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**Datasheet for the decision  
of 29 June 2010**

**Case Number:** T 1098/08 - 3.2.01

**Application Number:** 97945017.8

**Publication Number:** 0932772

**IPC:** F16C 33/20

**Language of the proceedings:** EN

**Title of invention:**

Forming a bearing

**Patentee:**

Glacier Garlock Bearings Inc.

**Opponent:**

Federal-Mogul Wiesbaden GmbH

**Headword:**

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**Relevant legal provisions:**

RPBA Art. 12(4)

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

EPC Art. 54(1)

EPC Art. 56

EPC Art. 114(2)

**Keyword:**

"Exercise of opposition division's discretion (confirmed)"

"Late filed document (not admitted into the proceedings)"

"Novelty and Inventive step (yes)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 1098/08 - 3.2.01

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.01  
of 29 June 2010

**Appellant:** Federal-Mogul Wiesbaden GmbH  
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**Representative:** Fuchs  
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**Respondent:** Glacier Garlock Bearings Inc.  
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**Representative:** Hammler, Martin Franz  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
9 April 2008 concerning maintenance of European  
patent No. 0932772 in amended form.

**Composition of the Board:**

**Chairman:** S. Crane  
**Members:** H. Geuss  
T. Karamanli

## Summary of Facts and Submissions

- I. The appeal is directed against the interlocutory decision posted 9 April 2008 concerning the maintenance of the European Patent No. 0932772 in amended form.
- II. During oral proceedings held on 29 June 2010 the appellant (opponent) requested that the decision under appeal be set aside and the patent revoked.

It alleged lack of novelty (Article 54(1) EPC 1973) and lack of inventive step (Article 56 EPC 1973) of the subject-matter of independent claim 1. Its arguments relied in particular on documents

GB 2 166 142 A (D5) and  
GB 2 274 844 A (D11).

Furthermore, the appellant asserted that the opposition division has erred in exercising its discretion to disregard document **D7** (Teflon Fluorocarbon Resins, Information Bulletin T-1005, Du Pont de Nemours International S.A., Geneva, Switzerland) and requested that this document should be admitted to the proceedings.

The respondent (patentee) requested that the appeal be dismissed.

- III. Claim 1 reads as follows, the bold printed feature identifiers in brackets have been added by the Board):

A method of forming a bearing [**feature a**] comprising adding at least one particulate material to an aqueous

dispersion of polytetrafluoroethylene [**feature b**)],  
mixing the constituents for a period sufficient to  
allow the polytetrafluoroethylene to coagulate to form  
a mush [**feature c**)],  
spreading the mush on to a support [**feature d**)],  
and curing the mush to form a bearing lining layer on  
the support [**feature e**)],  
the method being **characterized in that**  
said particulate material is added in the form of an  
aqueous colloidal dispersion [**feature f**)]  
containing small particles [**feature g**)] and  
in that the small particles of the particulate material  
itself cause coagulation of the polytetrafluoroethylene  
[**feature h**)].

IV. The appellant's submissions as relevant to the present  
decision may be summarized as follows:

The opposition division has erred in the exercise of  
its discretion since the relevance of D7 has not been  
correctly assessed. Indeed, the document is highly  
relevant and goes far beyond the disclosure of D11. D7  
teaches in a very precise manner the handling of PTFE  
(polytetrafluoroethylene). Bearings have also been  
mentioned in it (page 3, chapter B) and D7 discloses  
all features of claim 1 except spreading the mush on to  
a support and curing the mush to form a bearing lining  
layer on the support according to the features d) and e)  
of the claim.

The subject-matter of the contested claim is not new.  
Document D5 discloses all features of the contested  
claim 1. Even feature f) - whose disclosure in D5 is  
denied by the respondent - is shown therein. Page 1,

lines 43 to 45 divulge that the filler material which is added to the aqueous dispersion of PTFE according to feature b) is incorporated in aqueous dispersion. This interpretation of the passage is self-evident since a person skilled in chemical or process engineering would always and only understand this passage in the specified way.

