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**Datasheet for the decision
of 10 May 2011**

Case Number: T 1136/10 - 3.2.07

Application Number: 06252375.8

Publication Number: 1724027

IPC: B05D 7/14

Language of the proceedings: EN

Title of invention:

Temperature dependent transparent optical coatings for high temperature reflection

Applicant:

GENERAL ELECTRIC COMPANY

Headword:

-

Relevant legal provisions:

EPC Art. 84, 111(1), 113(1), 116(1)

EPC R. 103(1)(a), 111(1)

RPBA Art. 11

Keyword:

"Request for oral proceedings ignored (yes) - substantial procedural violation (yes)"

"Objection raised for the first time in the decision (yes) - substantial procedural violation (yes)"

"Decision reasoned (no) - substantial procedural violation (yes)"

"Remittal to the department of first instance for further prosecution (yes)"

"Reimbursement of the appeal fee (yes)"

Decisions cited:

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Catchword:

-



Case Number: T 1136/10 - 3.2.07

D E C I S I O N
of the Technical Board of Appeal 3.2.07
of 10 May 2011

Appellant: GENERAL ELECTRIC COMPANY
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Schenectady, NY 12345 (US)

Representative: Pedder, James Cuthbert
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 21 December 2009
refusing European patent application
No. 06252375.8 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: H. Meinders
Members: H. Hahn
E. Dufrasne

Summary of Facts and Submissions

- I. The applicant lodged an appeal against the decision of the Examining Division to refuse the European patent application No. 06 252 375.8.

The Examining Division considered that oral proceedings had not been requested by the applicant and held that claim 1 of the single request contravenes Article 84 EPC for not comprising all essential features and in that the matter for which protection is sought is not defined. Furthermore, claim 3 was considered not to be fully supported by the description as required by Article 84 EPC.

- II. With its grounds of appeal dated 13 April 2010 the appellant requested to set aside the decision and to grant a patent on the basis of the claims 1-10 as originally filed according to the main request, or alternatively on the basis of the claims 1-8 of the first or second subsidiary request as filed together with the grounds of appeal. As an auxiliary request oral proceedings were requested.

- III. Claim 1 under consideration as originally filed reads as follows:

"1. A component for use in an elevated temperature environment having temperature dependent reflectivity comprising:
a substrate having an optically reflective surface;
and
a coating disposed over and in contact with the optically reflective surface of the substrate, wherein

the coating has a glass transition temperature, the coating having a transparency to incident radiation of less than about 50% below the coating glass transition temperature and greater than about 50% above the coating glass transition temperature, whereby below the glass transition temperature the component absorbs incident radiation and converts it to heat and above the glass transition temperature, the component reflects incident radiation from the optically reflective surface of the substrate."

The Extended European search report on the present application including the European search opinion based thereon was sent to the applicant with the communication dated 18 September 2006. In points 5 and 6 of this opinion, under the heading "clarity (Article 84 EPC)", two objections with respect to missing essential features in claim 1 and missing support in the description for claim 3, respectively, were raised.

In the course of the examination proceedings the appellant responded to the first substantive communication of the Examining Division dated 4 July 2007, which merely referred to said European search opinion by stating "*The examination of the above identified application revealed that it does not meet the requirements of the European Patent Convention for the reasons already stated in the European search opinion.*" by letter dated 13 November 2007. It argued in support of novelty and inventive step and particularly with respect to the clarity objections.

It remarked in this respect that it could not find any basis (neither on page 16 - as argued by the examiner - or anywhere else in the description) for their contention that the specific list of materials as specified in claims 2 and 3 - and as argued by the examiner - is essential to the invention. Page 16 sets out, as indicated at the end of page 1, a non limiting investigation to demonstrate a component having variable reflectivity. It should also be borne in mind that as the specific list of materials appears in claims 2 and 3 of the claims as originally filed it is clear that these specific components are not intended to be essential.

With regard to claim 3 it considered that claim 3 is fully supported by the description. The fact that the examiner takes the view that the claimed germinate glasses must be proven in the description to have properties similar to silicate glass, is not reasonable. The description clearly indicates that the germinate glasses have a similar character to the silicate glasses since they are given as alternatives. The germinate glasses have been in claim 3 as filed and this would of itself provide a basis for the claim and would allow amendment of the description if it should prove to be necessary. The fact that the only example, which was used to demonstrate a component having variable reflectivity, uses silicate glass does not mean that the germinate glasses are not equally as effective as the silicate glasses. It is not necessary to have an example for each material which can be used. Finally, the examiner was requested to reconsider his objections.

