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**Datasheet for the decision  
of 15 February 2017**

**Case Number:** T 1605/14 - 3.3.05

**Application Number:** 06121639.6

**Publication Number:** 1772441

**IPC:** C04B35/486

**Language of the proceedings:** EN

**Title of invention:**

Ceramic material and coatings for high temperature service

**Patent Proprietor:**

Oerlikon Metco (US) Inc.

**Opponent:**

H.C. Starck GmbH

**Headword:**

Ceramic material/Oerlikon Metco

**Relevant legal provisions:**

RPBA Art. 13(1)

**Keyword:**

Late-files requests not clearly allowable

**Decisions cited:**

G 0003/14, T 1634/09, T 0419/12

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 1605/14 - 3.3.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.05**  
**of 15 February 2017**

**Appellant:**  
(Patent Proprietor)

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted on 26 May 2014  
revoking European patent No. 1772441 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** E. Bendl  
**Members:** G. Glod  
P. Guntz

### **Summary of Facts and Submissions**

I. The present appeal lies from the decision of the opposition division to revoke European patent EP-B-1 772 441.

II. Claims 1 and 14 to 17 as originally filed read as follows:

*"1. A ceramic material for use in high-temperature thermal barriers or abradable seal coatings, said material consisting essentially of:*

*about 4 to 20 weight percent of a stabilizer of one or more rare earth oxides; and a balance of at least one of zirconia ( $ZrO_2$ ), hafnia ( $HfO_2$ ) and combinations thereof,*

*wherein the zirconia ( $ZrO_2$ ) and/or hafnia ( $HfO_2$ ) is partially stabilized by the stabilizer, and wherein the total amount of impurities is less than or equal to 0.15 weight percent."*

*"14. The ceramic material of claims 1 to 13, wherein the material can be supplied in the form of a powder or a slurry of partially stabilized powder."*

*"15. A blended ceramic material comprising one or more of any of the ceramic material of claims 14."*

*"16. The blended material of claim 15, further comprising a placeholder."*

*"17. The blended material of claim 16, wherein the one or more ceramic materials comprises about 70-99 weight percent and the placeholder comprises about 1 -30 weight percent."*

III. Claim 1 of the patent as granted reads as follows:

*"1. A blended material for use in high-temperature thermal barrier coatings or abradable seal coatings comprising 70-99 weight percent of one or more ceramic materials and 1-30 weight percent of a [sic] organic or inorganic placeholder material, each ceramic material consisting of: 4 to 20 weight percent of a stabilizer of one or more rare earth oxides; and a balance of at least one of zirconia (ZrO<sub>2</sub>), hafnia (HfO<sub>2</sub>) and combinations thereof, wherein the zirconia (ZrO<sub>2</sub>) and/or hafnia (HfO<sub>2</sub>) is partially stabilized by the stabilizer, and wherein the total amount of impurities in the ceramic material is less than or equal to 0.15 weight percent."*

IV. The opposition division found that the then main request and two auxiliary requests filed during the oral proceedings did not meet the requirements of Article 123(2) EPC and did not admit auxiliary requests 1 to 3, submitted with letter of 3 April 2014, into the proceedings.

V. The appellant (patent proprietor) filed two sets of claims with the statement of grounds of appeal of 1 October 2014.

VI. By letter of 9 February 2015, the respondent (opponent) submitted its reply and raised objections inter alia under Article 123(2) and (3) EPC.

VII. In the communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), the board was of the preliminary opinion that claim 1 of

the then main request and second auxiliary request did not meet the requirements of Article 123(2) EPC.

- VIII. By letter of 1 December 2016, the appellant filed a single request, thereafter referred to as the main request, and withdrew the previous requests.
- IX. The respondent commented on this main request in its letter of 11 January 2017 and questioned its admissibility.
- X. Oral proceedings took place on 15 February 2017. After discussion of the main request, the appellant submitted a new auxiliary request entitled "auxiliary request A", thereafter referred to as the auxiliary request.
- XI. Claim 1 of the main request reads as follows:

*"1. A blended material comprising a placeholder and a blended ceramic material comprising one or more of any of a ceramic material for use in high-temperature thermal barrier coatings or abradable seal coatings, wherein the material can be supplied in the form of a powder or a slurry of partially stabilized powder, and the one or more ceramic materials comprising 70-99 weight percent of one or more ceramic materials and 1-30 weight percent of the placeholder material, each ceramic material consisting of:  
4 to 20 weight percent of a stabilizer of one or more rare earth oxides; and  
a balance of at least one of zirconia (ZrO<sub>2</sub>), hafnia (HfO<sub>2</sub>) and combinations thereof,  
wherein the zirconia (ZrO<sub>2</sub>) and/or hafnia (HfO<sub>2</sub>) is partially stabilized by the stabilizer, and wherein the total amount of impurities in the ceramic material is less than or equal to 0.15 weight percent."*

