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**Datasheet for the decision
of 18 August 2020**

Case Number: T 0930/18 - 3.5.02

Application Number: 14161017.0

Publication Number: 2747222

IPC: H01T13/38

Language of the proceedings: EN

Title of invention:
Spark plug insulator

Patent Proprietor:
Tenneco Inc.

Relevant legal provisions:
EPC Art. 100(b), 100(a), 54, 56

Keyword:
Main request - Sufficiency of disclosure (yes) - Novelty (yes)
- Inventive step (yes)
Continuation of the appeal procedure after withdrawal of the
opposition

Decisions cited:
T 0593/09



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Case Number: T 0930/18 - 3.5.02

D E C I S I O N
of Technical Board of Appeal 3.5.02
of 18 August 2020

Appellant: Tenneco Inc.
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Representative: De Bonis, Paolo
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
1 February 2018 concerning maintenance of the
European Patent No. 2747222 in amended form.**

Composition of the Board:

Chairman R. Lord
Members: C.D. Vassoille
R. Cramer

Summary of Facts and Submissions

- I. The patent proprietor filed an appeal against the interlocutory decision of the opposition division in which it was found that European patent no. 2 747 222 in the form of the then auxiliary request 1 fulfilled the requirements of the EPC.
- II. The following documents are relevant for the present decision:
- D1: JP S60-73190 U
D1': English Translation of D1
D2: EP 1 053 983 A2
D3: JP H01-221879 A
D3': Partial English translation of D3
- III. In the decision under appeal, the opposition division found *inter alia* that the ground for opposition under Article 100(b) EPC prejudiced the maintenance of the patent as granted.
- IV. The parties were summoned to oral proceedings. In a communication under Article 15(1) RPBA 2020 annexed to the summons, the board set out their preliminary observations on the appeal, concluding *inter alia* that the ground for opposition under Article 100(b) EPC did not prejudice the maintenance of the patent as granted and that the subject-matter of claim 1 seemed to be new in view of document D3.
- V. With letter dated 13 July 2021 and received at the EPO 14 July 2021, the respondent (former opponent) withdrew his opposition.

VI. The appellant has requested in writing that the decision under appeal be set aside and that the patent be maintained as granted (main request) or, if this was not possible, that the patent be maintained according to one of auxiliary requests 1 to 10 filed with the statement setting out the grounds of appeal on 8 June 2018.

VII. Claim 1 of the patent as granted (main request) has the following wording (feature number added by the board in squared brackets):

"A spark plug comprising
[1.1] an unglazed insulator, wherein
[1.2] said insulator has an outer surface and
[1.3] said outer surface has an average roughness of
0.40 micrometers or less."

Claims 2 to 12 are dependent on claim 1.

Given the conclusion below concerning the main request, it is not necessary to cite the wording of the auxiliary requests.

VIII. The arguments of the appellant, in so far as they are relevant for the present decision, may be summarised as follows:

It was an established principle that Articles 83 and 84 EPC may have certain areas of overlap. However, this overlap could not be unreasonably extended to transform an objection under Article 84 EPC into an objection under Article 83 EPC. Claim 1 as granted might at most be considered to lack essential features under Article 84 EPC, which was not, however, a ground for opposition.

As regards sufficiency of disclosure of the invention, what was decisive was what was disclosed in the description, which must provide sufficient instructions for the skilled person to implement the invention. This requirement was clearly met by the disclosure of the patent, in particular by paragraph [0022].

A certain degree of generalisation of a claim must be allowed to grant the patent proprietor an appropriate scope of protection. Whenever a generalisation of a claimed subject-matter was made, the generalisation would cover subject-matter which was not specifically dealt with by the disclosure of the patent.

The allegedly missing feature referred to by the opposition division, namely alumina, was not a missing essential feature under Article 84 EPC, because the claim referred to a spark plug insulator, which was typically made of alumina. Furthermore, the alleged missing essential feature did not result in an insufficiency of disclosure in the sense of Article 83 EPC because the patent described detailed ways to implement the invention.

