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**Datasheet for the decision  
of 30 August 2006**

**Case Number:** T 0735/05 - 3.2.07

**Application Number:** 96928033.8

**Publication Number:** 0844920

**IPC:** B24B 31/00

**Language of the proceedings:** EN

**Title of invention:**

Method and apparatus for shaping an orifice with an abrasive slurry

**Patentee:**

Dynetics LLC

**Opponent:**

Sonplas GmbH

**Headword:**

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**Relevant legal provisions:**

EPC Art. 123(2)  
RPBA Art. 10b(1)

**Keyword:**

"Admissibility (main request: yes; first auxiliary request: no)"

"Extension beyond the content of the application as filed (yes)"

**Decisions cited:**

T 1126/97

**Catchword:**

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Case Number: T 0735/05 - 3.2.07

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.07  
of 30 August 2006

**Appellant:**  
(Patent Proprietor)

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**Respondent:**  
(Opponent)

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**Representative:**

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**Decision under appeal:**

Decision of the Opposition Division of the  
European Patent Office posted 29 April 2005  
revoking European patent No. 0844920 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** C. Holtz  
**Members:** K. Poalas  
H. Hahn

## **Summary of Facts and Submissions**

- I. The appellant (patent proprietor) lodged an appeal against the decision of the Opposition Division revoking the European patent No. 0 844 920.
- II. Opposition had been filed by the opponent against the patent as a whole based on Article 100(a) EPC on the ground of lack of inventive step (Article 56 EPC) and also based on Article 100(c) EPC on the ground of added subject-matter.

The Opposition Division found that claim 1 as granted fulfils the requirements of Article 123(2) EPC. The Opposition Division found on the other hand that the subject-matter of claim 1 of the main and the first auxiliary requests does not involve an inventive step and therefore the requirements of Article 56 EPC are not met. The second auxiliary request filed during the oral proceedings was not admitted into the proceedings according to Rule 71a(1) EPC.

- III. With the appeal letter the maintenance of the patent as granted was requested, see appellant's letter dated 29 August 2005, first page, last sentence. With the letter dated 20 December 2005 the respondent presented arguments against the maintenance of the patent as granted. In a further letter dated 26 July 2006, said letter being a response to the summons of the Board dated 16 June 2006, the appellant requested as main request the maintenance of the patent in a restricted version and the respondent presented arguments against that restricted version with the letter dated 17 August 2006.

IV. Oral proceedings before the Board of Appeal took place on 30 August 2005.

(a) The appellant requested that the decision under appeal be set aside and that the patent be maintained either as granted (main request) or on the basis of auxiliary request 1 as submitted during the oral proceedings.

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

V. The following document is mentioned in the present decision:

D0: WO 97 05989 A

which corresponds to the application as originally filed.

VI. Independent claim 1 as granted reads as follows:

"A method for abrading a microhole (52) for a design liquid, which process comprises:  
flowing an abrasive thixotropic liquid slurry, comprising a liquid material, finely divided abrasive particles and a rheological additive to maintain uniform distribution of said particles, through a feed conduit at a first higher viscosity and a first lower shear rate;  
flowing the slurry through the microhole (52) at a second lower viscosity and a second higher shear rate;  
measuring the pressure upstream of the microhole;

maintaining the pressure upstream of the microhole constant;  
measuring the flow rate of the slurry; and  
stopping the flow of the slurry through the microhole when the flow rate reaches a value that correlates to the flow rate of a design liquid."

Independent claim 1 according to the first auxiliary request filed during the oral proceedings differs from claim 1 as granted through the deletion of the expression "to maintain uniform distribution of said particles" and through the addition of the two complete sentences between lines 3 and 8 on description page 6 of D0.

VII. The appellant argued essentially as follows:

(a) Main request

(i) Admissibility

The patent proprietor appealing against the revocation of the patent is always entitled during the appeal proceedings to revert to the granted version of the patent, even if he had filed a restricted version of the claims during the appeal proceedings.

(ii) Amendments - Article 123(2) EPC

The expression "an abrasive thixotropic liquid slurry, comprising a liquid material, finely divided abrasive particles and a rheological additive" in claim 1 as granted

is unambiguously derivable from claim 2 as originally filed in combination with the information disclosed in the first four lines of page 8 of D0.

It is clear to the skilled person by reading the sentence between lines 3 and 6 of page 6 independently from the rest of said paragraph of page 6 of D0, and by combining this information with the information derivable from the first paragraph of page 8, that the rheological additive creates the thixotropic slurry. Combining this information together with the well known fact, that thixotropic materials normally have uniformly distributed particles therein, the skilled person automatically understands that it is the rheological additive which maintains uniform distribution of the abrasive articles.

(b) First auxiliary request

(i) Admissibility

The auxiliary request has not been filed earlier because the appellant had no reason to believe that the decision of the opposition division would not be overturned. Hence, this request should not be refused as being late-filed.

VIII. The respondent argued essentially as follows:

(a) Main request

(i) Admissibility

The appellant's request during the oral proceedings to maintain the patent as granted should not be admitted since it is late filed and takes the respondent by surprise.

(ii) Amendments - Article 123(2) EPC

The non-exclusive expression "an abrasive thixotropic liquid slurry, comprising a liquid material, finely divided abrasive particles and a rheological additive" used in claim 1 as granted is an unallowable generalisation of the exclusive definition on page 8, first paragraph of D0, wherein it is defined that "The slurry ... is a liquid material having ..." and that the rheological additive creates a thixotropic slurry.

There is no information in D0 that the rheological additive maintains uniform distribution of the abrasive particles under all circumstances.

(b) First auxiliary request

(i) Admissibility

Claim 1 involves a new feature which has not been previously claimed. Such an amendment raises entirely new issues, leads to a diverging debate and should not be admitted into the proceedings at such a late stage of the appeal proceedings.

**Reasons for the Decision**

1. Main request

1.1 Admissibility

The Board cannot follow the respondent's request for not admitting the appellant's main request into the proceedings as being late filed and taking the respondent by surprise for the following reasons.

Firstly, according to the jurisprudence of the Boards of Appeal of the EPO, where the patent proprietor is appealing against the revocation of the patent, he is entitled to revert to the granted version of the patent, even if he had filed a restricted version of the claims during the appeal procedure, see Case Law of the Boards of the Appeal of the EPO, 4th edition, 2001, VI.I.3.1.2 (bb) (1).

Secondly, with the respondent's letter dated 20 December 2005 arguments were already presented



against the maintenance of the patent as granted. Having already presented in the written procedure an argumentation line against the maintenance of the patent as granted the respondent could not be caught by surprise due to the re-establishing of the appellant's request for maintenance of the patent as granted.

In that respect the Board considers it expedient to discuss in substance all issues regarding compliance with Article 123(2) EPC at these oral proceedings, including the allowability of the amendment in claim 1 to "an abrasive thixotropic liquid slurry, comprising a liquid material, finely divided abrasive particles and a rheological additive to maintain uniform distribution of said particles".

Therefore, the Board decides to exercise its discretion according to Article 10b(1) RPBA and to admit the appellant's main request filed during the oral proceedings into the appeal proceedings.

1.2 Amendments - Article 123(2)

1.2.1 **"an abrasive thixotropic liquid slurry, comprising a liquid material, finely divided abrasive particles and a rheological additive"**

It is well known to the skilled person and it was not doubted by the appellant that a thixotropic additive is only a specific additive out of the general group of rheological additives.

D0 discloses the following information concerning the rheological additive used:

**A rheological additive without any limitation due to a thixotropic characteristic** is used in combination with a low viscosity naphthenic mineral oil and an abrasive material having a size within the specific range of #400-#1000 mesh, see page 5, line 37 to page 6, line 2.

**A rheological additive which creates thixotropic slurry** can be used together with finely divided abrasive articles without any limitation for the grain size or for the used liquid material, see page 8, lines 1 to 4.

**A thixotropic additive** is used in combination with effective amounts of naphthenic oils and an abrasive material having a size within the specific range of #400-#1000 mesh, see claim 2.

For the use of **a rheological additive without any limitation due to a thixotropic characteristic** in combination with finely divided abrasive articles without any limitation for the grain size or for the used liquid material, as it is the case in claim 1 as granted, there is no basis in D0.

1.2.2 **"a rheological additive to maintain uniform distribution of said particles"**

The only passage of D0 which is directed to a uniform distribution of the abrasive particles is undisputably the sentence on page 6, lines 3 to 6 reading as follows:

"The slurry has sufficient viscosity at low shear rates to remain homogenous and to maintain a uniform distribution of the abrasive particles".

There are two ways of reading and understanding the above mentioned sentence.

Firstly, by reading said sentence together with the previous sentence of the same paragraph of D0 it follows that a uniform distribution of abrasive grain takes place only in slurries having a low viscosity napthenic mineral oil and rheological additives and being gritted with #400-#1000 mesh abrasive. Since according to claim 1 as granted a uniform distribution of the abrasive particles is claimed also for slurries having neither a low viscosity napthenic mineral oil nor abrasive particles with #400-#1000 mesh, claim 1 as granted contravenes the requirements of Article 123(2) EPC.

Secondly, by reading the sentence between lines 3 and 6 of page 6 independently from the previous sentence of the same paragraph of D0 it follows that it is due to the sufficient viscosity at low shear rates that the distribution of the abrasive grains maintains uniform. Information that the distribution of the abrasive grains maintains uniform due to the rheological additive can not be found in this sentence or in its context.

The appellant argues that having in mind on the one hand that it is the rheological additive which creates the thixotropic slurry, see page 8, lines 3 and 4 of D0, influencing thereby the slurry's viscosity, and on

the other hand that thixotropic materials have normally uniform distributed particles therein, it is then obvious for the skilled person that the uniform distribution of the abrasive particles in the slurry is maintained due to the rheological additive.

The Board cannot follow the appellant's arguments for the following reasons:

Firstly, the appellant did not present any evidence that all thixotropic materials have uniformly distributed particles therein, and especially uniformly distributed abrasive particles.

Secondly, according to page 6, lines 3 to 6 of D0, the abrasive particles are uniformly distributed due to the fact that the slurry has sufficient viscosity at low shear rates. This means that if the rheological additive maintains uniform distribution of the abrasive particles, as it is claimed in granted claim 1, then this rheological additive does not only impart the rheological property of thixotropy to the slurry but it also raises its viscosity at low shear rates sufficiently enough so that a uniform distribution of the abrasive particles can be maintained. For such a raise of the viscosity of the slurry at low shear rates due to the rheological additive no basis can be found in the application as originally filed.

- 1.2.3 Therefore, the following features contained in claim 1 as granted, "an abrasive thixotropic liquid slurry, comprising a liquid material, finely divided abrasive particles and a rheological additive" and "a rheological additive to maintain uniform distribution

of said particles" contravene the requirements of Article 123(2) EPC.

2. *First auxiliary request*

2.1 Admissibility

2.1.1 As a general rule, the more complex the issues raised by amendments and the later those amendments are filed, the greater the risk that the remaining time is insufficient to consider them properly. In the decision T 1126/97 (not published in the OJ EPO) the board 3.4.1 stated in point 3.1.2 that for late amendments to be admissible the following conditions should be fulfilled:

(i) there should be some justification for the late filing,

(ii) the subject-matter of the new claims should not diverge considerably from the claims already filed, in particular they should not contain subject-matter which has not previously been claimed, and

(iii) the new claims should be clearly allowable in the sense that they do not introduce new objections under the EPC and overcome all outstanding objections.

2.1.2 As to criteria (ii), claim 1 of the first auxiliary request diverges considerably from the claim already filed, since, firstly, the uniform distribution of the abrasive particles is not caused by the rheological additive and secondly, it contains the additional

feature that "at higher shear rates, upon entering the microholes, the viscosity must drop to a value low enough to permit high velocity flow, wherein the slurry has sufficient viscosity at low shear rates to remain homogenous and to maintain a uniform distribution of abrasive grain" which has not previously been claimed and which, in the opinion of the Board, requires an additional search.

- 2.1.3 As to criteria (iii), the deletion of the expression "to maintain uniform distribution of said particles" after the feature "rheological additive" in claim 1 introduces new objections under Article 123(3) EPC, since claim 1 does not disclose anymore a specific rheological additive which possesses the ability to maintain uniform distribution of the abrasive particles but it is directed to any kind of rheological additive.

The Board is convinced that the expression "a rheological additive to maintain uniform distribution of said particles" defines a selection of only those rheological additives which have the ability to maintain uniform distribution of the abrasive particles out of all different kinds of rheological additives, having thereby a specific limiting effect as far as it concerns the rheological additive claimed. Therefore, the Board cannot accept the appellant's unsubstantiated allegation that the expression "to maintain uniform distribution of said particles" would be identical to the expression "for maintaining uniform distribution of said particles" and would have no limiting effect to the "rheological additive", so that said expression could be deleted without violating the requirements of Article 123(3) EPC.

Furthermore, claim 1 of the first auxiliary request being directed to a slurry "comprising a liquid material, finely divided abrasive particles and a rheological additive", said feature being already objected in connection with claim 1 as granted, does not overcome the outstanding problem of violating the requirements of Article 123(2) EPC, see point 1.2.3 above.

2.1.4 Hence, both (ii) and (iii) criteria are not met.

2.1.5 Therefore, in the exercise of its discretion under Article 10b(1) RPBA to refuse late-filed requests, the Board decides that the first auxiliary request submitted by the appellant during the oral proceedings is not admissible.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

G. Nachtigall

C. Holtz