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**Datasheet for the decision
of 27 January 2026**

Case Number: T 1427/24 - 3.3.05

Application Number: 16868576.6

Publication Number: 3381996

IPC: F16D69/02

Language of the proceedings: EN

Title of invention:

FRICITION MATERIAL

Patent Proprietor:

Akebono Brake Industry Co., Ltd.

Opponent:

VRI-Verband der Reibbelagindustrie e.V.

Headword:

Friction material/Akebono Brake Industry

Relevant legal provisions:

EPC Art. 123(2), 54, 56

Keyword:

Added subject-matter (no)

Novelty - (yes)

Inventive step - (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1427/24 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 27 January 2026

Appellant: VRI-Verband der Reibbelagindustrie e.V.
(Opponent) Robert-Perthel-Str. 49
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Respondent: Akebono Brake Industry Co., Ltd.
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Representative: Grünecker Patent- und Rechtsanwälte
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 10 October 2024
rejecting the opposition filed against European
patent No. 3381996 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman R. Elsässer
Members: S. Besselmann
S. Fernández de Córdoba

Summary of Facts and Submissions

- I. The appeal of the opponent (appellant) is against the opposition division's decision to reject the opposition against European patent No. EP 3 381 996 B1.
- II. The patent in suit concerns a friction material.
- III. The following documents are of relevance to this decision.
- D1 CN 103881657 A and an English machine translation thereof
- D2 EP 2 937 397 A1
- D4 WO 2015/072440 A1 & EP 3 070 139 A1 (publication under Article 153(4) EPC)
- IV. In their statement of grounds of appeal, the appellant renewed their objections concerning added matter, lack of novelty and lack of an inventive step.
- V. In its communication pursuant to Article 15(1) RPBA, the board informed the parties of its preliminary opinion that the patent could probably be maintained on the basis of auxiliary request 1 as submitted with the reply of the patent proprietor (the respondent) to the appeal. Both parties withdrew their initial requests for oral proceedings provided that the board maintained its preliminary opinion. The respondent made auxiliary request 1 the new main request under the same condition. The board then cancelled the summons to oral proceedings and issued this decision in written proceedings (Article 12(8) RPBA).
- VI. Claim 1 of the new main request reads as follows.

"A friction material comprising a bio-soluble inorganic fiber, wherein the bio-soluble inorganic fiber means an inorganic fiber satisfying that the total amount of alkali metal oxides and alkaline earth metal oxides - which is the total amount of oxides of sodium, potassium, calcium, magnesium and barium - is 18% by mass or more in a chemical composition thereof, and that the mass half-life of the fiber having a length of longer than 20 μm is less than 10 days in a respiratory short-term biodurability test, or that the mass half-life of the fiber having a length of longer than 20 μm is less than 40 days in a short-term biodurability test at the time of intratracheal injection, or that there is no evidence of excessive carcinogenicity in an intraperitoneal test, or that there is no relating pathogenicity or tumor occurrence in a long-term respiration test according to Note Q of EU Commission Directive 97/69/EC which describes the exclusion from application of carcinogenicity, in an amount of 10% by volume or more and 9% by weight or more and a metal sulfide, and comprising 0.5% by weight or less of a copper component and 0.5% by weight or less of a metal fiber, and further comprising zinc in an amount of 0.2% by volume or more and 5% by volume or less."

Claims 2-4 relate to particular embodiments.

VII. The appellant has requested that the decision under appeal be set aside and that the patent be revoked.

The respondent has requested that the patent be maintained in amended form on the basis of the claims of the new main request, filed as auxiliary request 1 with their reply to the appeal, or, alternatively, that the patent be maintained in amended form on the

basis of one of the requests filed with the reply to the appeal as auxiliary requests 2 and 3.

Reasons for the Decision

1. Article 123(2) EPC
 - 1.1 Objections of added matter were raised against the features of claim 1 as granted. Since the same features are present in claim 1 of the present main request, these objections will be dealt with in relation to that request.
 - 1.2 All references are to the English translation of the international application as filed.
 - 1.3 During the examination proceedings, the feature "comprising no copper component" in the original claim 1 was replaced by the feature "comprising 0.5% by weight or less of a copper component", on the basis of paragraph [0013]. This was one of several amendments made.

According to the appellant, this amendment had the consequence that the presence of a copper component was now an essential feature, i.e. the copper content had to be greater than 0%. It also had the effect that a maximum content was only specified for a copper component, i.e. a single one among possibly several copper components, and therefore the total amount of the copper components could be greater than 0.5% by weight. The appellant took the view that this amendment thus introduced subject-matter extending beyond the content of the application as filed.

A similar objection was raised against the feature "comprising ... 0.5% by weight or less of a metal fiber" in claim 1, which had likewise been inserted during the examination proceedings to replace the feature "comprising ... no metal fiber", again based on paragraph [0013].

- 1.4 These objections are not convincing. Claim 1 does not specify any lower limit for the amount of copper component (or the amount of metal fibre, respectively), and therefore it also encompasses an amount of 0%. Furthermore, the reference to a copper component has to be understood as referring to the total amount of all copper components in the friction material. Likewise, the reference to a metal fibre refers to all metal fibres. This understanding is consistent not only with the description (see paragraph [0018]) but also with the definitions of the other features in the claim. The reference to "a bio-soluble inorganic fiber" clearly encompasses a combination of several kinds of bio-soluble inorganic fibres (claim 2, "at least one kind") and the reference to "a metal sulfide" encompasses a combination of several kinds of metal sulphides (see claim 4).