Claim 1 of the auxiliary request reads as follows:

*"1. A blended material comprising a blended ceramic material comprising one or more of any of a ceramic material, the blended material for use in high-temperature thermal barrier coatings or abradable seal coatings, wherein the ceramic material is supplied in the form of a powder or a slurry of partially stabilized powder, and the one or more ceramic materials comprising 70-99 weight percent of one or more ceramic materials and 1-30 weight percent of a placeholder material, each ceramic material consisting of:*

*4 to 20 weight percent of a stabilizer of one or more rare earth oxides; and*

*a balance of at least one of zirconia ( $ZrO_2$ ), hafnia ( $HfO_2$ ) and combinations thereof,*

*wherein the zirconia ( $ZrO_2$ ) and/or hafnia ( $HfO_2$ ) is partially stabilized by the stabilizer, and wherein the total amount of impurities in the ceramic material is less than or equal to 0.15 weight percent."*

XII. The appellant's arguments may be summarised as follows:

The main request was an attempt to overcome the objections raised in the board's communication and should therefore be admitted into the proceedings. The criteria i) to iii) mentioned in decision T 419/12 (Reasons 2.2.3) were fulfilled.

The features added to claim 1 of the main request found a basis in claims 1 and 14 to 17 of the application as filed. It was clear from claim 14 of that application that "the material" had to relate to the ceramic material. It was also evident that the blended material

had to be "for use in high-temperature thermal barrier coatings or abradable seal coatings", since it contained 70-99 weight percent of one or more of any of a ceramic material for use in high-temperature thermal barrier coatings or abradable seal coatings. Further, the skilled person would understand that "can be supplied in the form of" meant that the material "was in the form of".

Claim 1 of the auxiliary request overcame all the deficiencies that were considered "*prima facie*" not allowable in claim 1 of the main request. Claim 1 was merely a juxtaposition of claims 1 and 14 to 17 as filed; so the requirements of Article 123(2) and (3) EPC had to be met.

XIII. The respondent's arguments may be summarised as follows:

The appellant had had ample opportunity to overcome the ground for opposition under Article 100(c) in combination with Article 123(2) EPC. The main and auxiliary requests could already have been filed before the opposition division. In any case, they were not clearly allowable, since they led to new problems under Article 123(2) and (3) EPC and Article 84 EPC. They should not be admitted into the proceedings.

XIV. The appellant (patent proprietor) requested that the decision under appeal be set aside, that the claims of the main request (dated 1 December 2016) or, in the alternative, of the auxiliary request (submitted during the oral proceedings) be found to comply with the provisions of Articles 84 and 123(2), (3) and Rule 80 EPC and that the case be remitted to the department of first instance for further prosecution or, in the



alternative, that the appeal proceedings be continued in writing.

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

### **Reasons for the Decision**

1. Main request

1.1 Article 13(1) RPBA

1.1.1 According to Article 13(1) RPBA, any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the board's discretion. This discretion is to be exercised in view of inter alia the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

1.2 T 419/12 (Reasons 2.2.3) applied the approach of T 1634/09 (Reasons 3.2) to decide whether a request filed after the oral proceedings had been arranged should be admitted. According to that approach (see also Case Law of the Boards of Appeal of the EPO, 8<sup>th</sup> edition 2016, IV.E.4.2.5), such a request may be admitted and considered at the board's discretion

i) if sound reasons exist for filing this request so far into the proceedings,

ii) if the amended request does not extend the scope of discussion as determined by the grounds of appeal and the respondent's reply,

iii) if the amended request is clearly or obviously allowable.

1.2.1 In applying this approach to the present case, the board notes the following:

i) The present request can be regarded as a reaction to the communication pursuant to Article 15(1) RPBA. Therefore, it could be accepted that reasons existed for filing the main request at that stage of the proceedings.

ii) However, the request does not overcome the objections under Article 123(2) EPC and leads to new problems under Articles 84 and 123(3) EPC, and so the scope of discussion is extended.

iii) The request is clearly not allowable for the following reasons:

The wording of claim 1 now distinguishes between a "blended material", a "blended ceramic material" and a "ceramic material" (see appellant's submission of 1 October 2014, page 2, last paragraph). Thus, the claim at issue refers to a "blended material" comprising a placeholder and a "blended ceramic material" comprising "one or more of any of a ceramic material".