Reasons for the Decision

1. The appeal is admissible.
2. *Procedural matters*

As mentioned above (point V), the sole opponent withdrew his opposition and consequently is no longer a party to the proceedings.

It is established case law of the boards of appeal that a withdrawal of the opposition in appeal proceedings has no immediate procedural significance if the opposition division has revoked the European patent. The board must then re-examine the substance of the opposition division's decision of its own motion, setting it aside and maintaining the patent only if the latter meets the requirements of the EPC. The same applies in a case where the patent was considered by the opposition division to comply with the requirements of the EPC only in amended form. In the present case, the board has consequently reviewed the decision in the light of the arguments and evidence which had been submitted by the former opponent before the opposition was withdrawn (see the Case Law of the Boards of Appeal, 9th edition 2019, III.Q.3.3).

3. *Main request - Sufficiency of disclosure (Article 100(b) EPC)*
- 3.1 The European patent discloses the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).
- 3.2 In the decision under appeal, the opposition division's reasoning as regards the ground for opposition under Article 100(b) EPC was limited to the following passage (see point 15 of the reasons):

"The teaching of the application documents does not enable to carry out the whole subject-matter which is defined in claim 1. Alumina may well be the most commonly used material in modern spark plugs, the scope of claim 1 is nevertheless much broader and encompasses materials for which there is no

enabling disclosure in the application documents. In particular, paragraphs 13 and 21 of the description as originally filed make it clear that the invention disclosed therein cannot be the basis for generalisation over the whole breadth of claim 1 as granted."

- 3.3 The opposition division's reasoning thus seems to be based on the fact that claim 1 does not specify the material used for the claimed spark plug, and hence, that the invention could not be carried out over the whole range claimed.
- 3.4 Corresponding arguments have been provided by the former opponent, stating in particular that there was no teaching in the description that enabled the person skilled in the art to obtain an average roughness of 0.40 μm or less without glazing for insulators of any arbitrary material. It was further argued that the material and quantities referred to in paragraph [0022] of the patent were not included in the claim but merely the result of the respective choice of materials and quantities, namely a low surface roughness.
- 3.5 The board has no doubt that the subject-matter of claim 1 is broad and may be considered to lack essential features. However, the appellant has correctly pointed out that the breadth of a claim is generally a question under Article 84 EPC and not primarily under Article 83 EPC. Article 84 EPC refers to the clarity of what is being claimed, unlike Article 83 EPC, which is concerned with the question of what has been disclosed (for more detailed explanations concerning the relationship between Article 83 EPC and clarity of the claims, see T 593/09, in particular points 4.1.2 to 4.1.4 of the reasons). Thus, a potential lack of

clarity, for example due to missing essential features, does not necessarily deprive the skilled person of the ability to carry out the invention as foreseen (see in this respect also the Case Law of the Boards of Appeal, 9th edition 2019, II.C.8.2.). On the other hand, it is established case law of the Boards of Appeal that the person skilled in the art must be able to carry out the invention within the whole range claimed.

- 3.6 Despite the fact that claim 1 is broad and specifies neither the material of the spark plug nor that of the insulator, the reasoning provided by the opposition division in the decision under appeal is not adequate to establish an insufficiency of disclosure of the claimed invention. In particular, the mere fact that neither alumina (= aluminium oxide) nor any other specific material is defined in claim 1 in the present case is not a sufficient reasoning to establish a lack of enablement.
- 3.7 The patent undoubtedly discloses at least one way to put the invention into practice. More specifically, as has been submitted by the appellant, the patent in paragraph [0022] refers to the material compositions described in the patent in particular in paragraph [0014], and thus clearly discloses a number of material compositions based on alumina, which, according to the teaching of the patent in paragraph [0022], results in the surface average roughness of the claimed insulator equal to or less than 0.4 μm .
- 3.8 The former opponent has essentially argued that claim 1 covers spark plug insulators of any type of material and that the invention cannot be put into practice for any arbitrary material. While the board can agree with the former opponent's statement to the extent that the

spark plug insulator defined in claim 1 cannot be made of any material, the board shares the appellant's view that the skilled person would understand on a reasonable and comprehensive reading of the claim that only suitable and typically used materials are covered by claim 1.