In the last paragraph of this letter it was stated
"While it is believed that the above is fully responsive to the Examiner's objections, should the Examiner feel disposed to reject the application at any time, we would request Oral Proceedings, purely as a precautionary measure, so as to avoid such a rejection. However, this should not be taken as a request for Oral Proceedings per se".

As a direct response to the appellant's letter the Examining Division issued the impugned decision dated 21 December 2009.

- IV. With a communication dated 24 September 2010 the Board gave its preliminary and non-binding opinion and expressed the view that it appeared that the Examining Division had committed substantial procedural violations when issuing the impugned decision, which appeared deficient in that
- i) it did not consider the conditional request for oral proceedings,
 - ii) by introducing a new clarity objection with respect to claim 1, to which the applicant had had no opportunity to comment nor to submit any argument, the applicant was deprived of its right to be heard, and
 - iii) it was not reasoned as required by Rule 111(2) EPC.

The Board intended to remit the case to the department of first instance for further prosecution and to reimburse the appeal fee. The appellant was asked whether or not it maintained its request for oral proceedings.

- V. With letter dated 22 November 2010 the appellant conditionally withdrew its request for oral proceedings by stating " ... *we note that this is only an intention and should the board change its mind at some point and not set aside the impugned decision, we would maintain our request for Oral Proceedings*".

Reasons for the Decision

1. *Request for oral proceedings - substantial procedural violations (Articles 116(1) and 113(1) EPC)*
- 1.1 The Examining Division states in point 3.5 of the facts and submissions of the impugned decision that "The applicant **explicitly** did not request oral proceedings" (emphasis added by the Board).
- This statement is factually wrong for the following reasons.
- 1.2 The applicant stated in its response dated 13 November 2007 "While it is believed that the above is fully responsive to the Examiner's objections, **should the Examiner feel disposed to reject the application at any time, we would request Oral Proceedings, purely as a precautionary measure, so as to avoid such a rejection.** However, this should not be taken as a request for Oral Proceedings per se" (see point IV above; emphasis in bold added by the Board).
- 1.3 According to point I of the reasons of the impugned decision the Examining Division took the view that the last sentence "this should not be taken as a request

for Oral Proceedings per se" meant that "**the applicant insists on the fact that no request for Oral Proceedings is formulated**" (emphasis added by the Board).

In doing this, the Examining Division either ignores the first sentence (which makes a clear conditional request for oral proceedings if a rejection is imminent), or interprets it exactly contrary to what it explicitly states. The first is a clear procedural violation, the second is contrary to common sense.

By considering both sentences together it is clear that the request for oral proceedings is conditional only in case a refusal of the application is intended, but is not meant to indicate that the applicant wishes, as a next submission, to give any further argumentation only orally.

- 1.4 In the impugned decision the Examining Division cited decision T 433/87 (not published in OJ EPO) in that a party's right to oral proceedings is subject to a clear and unconditional request to that effect.
- 1.4.1 That decision concerns an opposition case wherein the patent proprietor asked to arrange for oral proceedings as soon as possible in case that they would be necessary ("... bei Erfordernis baldmöglichst die mündliche Verhandlung anzusetzen ...", see point III of the facts and submissions) and the Board stated therein that this statement did **not** represent an unconditional request for oral proceedings so that the Opposition Division, which did not arrange for oral proceedings in the opposition procedure, was not only not wrong, but

actually was correct in doing so since the Opposition Division did not consider such oral proceedings to be necessary for issuing its decision (see point 2 of the reasons).

1.4.2 The Board is not aware of any requirement in the EPC or by Case Law that only unconditional requests to oral proceedings are admissible. It is absolutely normal practice to request oral proceedings e.g. only for the eventuality of an imminent adverse decision. As discussed in point 1.3 above, the Board further does not consider the present request for oral proceedings to be lacking in clarity, or to be conditional on unclear circumstances.

1.4.3 T 433/87 is further also not relevant since the request for oral proceedings in the present case was not made dependent on whether the Examiner or Examining Division considered it necessary.

1.4.4 Since the Examining Division came to the conclusion to refuse the application the condition involved by the applicant applied and it should therefore have arranged for oral proceedings, in accordance with Article 116(1) EPC.

By not granting the applicant's clear conditional request for oral proceedings the Examining Division committed a first substantial procedural violation since the applicant was firstly deprived of its right for oral proceedings according to Article 116(1) EPC and secondly of its right to be heard (Article 113(1) EPC) during such oral proceedings.

1.4.5 In any case, when interpreting a request out of its context or when a request is not clear to the Examining Division it should have tried to clarify the situation, e.g. by a telephone conversation with the representative of the appellant. Such an action would have prevented it from committing this substantial procedural violation.