Thus, the aforementioned amendments do not introduce subject-matter extending beyond the content of the application as filed.

- 1.5 In addition, an objection was raised against the amendment specifying the amount of bio-soluble inorganic fibre in terms of both 10% by volume or more and 9% by weight or more. According to the appellant, the respective definitions in paragraph [0015] of the application as filed were not disclosed in combination but as alternatives.

- 1.6 This objection is not convincing either. Paragraph [0015] specifies the content by volume, which is *required* to be 7% by volume or more based on the friction material, preferably 10% by volume. In the same paragraph, it is additionally stated that "[w]hen the content of the bio-soluble inorganic fiber based on the friction material is expressed as percent by weight, the content of the bio-soluble inorganic fiber is required to be 6% by weight or more, and preferably 9% by weight or more." The latter range (by weight) is thus merely an alternative expression for the bio-soluble inorganic fibre content in the same embodiment. Irrespective of whether there is an exact correspondence between the volume-based range and the weight-based range, it can be derived from this disclosure that both ranges concern the same embodiment and may apply simultaneously.
- 1.7 In conclusion, the objections under Article 123(2) EPC are not convincing.
2. Novelty
- 2.1 The subject-matter of claim 1 differs from D1 at least in the presence of zinc in an amount of 0.2% by volume or more and 5% by volume or less.
- 2.2 The appellant took the view that the feature "further comprising zinc" in claim 1 included compounds of zinc, and that the disclosure of "zinc sulfide" therefore anticipated "zinc".
- 2.3 This is not convincing. In the context of claim 1, the reference to "zinc" means zinc in its elemental form,

which is the meaning of the word "zinc" in its strict sense, and does not include a compound thereof. There is nothing in the patent in suit that could create any ambiguity as to this meaning or justify a broader interpretation of the term "zinc". Rather, the reference to "zinc" in the claim may be distinguished from the reference to a "copper component" (which may require interpretation) and the reference to "a metal sulfide".

2.4 Since a distinguishing feature has thus been identified which - as will be shown - supports an inventive step, whether or not the feature relating to bio-soluble inorganic fibre with the claimed properties constitutes a further difference over the prior art does not have to be decided.

2.5 The subject-matter of claim 1 is novel over D1.

3. Inventive step

3.1 The subject-matter of claim 1 involves an inventive step starting from D1.

3.1.1 It was common ground that D1 constituted a suitable starting point for assessing inventive step.

3.1.2 The technical problem mentioned in relation to the presence of zinc is that of providing a friction material having improved abrasion resistance (paragraph [0035]).

3.1.3 The proposed solution is the claimed friction material comprising zinc in an amount of 0.2% by volume or more and 5.0% by volume or less.

- 3.1.4 The function of zinc, which is to avoid ploughing friction and fracture wear, is not only explained in paragraph [0035] of the patent in suit but is also supported by a comparison of Example 15 (3% zinc) and Example 16 (no zinc, comparative). The two examples only differ in the amount of zinc and a corresponding adjustment to the amount of barium sulphate. It can be seen that the presence of zinc leads to an improvement in both pad wear and the results of the low-pressure wear rotor-kindness test. While the general pad-wear ratings are the same ("B"), the detailed results do differ (0.88 mm in Example 15 versus 1.00 mm in Example 16), showing the improvement. It is noted that Examples 13 and 14 relate to other zinc contents (1.5% and 0.2%, respectively) in an otherwise comparable friction material, and they also show improvements over Example 16.
- 3.1.5 It can therefore be accepted that the objective technical problem of providing a friction material having improved abrasion resistance has been solved.
- 3.1.6 The appellant's argument that the presence of zinc would be obvious in view of the teachings of D2 (paragraph [0082]) and D4 (paragraphs [0015] and [0016]) was based on the assumption that the objective technical problem was merely that of providing an alternative, the appellant's argument being that zinc was an arbitrary alternative. This is not convincing in light of the technical problem identified above. The argument does not establish why the teaching of D2 or D4 would have prompted the skilled person wishing to improve abrasion resistance to add an amount of zinc within the claimed range to the material known from D1.

3.2 The subject-matter of claim 1 also involves an inventive step starting from D2.

3.2.1 D2 is less relevant than D1 because selections are needed as to the maximum amount of metal fibre, the amount of bio-soluble inorganic fibre and the presence of metal sulphide, in addition to the selection of the presence of zinc and the amount thereof. As set out with regard to the line of argument starting from D1, the disclosure of zinc among the possible inorganic fillers (paragraph [0082]), which fillers may be present in a (total) amount of preferably 1% to 60% by weight, more preferably 1% to 50% by weight (paragraph [0083]), would not have prompted the skilled person faced with the technical problem of improving abrasion resistance to provide zinc in an amount of 0.2% to 5.0% by volume.

3.3 The requirements of Article 56 EPC are therefore fulfilled.

4. Rule 103(4)(c) EPC

The appeal fee is to be reimbursed at 25% because the requirements of Rule 103(4)(c) EPC are met (see point V. above).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent as amended on the basis of the main request, submitted as auxiliary request 1 with the reply to the appeal, and a description to be adapted where necessary.

The Registrar:

The Chairman:



C. Vodz

R. Elsässer

Decision electronically authenticated