This understanding is backed up by document D11 which explains that PTFE and a filler are both dispersions which are mixed together. It is commonly known for skilled persons that a particulate material with a particle size in nanometer range can only be incorporated in an aqueous dispersion of another material if it itself is also in the form of an aqueous dispersion. The risk of dust contamination and the risk of an undesired early coagulation which result in lumps both preclude the skilled person from adding the filler material into the PTFE dispersion in powder form.

Hence, the particle size range as given in D5, in particular for the extremely small particles, could only be handled if an aqueous solution is used.

Therefore, the subject-matter of claim 1 is not new with respect to document D5 or at the very least obvious in the light of D5 in combination with the general knowledge of a skilled person as portrayed in D11.

The same arguments as for claim 1 are produced with respect to independent claim 12 which is directed to the use of a particulate material in a method of making a bearing in accordance with claim 1.

V. The respondent's rebuttal was essentially the following:

Document D7 is not relevant at all. Bearings have only been mentioned in a very general manner as a use for reinforced PTFE which is - however - generally known. D7 goes in a completely different direction to the contested invention for the reason that only the production of PTFE powder is described. As a consequence, features d) and e) are not disclosed in D7. Therefore, the discretion of the opposition division has been fairly exercised and D7 should not be regarded in the proceedings.

The subject-matter of claim 1 is new with respect to D5. The passage cited by the appellant (page 1, lines 43 to 45) does not disclose in a clear and unambiguous manner that the filler is incorporated via a dispersion. At page 1, lines 58 et seq. the preparation of the filler material is explained: a precipitate is washed and filtered, followed by drying and pulverising. Example 1 continues in line 64 with "1.7 kg of this material..." relating without any question the dried and pulverised material in line 59 which is now thoroughly mixed with 5 kg of PTFE. Therefore, in the whole disclosure of D5 there is no hint that the filler has to be added in the state of an aqueous dispersion; on the contrary, this passage of D5 discloses unambiguously the incorporation of a powder.

The subject-matter of claim 1 is inventive as well. Document D5 is completely quiet about the coagulation method. No details are given, so it must be presumed that the method used is entirely conventional, such as

by neutralizing an ionic surfactant used to stabilize the PTFE suspension or by vigorous stirring. However the contested invention provides a different coagulation mechanism which leads to an increased wear resistance of the bearing and further, to no need of additional necessities which support coagulation. This is central point of the invention, namely that the filler material itself controls coagulation without any need of surfactants or mechanical agitation (feature h)).

This result can only be achieved by the nanometer-sized particles (feature g)) in combination with the procedure of incorporation as described in feature f).

### **Reasons for the Decision**

1. The appeal is admissible.
  
2. The Board is of the opinion that the opposition division has not erred in the exercise of its discretion to disregard document D7.
  - 2.1 The appellant argued that the document is highly relevant and goes far beyond the disclosure of D11 since it discloses all relevant features of claim 1.
  
  - 2.2 "A board of appeal should only overrule the way in which a department of the first instance has exercised its discretion if the Board concludes it has done so accordingly to the wrong principles, or without taking into account the right principles, or in an



unreasonable way", cf. Case Law of the Boards of Appeal, VII.D.6.6, 5th edition.

The Board cannot discover any defects which would indicate that the opposition division has erred in the exercise of its discretion in accordance with Article 114(2) EPC 1973. In particular, the opposition division's decision is based only on the "relevance"-criteria, which in the Board's view constitutes an objectively fair and thoroughly elaborated principle for evaluating the admissibility of late filed documents into the procedure (cf. decision of the opposition division, page 6, point 15). There are no indications in the file, either in the decision or in the minutes or communications that further - impermissible - criteria have been adopted by the opposition division.

The opposition division came to the conclusion not to admit D7 to the proceedings comparing its relevance vis-à-vis document D11. Hence, in the Board's view the decision of the opposition division has not been taken in an unreasonable way.

- 2.3 In fact, it has not been challenged by the appellant that the relevance criteria as such has been used. Objections were also not raised that impermissible criteria have been applied or that a comparison between D7 and D11 is unreasonable.

The Board is of the opinion that in a case in which the first instance exercises its discretion, it is not the function of the appeal proceedings to review all the facts and circumstances of the case and to decide

whether or not it would have come to the same decision as the first instance.