2. *Ignoring the right to be heard - substantial procedural violation (Article 113(1) EPC)*

2.1 In point II of the reasons of the impugned decision the Examining Division stated for the first time during the examination proceedings (which in fact comprised only the European search opinion as substantive communication) "*Furthermore, claim 1 does not meet the requirements of Article 84 EPC in that the matter for which protection is sought is not defined. The claim attempts to define the subject-matter in terms of the result to be achieved: "the coating having a transparency to incident radiation of less than about 50% below the coating glass transition temperature and greater than about 50% above the coating glass transition temperature" Such a definition is not allowable in the present case because it appears possible to define the subject-matter in more concrete terms, viz. in terms of how the effect is to be achieved, i.e. by the chemical and physical definition of the coating.*"

2.2 By introducing this new clarity objection with respect to claim 1, which bears no relationship with the prior lack of clarity objection in respect of which the applicant had no opportunity to comment or to submit

any argument, the applicant was deprived of its right to be heard as guaranteed by Article 113(1) EPC.

Thereby the Examining Division committed its second substantial procedural violation since, as defined in Article 113(1) EPC, the decisions of the EPO may only be based on grounds or evidence on which the party concerned has had an opportunity to presents its comments (see also the Guidelines for Examination in the European Patent Office, Part E, Chapter X, 1.1).

3. *Lack of reasoning in the decision - substantial procedural violation (Rule 111(2) EPC)*

3.1 The European search opinion of the Search Division sent with the communication dated 18 September 2006 raised in points 5 and 6 the following two objections:

"Clarity (Article 84 EPC)

(5) It is clear from the description on page 16 that the following features are essential to the definition of the invention:

(1) the substrate comprises a superalloy selected from the group consisting of nickel-based, cobalt-based, iron-based and combination thereof,

(2) the coating comprises a glass selected from the group consisting of borosilicate glass, lithium silicate glass, potassium germinate glass, barium germinate glass, arsenic germinate glass, and combinations thereof.

Since independent claim 1 does not contain these features it does not meet the requirement following

from Article 84 EPC taken in combination with Rules 29(1) and (3) EPC that any independent claim must contain all the technical features essential to the definition of the invention.

(6) Claim 3 is not fully supported by the description as required by Article 84 EPC, as its scope is broader than justified by the description.

The reason the following: although the description mentions the possibility to use a coating comprising germinate glass, it seems clear from the example that the result is achieved using a silicate glass. It is not clear how a coating comprising germinate glass could obviously have the same properties as a coating comprising silicate glass, and no example is provided to support the optical behaviour of such a coating comprising germinate glass."

3.2 The first substantive communication of the Examining Division dated 4 July 2007 merely referred to the reasons given by the Search Division in the European search opinion and therefore does not contain any further explanations or reasoning concerning these two objections.

3.3 In the impugned decision in point II of the reasons it is stated (differences compared to the reasons given in the European search opinion are in bold; emphasis added by the Board):

*"II. It is clear from the description on pages **12, 13** 16 [sic] that the following features are essential to the definition of the invention:*

(1) the substrate comprises a superalloy selected from the group consisting of nickel-based, cobalt-based, iron-based and combination thereof,
(2) the coating comprises a glass selected from the group consisting of borosilicate glass, lithium silicate glass, potassium germinate glass, barium germinate glass, arsenic germinate glass, and combinations thereof.

Since independent claim 1 does not contain these features it does not meet the requirement following from Article 84 EPC taken in combination with Rules 43(1) and (3) EPC that any independent claim must contain all the technical features essential to the definition of the invention."

3.3.1 Apart from the fact that pages 12 and 13 were not mentioned in the European search opinion they as well as page 16 of the description as originally filed were quoted by the Examining Division as a basis for its objection of the essential features missing in claim 1 without specifying a relevant paragraph or relevant passage therein:

Page 12 discusses preferred properties of the coating 110 and describes the effect of incident radiation reflected or absorbed by components "particularly in high stress, high temperature environments **such as** gas turbine engines". It is, however, entirely silent with respect to the composition of superalloys or glass materials.

Page 13 mentions amongst others that "gas turbine components are typically constructed of high

temperature superalloys based on nickel, cobalt, iron or combinations thereof" and that it is desired to avoid precious metals in the coating 110 and that "the use of an optical coating that is transparent at high temperatures will not result in a major increase in reflectivity to incident radiation if the underlying substrate does not have a reflective surface, for example, when **ceramic materials** are used to form the substrate".