Focusing only on the multiple definitions used, it becomes apparent that claim 1 is now directed towards a blended material that comprises an **undefined amount of placeholder and an undefined amount of a blended ceramic material**, thus violating both Article 123(2) and Article 123(3) EPC.

The board can agree with the appellant that the weight ranges present in claim 1 originate from claim 17 as

filed. However, according to that claim 17, the blended material itself comprises 70-99 weight percent of one or more ceramic materials and 1-30 weight percent of a placeholder material. This is no longer the case in current claim 1, since now the amounts of placeholder and blended ceramic material are undefined. For example, additional placeholder could also be present without being part of the blended ceramic material, so the weight range limitation present in claim 17 as filed no longer applies. This is not in line with the requirements of Article 123(2) EPC.

According to claim 1 of the patent as granted, the blended material has to be suitable "for use in high-temperature thermal barrier coatings or abradable seal coatings". This does not apply to the blended material according to claim 1 of this request, since only the ceramic material that is part of the blended material in an undefined amount needs to have said property. It cannot be concluded that the presence of the ceramic material in the blended material will inevitably provide said property to the blended material, since the latter is not limited to the presence of such ceramic materials, but can comprise other non-defined materials and a placeholder. The final property of the blended material is also dependent on the type and amount of the other materials and placeholder present in the final blend (blended material). Therefore, the subject-matter of claim 1 extends the protection conferred by the patent, contrary to the requirements of Article 123(3) EPC.

Claim 1 contains the expression "the material", but it is not clear which material the expression refers to, since "blended material", "blended ceramic material" and "ceramic material" are all mentioned earlier in the

claim. Since this lack of clarity was introduced through amendment, it is open to objection under Article 84 EPC (see G 3/14, Reasons 81).

In addition, the expression "can be supplied" is ambiguous, since the skilled person would not understand whether the feature "in the form of a powder or a slurry of partially stabilized powder" is to be regarded as optional or as essential. The finding that said expression has no well-defined meaning was already present in the notification pursuant to Article 15(1) RPBA (see point 4.1.1, second paragraph), so the appellant should have been aware of the clarity problem. Further, it is to be noted that claim 16 as granted did not contain the wording "can be supplied", and so this amendment too is open to objection under Article 84 EPC.

1.2.2 As a consequence, the only possible conclusion is that the requirements listed under points ii) and iii) above (point 1.2) are not fulfilled, and therefore the board, in agreement with established jurisprudence, exercises its discretion by not admitting the main request into the proceedings.

2. Auxiliary request

2.1 Article 13(1) RPBA

2.1.1 The auxiliary request was filed during oral proceedings before the board after the main request had been discussed. The criteria i) to iii) also apply here (point 1.2).

2.1.2 Claim 1 is still not clearly allowable for the following reasons:

Claim 1 is now directed towards a blended material comprising **an undefined amount of a blended ceramic material** that comprises defined weight ranges of one or more ceramic materials and of a placeholder material.

As already indicated above, according to claim 17 as filed, the blended material itself comprises 70-99 weight percent of one or more ceramic materials and 1-30 weight percent of a placeholder material. This is not the case in current claim 1, since this weight limitation applies only to the blended *ceramic material*, which itself is present in an undefined amount in the blended material claimed. If the blended ceramic material constituted only 10% of the overall blended material - a possibility that is covered by the wording of claim 1 - and the percentages of 70-99 wt% and 1-30 wt% applied to the ceramic materials and the placeholder, then the claimed material contained only 7 to 9.9 weight percent of one or more ceramic materials and 0.1-3 weight percent of a placeholder material. Such ranges are clearly not covered by the application as filed, and therefore the requirements of Article 123(2) are not met.

Further, claim 1 of the patent as granted also contains the limitation that the blended material itself comprises 70-99 weight percent of one or more ceramic materials and 1-30 weight percent of a placeholder material. Since this limitation is no longer present in claim 1 (see previous paragraph), the subject-matter of claim 1 also extends the protection conferred by the patent, contrary to the requirements of Article 123(3) EPC.

2.1.3 As a consequence, at least the requirements of point iii) above are not met, and therefore the board exercises its discretion by also not admitting the auxiliary request into the proceedings.

## Order

### **For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



C. Vodz

E. Bendl

Decision electronically authenticated