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**Datasheet for the decision
of 28 January 2014**

Case Number: T 0329/11 - 3.3.01
Application Number: 03076296.7
Publication Number: 1361259
IPC: C09D163/00, C08G59/42,
C08G59/38, C09J7/02
Language of the proceedings: EN

Title of invention:
Fiber-metal laminate interphase coating

Patent Proprietor:
The Boeing Company

Opponent:
Airbus Deutschland GmbH (DE)/Airbus UK Limited (GB)/Airbus
France SAS (FR)/Airbus Espana SL (ES)/Airbus SAS (FR)/

Headword:
Adhesive coating/BOEING

Relevant legal provisions:
EPC Art. 123(2), 84
RPBA Art. 12, 13

Keyword:
Auxiliary requests 1-3, 5, 6: admitted (yes)
Main request, auxiliary requests 1-4, 6: added matter (yes)
Auxiliary request 5: clarity (no)



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Case Number: T 0329/11 - 3.3.01

D E C I S I O N
of Technical Board of Appeal 3.3.01
of 28 January 2014

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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted on 20 December
2010 revoking European patent No. 1361259
pursuant to Article 101(3) (b) EPC.**

Composition of the Board:

Chairman: A. Lindner
Members: L. Seymour
L. Bühler

Summary of Facts and Submissions

I. European patent No. 1 361 259, which was filed as application number 03 076 296.7, was granted on the basis of fourteen claims. Claim 1 as granted reads as follows (emphasis added):

"1. A two-element epoxy based adhesive coating composition for a metallic member, comprising:

an epoxy material containing 25% solids by weight; and a curative material containing 32% solids by weight, and wherein

the epoxy material includes 3% to 35% by weight liquid Diglycidylether of Bisphenol-A, 35% to 60% by weight solid Diglycidylether of Bisphenol-A, 10% to 30% Novolac-Epoxy, and 5% to 18% by weight Solid Carboxy - Terminated Acrylonitrile - Butadiene Rubber; and **the curative material includes up to 0.2% by weight Chromium Octoate and comprises 4,4'-Diaminodiphenyl-sulfone or 3,3'-Diaminodiphenylsulfone.**"

II. An opposition was filed and revocation of the patent in its entirety requested pursuant to Articles 100(c), 100(b) and 100(a) EPC (lack of novelty and inventive step).

III. The appeal lies from the decision of the opposition division revoking the patent. The decision was based on a main request (claims as granted), auxiliary request 1 filed with letter of 22 October 2010, and auxiliary request 2 filed during oral proceedings before the opposition division. The subject-matter of the main request and of auxiliary request 1 was found not to meet the requirements of Article 123(2) EPC. The claims of auxiliary request 2 were found to satisfy

Articles 123(2) and 123(3) EPC, but to contravene Article 83 EPC.

- IV. The appellant (patentee) lodged an appeal against this decision. With the statement of grounds of appeal, the appellant requested remittal for further prosecution on the basis of the main request (claims as granted) or the auxiliary request filed therewith.
- V. In its reply of 2 September 2011, the respondent (joint opponents) maintained that the subject-matter of these requests did not satisfy Articles 123(2) and 83 EPC.
- VI. With letter received on 27 December 2013, the appellant filed four auxiliary requests to replace the auxiliary request previously on file.

Claim 1 of auxiliary request 1 differs from claim 1 as granted in that the definition appearing in bold in above point I has been modified to read as follows (emphasis added):

"the curative material **consists of** 4,4'-Diamino-diphenylsulfone **or** 3,3'-Diaminodiphenylsulfone **and** up to 0.2% by weight Chromium Octoate".

Auxiliary request 2 corresponds to the auxiliary request filed with the statement of grounds of appeal (cf. above point IV). Claim 1 thereof reads as follows (emphasis added):

"1. A method of reinforcing a metallic foil, the method comprising:
preparing a surface of a metallic foil to receive an epoxy based adhesive coating composition; and

applying the epoxy based adhesive coating composition, wherein the adhesive coating composition is a two part epoxy based adhesive coating composition having an epoxy material containing 25% solids by weight and a curative material containing 32% solids by weight, wherein the epoxy material includes 3% to 35% by weight liquid Diglycidylether of Bisphenol-A, 35% to 60% by weight solid Diglycidylether of Bisphenol-A, 10% to 30% Novolac- Epoxy, and 5% to 18% by weight Solid Carboxy - Terminated Acrylonitrile - Butadiene Rubber, and **the curative material includes up to 0.2% by weight Chromium Octoate and comprises 4,4'-Diaminodiphenylsulfone or 3,3'-Diaminodiphenylsulfone,** wherein the epoxy material and the curative material are mixed at a ratio of 10 parts of the epoxy material to one part of the curative material, and, optionally, the mixture of the epoxy material and the curative material is diluted with a solvent before application so that the solvent is about 0% to 40% by weight of the application epoxy mixture, and wherein the cured epoxy based adhesive coating is 2,5 μm (0.0010 inches) thick."