Page 16 concerns the description of the single example of the application relating to **an aluminium mirror coated with a layer of sodium silicate glass doped with iron.**

- 3.3.2 Therefore, none of the three quoted pages 12, 13 and 16 supports the allegation of the Examining Division that
- a) the substrate of the component must be a superalloy selected from the group consisting of nickel-based, cobalt-based, iron-based and combinations thereof;
 - b) the coating comprises a glass selected from the group consisting of borosilicate glass, lithium silicate glass, potassium germinate glass, barium germinate glass, arsenic germinate glass, and combinations thereof,
- since it is derivable from said quoted pages that the substrate **may be** a component **such as** a gas turbine component, that it **may be** a **ceramic material** or that it even **may be** made from **aluminium**. **Further**, the coating material according to the single example, namely **sodium silicate glass**, is not comprised in the aforementioned list b).

3.3.3 The same conclusion holds true when considering the rest of the specification as originally filed from which it can be derived that e.g. "the invention will now be described in greater detail, **by way of example**, with reference to the drawings ..." (see page 4, third paragraph); that "... superalloys are believed to be suitable materials for the present invention;" that "**Also ceramic materials may be employed ... Such ceramic materials are specifically contemplated for use in the present invention ...**" (see page 7, fourth paragraph); that "substrate materials are **preferably** high temperature superalloys based on nickel, cobalt, iron or combinations thereof;" that "**The substrate materials are not so limited and may be a ceramic matrix composite (CMC) material, for example.**" (see page 10, third paragraph); that "the coating 110 of the present invention is **any material** that has a transparency to incident radiation that is different at different temperatures" and finally that "**Exemplary materials** include borosilicate glass ... lithium silicate glass ... potassium germinate glass, barium gallium germinate glass, and arsenic sulfide glass, **by way of example only.**" (see page 10, fourth paragraph to page 11, first paragraph).

3.3.4 The Board can only conclude from the application as originally filed that the Examining Division's objections concerning claim 1 and its missing essential features remain allegations as they are not reasoned since no explanation is given as to why these features should be considered to be essential.

3.4 In the impugned decision in point III of the reasons it is stated:

"III. Claim 3 is not fully supported by the description as required by Article 84 EPC, as its scope is broader than justified by the description.

The reason the following: although the description mentions the possibility to use a coating comprising germinate glass, it seems clear from the example that the result is achieved using a silicate glass. It is not clear how a coating comprising germinate glass could obviously have the same properties as a coating comprising silicate glass, and no example is provided to support the optical behaviour of such a coating comprising germinate glass."

- 3.4.1 Taking account of the disclosure of the description with respect to the exemplary glass materials for the coating 110 (see point 3.3.3 above) it is likewise evident that the objection with respect to claim 3 based on the example using a silicate glass not providing a basis for the claimed germinate glasses also remains an allegation as it is not derivable from the application as originally filed that germinate glasses when applied as said coating are expected to behave significantly different from the silicate glasses. To the contrary, they are mentioned in the description as alternative to each other.

In case that the Examining Division was aware of further evidence or documents supporting its allegation then it should have introduced this evidence before issuing the impugned decision.

- 3.4.2 The impugned decision clearly does **not** contain anything dealing with the arguments submitted by the appellant in this respect (see point IV above), particularly not as to why they cannot be accepted. Consequently, the impugned decision is also not reasoned in that respect.

The Board therefore concludes that the impugned decision falls short of revealing the reasons which led the department of first instance to conclude lack of support for claim 3.

- 3.5 The Board thus has to establish that the Examining Division, when issuing the impugned decision, did not follow the Guidelines for Examination in the European Patent Office, according to which the reasoning must contain in logical sequence those arguments which justify the order. Furthermore, the reasoning should be complete and independently comprehensible and the reasoning should contain the important facts and arguments which speak against the decision (see the Guidelines, Chapter E-X, 5).

The latter means that the decision should address the arguments of the losing party (not in the least to also comply with the right to be heard) and should make sure that it deals sufficiently with the counterarguments put forward and provide reasoned support for what it concludes.

The lack of reasoning in the impugned decision is the third substantial procedural violation since it results in the appellant being deprived of any reasoning which it can properly address in appeal and the Board being unable to properly examine the reasons why the

Examining Division came to the conclusion of lack of clarity and support.

4. *Remittal to the department of first instance (Article 111(1) EPC)*

In view of the aforesaid substantial procedural violations the Board considers that it is appropriate to set aside the decision under appeal for this reason alone, in application of Article 11 RPBA, and to remit the case to the department of first instance for further prosecution in accordance with Article 111(1) EPC.

As the request for oral proceedings in appeal was only auxiliary in this respect (see point VI above), the present decision could be taken in written proceedings.

5. *Reimbursement of the appeal fee (Rule 103(1)(a) EPC)*

For the above reasons it is also equitable to reimburse the appeal fee pursuant to Rule 103(1)(a) EPC.

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.
3. The appeal fee is to be reimbursed.

The Registrar:

The Chairman:

G. Nachtigall

H. Meinders