Therefore, the Board comes to the conclusion that the opposition division did not act unjustly in exercising its discretion and applied the right principles for its decision.

2.4 Furthermore, the Board does not admit D7 into the proceedings according to Article 12(4) Rules of Procedure of the Boards of Appeal (RPBA, OJ EPO 2007, 536-547) for the reasons equivalent to those explained by the opposition division.

3. The subject-matter of claim 1 is new and not obvious.

3.1 It is not disputed that document D5 discloses all features of the preamble of claim 1. Furthermore, feature g) (the aqueous colloidal dispersion of the particulate material contains small particles) of the characterizing portion is also disclosed in document D5. The contested patent specifies the dimension range of the particulate material between 1 and 100 nm (column 2, line 31). D5 discloses "... a particle size range of 0.01 to 10 microns ..." (page 1, lines 35, 36), i.e. 10 to 100 nm. Consequently the particles of D5 are also *small* in the sense of the patent, at least in the overlapping range.

3.2 With respect to feature f) the appellant alleges that the passage of D5, page 1, lines 43 to 45 indicates that the filler is incorporated in form of an aqueous dispersion. This passage reads: "The adverse effect of water solubility may be associated with the method of

incorporation of the filler into the PTFE, which is carried out in aqueous suspension using an aqueous dispersion of PTFE."

In the Board's view this passage merely means that after adding the filler, the filler is in aqueous suspension in the aqueous dispersion of the PTFE. This passage leaves open in which way the filler should be added.

However the description of the Example 1 (D5, page 1, lines 55 et seq.) gives an indication that the filler material is added as a dry powder to the PTFE dispersion. In lines 58 to 59, D5 explains the production of a dried and pulverised filler material. The expression "of this material" in line 64 relates without any doubt to the powder in line 59 which is now mixed with PTFE.

- 3.3 The appellant argues that a skilled person would only add an aqueous dispersion of small sized particles into a dispersion of PTFE. A specialist in chemical or process engineering would know that the incorporation of a powder into an dispersion of PTFE would lead to an increased dust load and to an occurrence of lumps as a result of an undesired early coagulation. The range of particle size as given in D5, in particular for the extreme small particles, could only be handled if an aqueous dispersion is used. Additionally, document D11 explains that both PTFE and the filler are supplied as dispersions and both dispersions are mixed, so a skilled person is aware of this procedural possibility.

The Board cannot agree with this line of argument.

The appellant is trying to prove as an established fact that a skilled person would only incorporate small particles using an aqueous dispersion, however, none of the documents which are in the proceedings unequivocally backs up this assertion.

Therefore, the Board is of the opinion that feature f) is not disclosed in D5, either explicitly or implicitly. Consequently, for this reason alone, the subject-matter of claim 1 is new.

3.4 Moreover, contrary to the opinion of the appellant, feature h) is also not disclosed in D5.

The essence of the claimed invention resides in the use of an alternative coagulation method. The Board is satisfied that the only proper interpretation of the claim in the light of the disclosure is that the small particles themselves cause coagulation without any supplementary measures as were commonplace in the prior art (cf. paragraph [0007] of the patent specification).

In contrast, document D5 is completely quiet about the coagulation mechanism, so it can only be assumed that a conventional method such as the use of ionic surfactants or strong stirring has to be applied.

For these reasons the Board is convinced that the general knowledge of a skilled person would not be sufficient to render the subject-matter of claim 1 obvious with respect to document D5.

3.5 The Board is further convinced that a skilled person cannot derive further information from document D11 which would encourage him to employ the feature h). D11

teaches the use of shear mixers and a coagulant as an additive (page 4, 2nd and 3rd paragraphs). Instead of that, the patent specification explicitly states that the small particles cause the PTFE to coagulate without the addition of a coagulant or mechanical agitation.

Therefore, the Board is of the opinion that the subject-matter of claim 1 is inventive with respect to the combination of D5 and D11.

- 3.6 Since independent claim 12, which is directed to the use of a particulate material in a method of making a bearing in accordance with claim 1, has not been attacked separately by the appellant, the arguments as discussed above also substantiate the novelty and inventive step of the subject-matter of this claim.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

A. Vottner

S. Crane