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**Datasheet for the decision  
of 23 May 2011**

**Case Number:** T 0543/10 - 3.2.08

**Application Number:** 04030665.6

**Publication Number:** 1674051

**IPC:** A61F 2/30

**Language of the proceedings:** EN

**Title of invention:**

A method of surface finishing a bone implant

**Patentee:**

Smith & Nephew Orthopaedics AG

**Opponent:**

Astra Tech AB

**Headword:**

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**Relevant legal provisions:**

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**Relevant legal provisions (EPC 1973):**

-

**Keyword:**

"Novelty (no)"

**Decisions cited:**

-

**Catchword:**

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Case Number: T 0543/10 - 3.2.08

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.08  
of 23 May 2011

**Appellant:** Astra Tech AB  
(Opponent) Aminogatan 1  
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**Representative:** Lind, Urban Arvid Oskar  
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**Respondent:** Smith & Nephew Orthopaedics AG  
(Patent Proprietor) Erlenstrasse 4a  
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**Representative:** Popp, Eugen  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 19 January 2010  
rejecting European patent No. 1674051 pursuant  
to Article 101(2) EPC.

**Composition of the Board:**

**Chairman:** T. Kriner  
**Members:** M. Alvazzi Delfrate  
U. Tronser

## Summary of Facts and Submissions

- I. By decision posted on 19 January 2010 the opposition division rejected the opposition against European patent No. 1 674 051.
- II. The appellant (opponent) lodged an appeal against this decision on 9 March 2010, paying the appeal fee on the same day. The statement setting out the grounds for appeal was filed on 28 May 2010.
- III. The appellant requested that the decision under appeal be set aside and that the patent be revoked. Oral proceedings were requested as a precautionary measure.

The respondent (patent proprietor) requested that the appeal be dismissed and that a decision be made on the facts as already on file (see letter dated 9 December 2010).

- IV. Claim 1 of the patent as granted reads as follows:

"A method of surface finishing a bone implant comprising the steps of:  
roughening a surface of the implant by blasting with abrasive particles;  
pickling the surface-roughened implant in a pickling solution;  
cleaning the roughened surface of the implant by mechanical action to detach the loosened blasting particles therefrom;  
wherein the pickling step loosens any partially embedded abrasive blasting particles that may be contaminating the surface of the implant, by etching

the surface of the implant to unlock the partially embedded abrasive blasting particles; characterised in that the pickling step leaves the surface of the implant with substantially the same roughness as is generated by the blasting with abrasive particles."

- V. To support its requests, the appellant submitted inter alia that the subject-matter of claim 1 was not novel in view of

D2: WO-A- 2004/008984.

The arguments relating to this submission can be summarised as follows:

D2 disclosed a method of surface finishing a bone implant comprising the steps of roughening a surface of the implant by blasting with abrasive particles, pickling the surface-roughened implant in a pickling solution and cleaning the roughened surface of the implant by mechanical action.

It was true that the pickling according to D2 provided a microroughness. However, said microroughness was of the same order of the variation of the roughness caused by the pickling step of the examples of the patent in suit. Therefore, it could be considered that the pickling step of the method of D2 left the surface of the implant with substantially the same roughness as generated by blasting with abrasive particles.

Moreover, although D2 stated that the abrasive particles were removed by an ultrasonic rinsing

performed prior to the pickling, experimental evidence provided with the statement of grounds for appeal showed that some particles were still present on the surface of the implant after said rinsing and could be removed by the pickling and subsequent cleaning step disclosed in D2.

Therefore, all the method steps of claim 1 were disclosed in D2 and its subject-matter lacked novelty.

VI. The respondent did not reply to this argumentation.

### **Reasons for the Decision**

1. The appeal is admissible.
2. Novelty
  - 2.1 D2 discloses a method of surface finishing a bone implant (see abstract) comprising the steps of: roughening a surface of the implant by blasting with abrasive particles (see page 12, lines 7-13), pickling the surface-roughened implant in a pickling solution (see page 11, lines 10-28 and page 14, lines 5-9) and cleaning the roughened surface of the implant by mechanical action, namely by ultrasonic rinsing (see page 14, lines 22-23).
  - 2.2 According to D2 the blasting step provides a "macroroughness", while the pickling step provides a "microroughness" (see page 11, lines 10-14 and page 12, lines 7-13). The term "macroroughness" refers to a surface roughness comprising surface irregularities

having dimensions greater than 1  $\mu\text{m}$ , whereas "microroughness" refers to a surface roughness comprising pores having a pore diameter and a pore depth equal to or less than 1  $\mu\text{m}$  (see page 7, lines 26-32). Tables 2 and 3 disclose the values of the microroughness parameters after the pickling treatments of examples 1 and 2. The values of said parameters range up to about 0.2  $\mu\text{m}$ .

According to claim 1 of the patent in suit, the pickling step leaves the surface of the implant with substantially the same roughness as is generated by the blasting with abrasive particles. Whilst the claim does not specify what is to be understood by "substantially the same roughness", the description shows that some variation in roughness may be allowed. In particular, table 1 discloses the variations of the surface roughness parameters after a pickling step according to the claimed invention. The values of said variations are comparable with those of the microroughness parameters disclosed in D2. Therefore, it must be concluded that the pickling step disclosed in D2, albeit providing a microroughness, leaves the surface of the implant with substantially the same roughness in the sense of the patent in suit.

- 2.3 In the examples of D2 the blasted implants are subjected, before pickling, to a first ultrasonic rinsing "to remove any residual blasting particles" (see page 13, lines 18-20). The question thus arises as to whether there are any abrasive blasting particles which are left partially embedded in the surface of the implant and which may be loosened by the pickling step.

The appellant provided experimental evidence showing that after the blasting and first ultrasonic rinsing described in D2 some partially embedded abrasive blasting particles were still present on the surface of the implant and that said particles were detached by the pickling and subsequent ultrasonic rinsing after the pickling described by D2 (see statement setting out the grounds for appeal, point 3.2.3.4). This evidence has not been contested by the respondent.

With respect to this evidence the conclusion must be drawn that in the method disclosed by D2 the pickling step loosens any partially embedded abrasive blasting particles that may be contaminating the surface of the implant, by etching the surface of the implant to unlock the partially embedded abrasive blasting particles, and that the cleaning detaches the loosened blasting particles therefrom.

Accordingly, the subject-matter of claim 1 lacks novelty.

**Order**

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

The decision under appeal is set aside.

The patent is revoked.

The Registrar:

The Chairman:

V. Commare

T. Kriner