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D E C I S I O N
of 9 January 2003

Case Number: T 1183/00 - 3.2.3

Application Number: 96304427.6

Publication Number: 0748664

IPC: B22F 7/06, B24D 3/06

Language of the proceedings: EN

Title of invention:
Reduction of stresses in the polycrystalline abrasive layer of a composite compact with in situ bonded carbide/carbide support

Applicant:
General Electric Company

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 54, 113, 123(2)

Keyword:
"Novelty (no)"

Decisions cited:
-

Catchword:
-

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Case Number: T 1183/00 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 9 January 2003

Appellant: General Electric Company
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Representative: Goode, Ian Roy
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Decision under appeal: **Decision of the Examining Division 2.3.09.015 of the European Patent Office posted 27 June 2000 refusing European patent application No. 96 304 427.6 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: C. T. Wilson
Members: F. Brösamle
M. Aúz Castro

Summary of Facts of Submissions

I. With the decision of 27 June 2000 the examining division refused European patent application No. 96 304 427.6 in the light of

(D1) EP-A-0 418 078 and

(D2) EP-A-0 478 310

for reasons of Article 54 EPC.

II. Against the above decision of the examining division the applicant - appellant in the following - lodged an appeal on 31 August 2000 paying the fee on the same day and filing the statement of grounds of appeal on 6 November 2000 together with claims 1 to 9.

III. The independent claims 1 (method) and 6 (product) thereof read as follows:

"1. Method for making a metal carbide supported polycrystalline composite compact under conditions of high pressure and high temperature (HP/HT) in an HP/HT apparatus, which comprises the steps of:

(a) placing within an enclosure a mass of abrasive particles, a first mass of metal carbide support material adjacent said abrasive particles, a second mass of metal carbide support material adjacent said first mass, and a layer of brazing filler alloy having a melting point range within a temperature range of 700-1093°C between said first and second support masses;

(b) subjecting said enclosure to said HP/HT conditions for a time sufficient to form a composite compact wherein said first carbide support is bonded to said second carbide support by said brazing filler alloy; and

(c) recovering said composite compact."

"6. A metal carbide supported composite compact comprising a sintered polycrystalline compact layer bonded at an interface to a first metal carbide support layer which is in situ bonded to a second metal carbide support layer by means of a brazing filler alloy having a melting point range within a temperature range of 700-1093°C."

IV. Compared to the claims 1 and 6 underlying the contested decision claims 1 and 6 have been amended to specify that the brazing filler alloy has a melting point range from 700 to 1093°C and that the first and second metal carbide support layers are bonded by means of such a brazing filler alloy.

The appellant contends that the materials used for bonding in (D1) and (D2) would not normally be described as brazing alloys since their melting points would be at least 1453°C. He furthermore contends that the known bonding materials formed a thermal barrier not allowing lower temperatures for bonding which have, however, the unexpected result that the resulting compact demonstrated lower residual stress than prior art compacts.

V. The board issued a Communication pursuant to Article 11(2) RPBA and arranged oral proceedings to be held on 17 December 2002.

VI. With telefax dated 10 December 2002 the appellant informed the board that he had decided not to attend the oral proceedings - which the board cancelled with notification of 11 December 2002.

VII. The appellant requests to set aside the decision under appeal and to decide "on the basis of the submissions at present on file", namely to grant a patent on the above claims 1 to 9.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

In the following reference is made to EP-A1-0 748 664 since this publication corresponds to the originally filed documents.

2.1 Claim 1 is based on all features of claim 1 as originally filed whereby the additional feature, namely the melting point range being up to 1093°C can be seen from page 4, line 55 to page 5, line 9.

2.2 Claims 2 to 5 and 7 to 9 correspond to originally filed claims 2 to 5 and 7 to 9.

2.3 Claim 6 is based on all features of originally filed claim 6; the additional feature with respect to the temperature range of 700 to 1093°C can be derived from the originally filed description, see above remark 2.1.

2.4 Summarizing, claims 1 to 9 meet the requirements of Article 123(2) EPC.

3. *Novelty*

3.1 In the board's above communication preparing the oral proceedings the board outlined that

(D3) US-A-4 225 322 (cited in the opening of (D1))

is a novelty destroying document to the subject-matter of claim 1.

3.2 From (D3) is known a method for making a metal carbide supported polycrystalline composite compact with all features of claim 1 apart from the feature that the brazing filler alloy has a temperature range of 700 to 1093°C.

3.3 Of specific interest in (D3), however, are Figure 1, reference sign "19" for abrasives of diamond or CBN, "21" for first support mass of metal carbides, "17" for brazing filler alloy, "20" for second support mass of metal carbides, column 1, line 65 to column 2, line 2, column 3, lines 8 to 10 and 22 to 27, column 4, lines 1 to 5, lines 40/41, lines 47 to 49, lines 55 to 57 and lines 65 to 68, as well as claims 1, 3, 4 and 6.

3.4 Literally mentioned is the braze alloy "Anaconda 773", see column 4, lines 55 to 57, which alloy is also proposed in the refused application, see EP-A1-0 748 664, page 5, lines 1 and 2. This alloy lies within the claimed range of 700 to 1093°C so that it must be assumed that the same effect as set out by the appellant is achieved - namely lower residual stress of

the compact.

3.5 Since the range of claim 1 is no more than a summary of individual examples, see EP-A1-0 748 664, page 4, line 55 to page 5, line 9, (D3) is a novelty-destroying document to the subject-matter of claim 1 since one of its alternatives, namely "Anaconda 773", is derivable therefrom, Article 54 EPC. Claim 1 is therefore not allowable.

3.6 As appellant's request to grant a patent has to be seen as a whole, the nonallowable claim 1 makes the request to grant a patent unallowable.

3.7 Since the present decision is based only on arguments presented in the board's communication, and since the appellant did not bring forward any arguments to contradict the findings of the board expressed in the board's Communication pursuant to Article 11(2) RPBA, the requirements of Article 113 EPC have been met and the board could issue this decision without any further communication.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

A. Counillon C. T. Wilson