Claim 1 of auxiliary request 3 differs from claim 1 of auxiliary request 2 in that the definition of the curative material has been modified in the same manner as reproduced above for auxiliary request 1 ("consists of").

Auxiliary request 4 corresponds to auxiliary request 2 forming the basis of the decision under appeal (cf. above point III). Claim 1 thereof differs from claim 1 as granted (cf. above point I) in that "by weight" has been deleted after the numerical percentage ranges for each component of the composition.

VII. During the course of oral proceedings, held before the board on 28 January 2014, the appellant presented two additional auxiliary requests based on auxiliary request 1, in which the definition of the curative material had been modified (cf. above point VI).

Thus, in claim 1 of auxiliary request 5, said definition reads as follows (emphasis added):

"the curative material **includes** up to 0.2% by weight Chromium Octoate **and about 100%** by weight 4,4'-Diaminodiphenylsulfone".

In claim 1 of auxiliary request 6, this was further modified as follows (emphasis added):

"the curative material **consists of** up to 0.2% by weight Chromium Octoate **and about 100%** by weight 4,4'-Diaminodiphenylsulfone".

VIII. The appellant's arguments, insofar as they are relevant to the present decision, may be summarised as follows:

Regarding the issue of admissibility of auxiliary requests 1 to 3, 5 and 6, the appellant argued that these should be admitted into the proceedings. Auxiliary request 2 had first been filed with the statement of grounds of appeal, in response to sufficiency objections. The further amendments introduced were straightforward and could readily be dealt with within the time available. They represented clear attempts to overcome an objection under Article 123(2) EPC, on which the opposition division had found in the appellant's favour, and which had only come into focus during oral proceedings before the board.

Concerning the objection pursuant to Article 100(c) EPC relating to the definition of the curative material in claim 1 as granted, the appellant argued that the mandatory presence of up to 0.2% chromium octoate and 4,4'-Diaminodiphenylsulfone (4DDS) or 3,3'-Diaminodiphenylsulfone (3DDS) found support in claim 4 and in the paragraphs on page 2, lines 21 to 29, and on page 3, line 32 to page 4, line 2 of the application as originally filed. In these passages, the curative material was disclosed as including 0 to 100% 4DDS, 0 to 100% 3DDS, and 0 to 0.2% chromium octoate. This amounted to an explicit disclosure of a number of combinations, namely, 4DDS, 3DDS, chromium octoate, 4DDS/3DDS, 4DDS/chromium octoate, 3DDS/chromium octoate, and 4DDS/3DDS/chromium octoate. In claim 1 as granted, alternatives had merely been deleted from this single list, and the definition of the curative material had thus been restricted to two of the combinations disclosed, namely, 4DDS/chromium octoate and 3DDS/chromium octoate.

In auxiliary request 1, the limitation had been introduced whereby the curative material was now defined as being a closed composition, since the terms "includes" and "comprises" had been replaced by "consists of". The application as originally filed disclosed the presence of chromium octoate as an additive in an amount of 0 to 0.2%, and 4DDS and 3DDS in amounts of up to "about 100%". This amounted to a direct and unambiguous disclosure of a curative material consisting of 4DDS or 3DDS, and optionally including small amounts of chromium octoate. Accordingly, the modified definitions of the curative material satisfied the requirements of Article 123(2) EPC.

Regarding the definition of the curative materials in auxiliary requests 2 to 4, analogous arguments applied as for the preceding requests.

Concerning the definition of the curative material introduced into the claims of auxiliary request 5, the appellant argued that this did not give rise to a lack of clarity. Despite the use of the term "includes", the skilled person would understand the wording employed in its context as defining a closed composition, that is, excluding components other than chromium octoate and 4DDS. Any doubts concerning this issue had been remedied by the amendment of "includes" to "consists of" in auxiliary request 6. The use of the expression "about 100%" with respect to a closed composition was clear, since it defined a specific value, namely, the balance of 4DDS making up the composition. As for auxiliary request 1, the basis in the application as originally filed could be found in the juxtaposition of the disclosure of chromium octoate in an amount of 0 to 0.2%, together with 4DDS in an amount of "about 100%".

IX. The respondent's arguments, insofar as they are relevant to the present decision, may be summarised as follows:

The respondent submitted that auxiliary requests 1 to 3, 5 and 6 should not be admitted into the proceedings. Optional features had been introduced into auxiliary request 2. Such amendments could not be seen as having been occasioned by a ground for opposition, and were therefore *prima facie* not allowable. Concerning the amendments to auxiliary requests 1, 3, 5 and 6, the respondent argued that these amounted to attempts at overcoming objections that had been on the table

throughout the opposition and appeal proceedings. Therefore, these requests could and should have been submitted earlier.

The respondent disputed that the definitions of the curative material present in the requests on file had a basis in the application as filed. The original disclosure had been altered as a result of inadmissible selections of specific combinations and amounts of components. Moreover, no basis could be found in the application as filed for replacing terms such as "includes" by "consists of" in a number of the requests.

Furthermore, it was not clear what limitations were implied by the term "about 100%" introduced into the claims of auxiliary requests 5 and 6.

- X. The appellant (patent proprietor) requested that the decision under appeal be set aside and that the case be remitted to the first instance for further prosecution on the basis of the main request (claims as granted), or alternatively on the basis of one of auxiliary requests 1 to 4, all filed with letter received on 27 December 2013, or on the basis of auxiliary requests 5 and 6 submitted during oral proceedings of 28 January 2014.

The respondent (joint opponents) requested that the appeal be dismissed. It also requested that the auxiliary requests 1 to 3, 5 and 6 not be admitted into the appeal proceedings.

- XI. At the end of the oral proceedings, the decision of the board was announced.

Reasons for the Decision

1. The appeal is admissible.
2. *Admissibility - auxiliary requests 1 to 3, 5 and 6*

Auxiliary request 2 was initially filed with the statement of grounds of appeal (cf. above points IV and VI). The limitation to method claims can be seen as a fair reaction to the decision under appeal. Therefore, this request was admitted into the proceedings (Article 12 RPBA).

Auxiliary requests 1 and 3 were filed one month prior to oral proceedings before the board, and auxiliary requests 5 and 6 during these oral proceedings. The amendments undertaken with respect to requests previously on file related to a straightforward attempt to overcome an objection of added subject-matter. They did not result in a change in the nature of the debate and could be discussed without delay.

Under these circumstances, the board decided to exercise its discretion pursuant to Article 13 RPBA and admit auxiliary requests 1, 3, 5 and 6 into the proceedings.

3. *Main request - Article 100(c) EPC*
 - 3.1 Since the feature "the curative material includes up to 0.2% by weight Chromium Octoate and comprises 4,4'-Diaminodiphenylsulfone or 3,3'-Diaminodiphenylsulfone" in claim 1 as granted (cf. above point I) does not appear verbatim in the application as originally filed, the question arises whether this subject-matter is

directly and unambiguously derivable from the application as originally filed.

- 3.2 In the application as originally filed, the curative material is defined as including or containing "about 0% to about 100% 4,4'-Diaminodiphenylsulfone, about 0% to about 100% 3,3'-Diaminodiphenylsulfone, and about 0% to about 0.2% Chromium Octoate [sic]" (see claim 4; page 2, lines 27 to 29; page 3, lines 33 to 35).

Therefore, in order to arrive at the composition for the curative material as defined in claim 1 of the patent in suit, the following steps are required:

- one of the DDS components is specified to be present, that is, the lower limit of 0% is deleted;
- the other DDS component is specified to be absent, that is, 0% is selected for this component; and
- the lower limit of 0% is deleted for chromium octoate.

Therefore, a multiple selection has been performed of individual ranges for each of the components listed. No pointer can be found in the application as originally filed to this specific combination of features, namely, the mandatory presence of 4DDS or 3DDS, to the exclusion of the other, and the mandatory presence of chromium octoate. In particular, it is noted that the application as originally filed does not contain any working examples or further disclosure of preferred compositions that could assist in this respect.

3.3 The appellant submitted that the definition of the curative material in the application as originally filed amounted to an explicit disclosure of the combinations 4DDS, 3DDS, chromium octoate, 4DDS/3DDS, 4DDS/chromium octoate, 3DDS/chromium octoate, and 4DDS/3DDS/chromium octoate. This argument is not considered to be convincing, since a clear distinction must be made between combinations falling within the definition in question, and those that are specifically disclosed in individualised form. As explained above, the cited passages of the application as originally filed list three components all of which are optional (0%), and the presence of further components is envisaged (see also page 3, line 35 to page 4, line 2; and claims 5 and 6). There is no direct and unambiguous disclosure of the two-component combinations now claimed. Therefore, the definition of the curative material in claim 1 of the patent in suit amounts to an inadmissible singling out of specific sub-groups encompassed by but not disclosed as such in the application as originally filed.

3.4 Consequently, the main request fails because it includes subject-matter which extends beyond the content of the application as originally filed (Article 100(c) EPC).

