relevant only after the present full appreciation of the disclosure of document (3), it was not fully dealt with during the proceedings before the Opposition Division, so that the parties had not yet had sufficient opportunity to present their comments in this respect.

It is therefore not immediately apparent that the patent cannot be maintained on the basis of the amended claims.

5. However, as explained above, the present case is not ready for a final decision to be taken in respect of any of the issues dealt with in the preceding paragraph, so that it is appropriate to make use of the power given to the Board by Article 111(1), second

sentence, EPC and to remit the case to the Opposition Division in order to give both parties the opportunity to substantiate their arguments and to have the case reconsidered on the new basis, if necessary, by two instances.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of Claims 1 and 2 as submitted during the oral proceedings as second auxiliary request.

The Registrar:



E. Görgmaier

The Chairman:



R. Spangenberg