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**Datasheet for the decision
of 20 May 2016**

Case Number: T 1554/15 - 3.2.06

Application Number: 09179370.3

Publication Number: 2204540

IPC: F01D5/28, C23C28/00

Language of the proceedings: EN

Title of invention:

A thermal barrier coating system for enhancing heat transfer
of turbine engine components

Applicant:

General Electric Company

Relevant legal provisions:

EPC Art. 123(2)

Keyword:

Amendments - extension beyond the content of the application
as filed (yes)



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Case Number: T 1554/15 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 20 May 2016

Appellant: General Electric Company
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Representative: Illingworth-Law, William Illingworth
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted on 23 February
2015 refusing European patent application No.
09179370.3 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman M. Harrison
Members: G. de Crignis
W. Ungler

Summary of Facts and Submissions

- I. The examining division refused European patent application No. 09179370.3 holding that the application did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 83 EPC).
- II. The appellant (applicant) filed an appeal against this decision and together with its statement setting out the grounds of appeal a new set of claims replacing the previous set was filed. Oral proceedings were requested.
- III. The appellant was summoned to oral proceedings. In a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal sent in order to prepare for the oral proceedings, the Board gave its preliminary view, according to which the requirements of Articles 83, 84 and 123(2) EPC were not met. The appellant did not reply.
- IV. Oral proceedings were held before the Board on 20 May 2016.
Although duly summoned, no-one appeared for the appellant.
Accordingly, the appellant's requests remained as set out in the statement of grounds of appeal as follows: the decision under appeal be set aside and the patent be granted on the basis of claims 1 to 3 as filed on 3 July 2015 with the statement of grounds of appeal.
- V. Claim 1 reads:
"A turbine combustion component (5) comprising:
a substrate (2 (20)) having a hot side surface (22)
and a cold side surface (24); and an outside surface;

a bond coat (30) deposited on and in contact with the hot side surface (22); and
a ceramic layer (34) deposited on and in contact with the bond coat (30);
characterized in that the outside surface (36) is a surface of a metallic layer (32) deposited on and in contact with the cold side surface (24) of the substrate,
the metallic layer (32) having a high thermal conductivity, wherein the high thermal conductivity is between about 34,61 W/mK (20 BTU/h ft[°]F) and about 103.84 W/mK (60 BTU/hr ft[°]F)
and has a surface roughness of between about 7.62 μm (300 micro-inches) and 22.86 μm(900 micro-inches) and comprises a NiAl having greater than about 50 weight percent aluminum."

VI. The appellant argued in its grounds of appeal as follows:

Claim 1 was amended to use the original wording of claim 1 that the substrate has a hot side surface and a cold side surface; and that the component has an outside surface. The word "phase" was deleted in the penultimate line of previous claim 1.

The basis for claim 1 was to be found in original claims 1, 2, 3, 5, 7 and 8. Basis for claim 1 could also be found in Figure 1.

Claims 2 and 3 were based on original claims 4 and 9 respectively.

Reasons for the Decision

1. Article 123(2) EPC

1.1 Irrespective of whether the requirements of Articles 83 and 84 EPC are met - as addressed in the Board's communication -, claim 1 of the sole request does not comply with the requirement of Article 123(2) EPC as already indicated under point 8 of the aforementioned communication, which reads as follows:

"Should the requirement of Article 83 EPC nevertheless be found to be met, in regard of Article 123(2) EPC it may also be questioned, at least, where the basis exists for the definition in claim 1 "comprises a NiAl having greater than about 50 weight percent aluminium". This is not defined in any of claims 1, 2, 3, 5, 7 or 8, even though the appellant gives these as the source for the subject-matter of claim 1."

Since the appellant did not reply to the communication, the Board has no reason to deviate from its preliminary view and confirms same herewith as explained below.

1.2 In originally filed claims 1, 2, 3, 5, 7 and 8, in particular in claim 8, the metallic layer is defined as follows

"wherein the metallic layer (32) is a NiAl comprising greater than about 50 weight percent aluminum", which differs from the definition in claim 1 under consideration.

1.3 According to this wording and the language conventional for patent claims, the word "comprises" does not exclude the presence of other alloys, whereas in the claims as filed (as well as in the description as filed) it is defined that the metallic layer "is" a NiAl.

- 1.4 Figure 1, which was also referred to as a basis for the wording of claim 1, shows a schematic view of a thermal barrier coating system having a bond coat in accordance with one exemplary embodiment. The composition of the metallic layer cannot be deduced from this Figure.
- 1.5 Therefore, claim 1 does not comply with the requirement of Article 123(2) EPC. Hence, at least for this reason the appellant's request is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated