

Veröffentlichung im Amtsblatt	Ja/Nein
Publication in the Official Journal	Yes/No
Publication au Journal Officiel	Oui/Non

Aktenzeichen / Case Number / N<sup>o</sup> du recours : T 507/90 - 3.4.2

Anmeldenummer / Filing No / N<sup>o</sup> de la demande : 86 900 963.9

Veröffentlichungs-Nr. / Publication No / N<sup>o</sup> de la publication : 0 211 044 (W086/04695)

Bezeichnung der Erfindung: Device fabrication method using spin-on glass resins  
Title of invention: and devices formed thereby  
Titre de l'invention :

Klassifikation / Classification / Classement : G03F7/02

### **ENTSCHEIDUNG / DECISION**

vom / of / du 12 November 1990

Anmelder / Applicant / Demandeur : American Telephone & Telegraph Company

Patentinhaber / Proprietor of the patent /  
Titulaire du brevet :

Einsprechender / Opponent / Opposant :

Stichwort / Headword / Référence :

EPÜ / EPC / CBE Article 84 EPC

Schlagwort / Keyword / Mot clé : "Clarity - yes (after amendment)"

**Leitsatz / Headnote / Sommaire**



Case Number : T 507/90

**D E C I S I O N**  
of the Technical Board of Appeal 3.4.2  
of 12 November 1990

**Appellant :** American Telephone & Telegraph Company  
550 Madison Avenue  
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**Representative :** Johnston, Kenneth Graham  
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**Decision under appeal :** Decision of Examining Division 043 of the European Patent Office dated 21 March 1990 refusing European patent application No. 86 900 963.9 pursuant to Article 97(1) EPC

**Composition of the Board :**

**Chairman :** E. Turrini

**Members :** M. Chomentowski  
C.V. Payraudeau

## Summary of Facts and Submissions

- I. European patent application No. 86 900 963.9, publication No. WO86/04 695, was refused on the grounds that Claim 1 lacked clarity and support by the description.
- II. The Appellant (Applicant) lodged an appeal against this decision.
- III. In a communication, the Board of appeal expressed its provisional opinion that the valid Claim 1 still lacked clarity since it did not include specific features considered as being essential to the performance of the invention and that a new Claim 1 amended accordingly could be allowable with regard to the available prior art.
- IV. The Appellant filed a new set of claims and argued that the amendments provided in new Claim 1 were meeting the deficiencies mentioned by the Board.
- V. Claim 1 reads as follows:

"1. A method for fabricating a device, comprising the steps of:

forming a resist on a substrate surface, said resist comprising a first region overlying said substrate, a second region overlying said first region, and a patterned third region overlying said second region;

etching said second region with a second-region etchant while using said third region as an etch mask, said second-region etchant being produced by forming a plasma in a fluorine-containing gas;

removing said fluorine-containing gas, introducing a first-region etchant, and etching said first region with said first-region etchant while using said second region as an etch mask, the pattern etched into the second and first regions being substantially identical to the pattern of the third region, and

completing the fabrication of said device, characterized in that the second region is spin deposited and comprises a combination of organosilicon glass resin having silicon atoms chemically bound to oxygen atoms and a material substantially resistant to lateral etching by fluorine-containing etchant species containing metal chemically bound to oxygen, the composition and/or thickness of the second region being chosen so that said third region is substantially unaffected by exposure to said second region etchant during the time required to etch said second region with said second region etchant.

Claims 2 to 5 are dependent claims.

#### Reasons for the Decision

1. The appeal is admissible.
2. Allowability of the amendments
  - 2.1 Claim 1 results from the combination of original Claim 1 with specific features of original Claims 2 and 3, which correspond to the teaching of page 4, last paragraph to page 5, first paragraph of the original description, concerning the features that the second region is spin deposited and comprises a combination of organosilicon

glass resin having silicon atoms chemically bound to oxygen atoms and a material substantially resistant to lateral etching by fluorine-containing etchant species containing metal chemically bound to oxygen.

Claims 2 and 3 to 5 correspond to original Claims 3, for the specific arrangement of the layers of the second region, and to 4 to 6, respectively.

The amendments in the description disclose the acknowledged prior art and adapt the introduction to the new text of Claim 1, respectively (Rule 27(1)(c) and (d) EPC). Therefore, the Board of Appeal is satisfied that the European patent application has not been amended in such a way that it contains subject-matter which extends beyond the content of the application as filed (Article 123(2) EPC).

### 3. Clarity of the Claims

- 3.1 In the opinion of the Board, the features that the second region is spin deposited and comprises a combination of organosilicon glass resin having silicon atoms chemically bound to oxygen atoms and a material substantially resistant to lateral etching by fluorine-containing etchant species containing metal chemically bound to oxygen, are essential features of the invention because they specify the category of the materials which are used in the method claimed. Therefore, the Board is satisfied that Claim 1, which includes said features, is clear, as required by Article 84 EPC.

### 4. Support by the description

The Board is satisfied that the features of Claim 1 that the second region is spin deposited and comprises a

combination of organosilicon glass resin having silicon atoms chemically bound to oxygen atoms and a material substantially resistant to lateral etching by fluorine-containing etchant species containing metal chemically bound to oxygen, are based on the description, page 4, last paragraph to page 5, first paragraph and that, therefore, Claim 1 is indeed supported by the description, as required by Article 84 EPC.

5. **Novelty and Inventive Step**

The Examining division has declared that a clarified Claim 1 would be inventive (see paragraph 6 of the appealed decision). The Board has not detected any document of the available prior art which, alone or in combination, discloses or suggests a method consisting of the features of the subject-matter of Claim 1. Therefore, the Board is satisfied that the subject-matter of Claim 1 is novel and implies an inventive step (Articles 54 and 56 EPC).

6. Therefore, Claim 1 is allowable (Article 52(1) EPC).

Since the European patent application and the invention to which it relates meet the requirements of the Convention, a patent can be granted (Article 97(2) EPC).

**Order**

For these reasons, it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance, with the order to grant a European patent based on the following application documents:

**Description:**

Pages 1 to 3 and 5 to 16 as originally filed  
Pages 4 and 4a as filed with letter of 23/02/89

**Claims:**

Nos. 1 to 5 filed with letter of 15/10/90

**Drawings:**

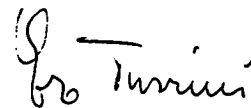
Sheets 1/2 and 2/2 (Figures 1-6) as originally filed.

The Registrar:



P. Martorana

The Chairman:



E. Turrini

Co  
Meb