4. *Auxiliary request 1 - Article 123(2) EPC*

4.1 Claim 1 of auxiliary request 1 differs from claim 1 of the main request in that the definition of the curative material has been modified such that closed two-component compositions are defined, that is, consisting of 4DDS or 3DDS, and up to 0.2% by weight chromium octoate.

This amendment cannot alter the assessment presented above in point 3, since, in addition to the selections detailed above, the additional selection has been made that additional components are excluded. No indication can be found in the application as originally filed that any particular combination of components is intended to be exhaustive.

- 4.2 The appellant argued that, based on the juxtaposition in the application as originally filed of the presence of chromium octoate in an amount of 0 to 0.2%, and 4DDS and 3DDS in amounts of up to "about 100%", the skilled person would unambiguously identify the claimed compositions, namely, consisting of 4DDS or 3DDS, and the balance being made up by small amounts of chromium octoate, as being a preferred sub-group.

The board cannot agree that the appellant's reading of the relevant passages of the application as originally filed accurately reflects the disclosure thereof. As can be seen from the definition of the curative material in the application as originally filed, reproduced above in the first sentence of point 3.2, the term "about" is not only used to qualify the upper limit of 100% for 4DDS and 3DDS, but is to be found in front of each of the six numerical values listed. Therefore, the term "about" merely indicates the possibility of undefined deviations for each of these integers, and cannot establish a link between any two specific components. Therefore, no basis can be found for ascribing a particular identity or quantity of component(s) making up the balance at the upper limit of "about 100%", particularly in view of the fact that the application as originally filed allows for the presence of further components, in addition to the

three listed. Thus, there is no direct and unambiguous disclosure of chromium octoate as the sole additive making up the balance up to an amount of 0.2% by weight. Such a reading imparts a very specific meaning to "about 100%", namely, "99.8% or more", which is not derivable from the application as originally filed.

4.3 Hence, the subject-matter of claim 1 according to auxiliary request 1 does not meet the requirements of Article 123(2) EPC.

5. *Auxiliary requests 2 to 4 - Article 123(2) EPC*

Claim 1 of auxiliary request 2 contains the same definition of the curative material as in claim 1 of the main request.

Claim 1 of auxiliary request 3 contains the same definition of the curative material as in claim 1 of the auxiliary request 1.

The definition of the curative material in claim 1 of auxiliary request 4 only differs from that in claim 1 of the main request in that "by weight" has been deleted.

Therefore, the assessment with respect to added matter presented above in points 3 and 4 applies to these auxiliary request *mutatis mutandis*. Indeed, the appellant did not make any additional submissions in this respect.

Consequently, the subject-matter of claims 1 according to auxiliary requests 2 to 4 does not meet the requirements of Article 123(2) EPC.

6. *Auxiliary request 5 - Article 84 EPC*

In claim 1 of auxiliary request 5, the definition of the curative material has been amended such that it **"includes** up to 0.2% by weight Chromium Octoate **and about 100%** by weight 4,4'-Diaminodiphenyl-sulfone" (emphasis added).

Since the term "about 100%" was introduced in the course of appeal proceedings, it must be examined whether claim 1 so amended meets the requirements of Article 84 EPC.

The use of the expression "about 100%" introduces ambiguity with respect to the degree of deviation from the upper limit of 100% that is envisaged, for example, it may designate any number that can be rounded off to 100%, or some margin of error of measurement.

The appellant argued that the skilled person would understand the wording employed in its context as defining a closed composition, consisting of chromium octoate and 4DDS. However, this reading of the claim is at odds with the term "includes", which, in standard usage, indicates that further components may be present in the claimed composition.

It is therefore concluded that the person skilled in the art, on reading the claim 1 of auxiliary request 5, is not able to derive a clear definition of what is intended to be claimed.

Consequently, claim 1 of auxiliary request 1 does not fulfil the requirements of Article 84 EPC.

7. *Auxiliary request 6 - Article 123(2) EPC*

In claim 1 of auxiliary request 6, it is specified that "the curative material **consists of** up to 0.2% by weight Chromium Octoate **and about 100%** by weight 4,4'-Diaminodiphenylsulfone" (emphasis added).

In view of the fact that a closed composition is now defined, it can be understood from the context of the claim that the term "about 100%" designates an amount making up the balance of the composition. However, on this reading, this definition does not differ in substance from the first alternative covered by that in auxiliary request 1, that is, "the curative material **consists of** 4,4'-Diaminodiphenylsulfone ... **and** up to 0.2% by weight Chromium Octoate".

Therefore, the additional amendments introduced cannot lead to a different conclusion with respect to added matter to that reached for auxiliary request 1 (Article 123(2) EPC).

Consequently, the subject-matter of claim 1 according to auxiliary request 6 does not meet the requirements of Article 123(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. Schalow

A. Lindner

Decision electronically authenticated