The board further notes in this respect that spark plugs concern a narrow technical field and a skilled person working in this field can be reasonably expected to know which materials are suitable for use for the different parts of the spark plugs. Therefore, the board is convinced that the person skilled in the art would understand that the claimed spark plug insulator is made of a material suitable in this context and therefore commonly used, namely alumina.

Accordingly, in the present case, the skilled person would exclude variants which fall within the literal wording of the claim but which would immediately be recognised as clearly outside the practical scope of the claimed subject-matter, in particular spark plug insulators made of a material which is not suitable for this purpose.

The former opponent's sole argument, according to which the claimed invention was not practicable for any material, even if this statement is true in principle, in conclusion does not convince the board.

It was undisputed that, on the basis of alumina, a number of embodiments are described in the patent to enable the person skilled in the art to implement the invention, which is satisfactory for the board.

3.9 Consequently, the board has come to the conclusion that the ground for opposition under Article 100(b) EPC does not prejudice the maintenance of the patent as granted.

4. *Main request - Novelty (Articles 100(a) and 54 EPC)*

4.1 In the reply to the appeal, an objection of lack of novelty of the subject-matter of claim 1 as granted was raised by the former opponent solely in view of document D3. The board has come to the conclusion that the subject-matter of claim 1 is new in view of document D3, because it does not disclose feature 1.1 of claim 1, according to which the insulator is unglazed.

4.2 The board is convinced that "polishing" is not synonymous with "unglazed". Further supportive arguments in this respect were not submitted by the former opponent. Furthermore, from the mere fact that the insulator in D3 is "smoothly polished", it does not necessarily and thus implicitly follow that the insulator is "unglazed". Document D3 therefore does not directly and unambiguously disclose feature 1.1 of claim 1.

4.3 Consequently, the subject-matter of claim 1 is new in view of document D3 and the ground for opposition under Article 100(a) in combination with Article 54 EPC does not prejudice the maintenance of the patent as granted.

5. *Main request - Inventive step (Articles 100(a) and 56 EPC)*

5.1 The former opponent's arguments in support of a lack of inventive step were based on document D1 as the closest

prior art document in combination with document D2 or D3.

- 5.2 In consideration of the former opponent's argument presented in the reply to the appeal, the board has come to the conclusion that the subject-matter of claim 1 as granted involves an inventive step.
- 5.3 In particular, the mere fact that D1 (see the English translation D1' on page 5, line 13 to page 6, line 5) does not explicitly mention "glazing" in the description of the materials used for the insulator, does not directly and unambiguously imply that the insulator of D1 is unglazed in the sense of feature 1.1.
- 5.4 Further reference was made by the former opponent to paragraph [0027] of document D2, which allegedly disclosed a polished but unglazed surface of a ceramic insulator that should have an average surface roughness of less than 0.02 μm . However, D2 in the respective passage does not disclose "unglazed" but merely polishing and the board's remarks under point 4.2 above with regard to document D3 therefore also apply to document D2. Consequently, no direct and unambiguous disclosure of an unglazed insulator in the sense of feature 1.1 of claim 1 is present in document D2 either.
- 5.5 Given that none of documents D1, D2 or D3 either explicitly or implicitly discloses an unglazed insulator in the sense of feature 1.1, a combination of these documents does not result in the subject-matter of claim 1. No further arguments in support of the objection of lack of inventive step were presented by the former opponent.

5.6 The board has therefore arrived at the conclusion that the subject-matter of claim 1 as granted is not rendered obvious by document D1 in combination with document D2 or D3 and thus involves an inventive step. The ground for opposition under Article 100(a) in combination with Article 56 EPC therefore does not prejudice the maintenance of the patent as granted.

6. *Result*

Given that the grounds for opposition under Articles 100(a) in connection with 54 and 56 EPC and Article 100(b) EPC do not prejudice the maintenance of the patent as granted, the board had to accede to the appellant's main request. As the main request of the sole party to the proceedings is allowable, the board is in a position to take a decision without holding oral proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chairman:



U. Bultmann

R. Lord

Decision electronically authenticated