

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 9 August 2017**

Case Number: T 1247/13 - 3.2.03

Application Number: 06120902.9

Publication Number: 1767885

IPC: F27D5/00, C04B35/597,
C04B35/584, C04B35/565,
C04B35/573

Language of the proceedings: EN

Title of invention:

Kiln furniture for use in a non-oxidizing atmosphere

Patent Proprietors:

NGK Insulators, Ltd.
NGK Adrec Co., Ltd.

Opponent:

Saint-Gobain Centre De Recherches
Et D'etudes Europeen

Headword:

Relevant legal provisions:

EPC Art. 123(2), 123(3)
RPBA Art. 13(1)

Keyword:

Amendments - allowable (no) - inescapable trap (yes)

Decisions cited:

G 0003/89, G 0011/91, T 0581/91, T 0383/88

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 1247/13 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 9 August 2017

Appellant: NGK Insulators, Ltd.
(Patent Proprietor 1) 2-56, Suda-cho, Mizuho-ku
Nagoya-shi, Aichi 467-8530 (JP)

Appellant: NGK Adrec Co., Ltd.
(Patent Proprietor 2) 3040, Misano,
Mitake-cho
Kani-gun,
Gifu 505-0112 (JP)

Representative: TBK
Bavariaring 4-6
80336 München (DE)

Respondent: Saint-Gobain Centre De Recherches
(Opponent) Et D'etudes Europeen
18 avenue d'Alsace Les Miroirs
92400 Courbevoie (FR)

Representative: Nony
11 rue Saint-Georges
75009 Paris (FR)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 4 April 2013
revoking European patent No. 1767885 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman G. Ashley
Members: B. Miller
 E. Kossonakou

Summary of Facts and Submissions

- I. European patent No. 1 767 895 relates to kiln furniture for use in a non-oxidising atmosphere.
- II. An opposition had been filed against the patent based on Article 100(a) together with Articles 54 and 56 EPC and on Article 100(b) and (c) EPC.

The patent was revoked by the opposition division, since the claims as granted and auxiliary request V were considered not to meet the requirements of Article 56 EPC, auxiliary requests I and II were considered not to meet the requirements of Article 123(3) EPC and auxiliary requests III and IV were considered not to meet the requirements of Article 84 EPC.

The appellant (proprietor) filed an appeal against this decision.

- III. The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or on the basis of either auxiliary request 1, submitted with letter dated 7 July 2017, or of one of auxiliary requests I to V, submitted with the statement setting out the grounds of appeal dated 30 July 2013.
- IV. The respondent requested that the appeal be dismissed.
- V. Claim 1 of the appellant's requests:

(a) Main request (claims as granted)

"A kiln furniture for use in a non-oxidizing atmosphere, wherein the kiln furniture is made of a

refractory having an aggregate portion containing SiC and an aggregate bonding portion containing from 5 to 25 mass% of Si₃N₄ and/or Si₂N₂O and containing from 0.12 to 3.0 mass% of inorganic oxides other than a silicon oxynitride and silicon oxide, from 0.5 to 6.7 mass% of SiO₂, and the rest of SiC, wherein the inorganic oxides contain, as elemental components thereof, from 0.06 to 1 mass% of Al, from 0.3 to 0.5 mass% of Fe, from 0.003 to 0.01 mass% of Ca, from 0.004 to 0.01 mass% of Ni, from 0.0008 to 0.01 mass% of Zr and from 0.5 to 3 mass% of O."

(b) Auxiliary requests I to III

These requests contain the feature "wherein the inorganic oxides contain, as elemental components thereof, from 0.06 to 1 mass% of Al, from 0.3 to 0.5 mass% of Fe, from 0.003 to 0.01 mass% of Ca, from 0.004 to 0.01 mass% of Ni, from 0.0008 to 0.01 mass% of Zr and from 0.5 to 3 mass% of O" which corresponds to the wording of claim 1 of the main request.

(c) Auxiliary request 1

(amendments compared to claim 1 of the main request indicated in bold)

"A kiln furniture for use in a non-oxidizing atmosphere, wherein the kiln furniture is made of a refractory having an aggregate portion containing SiC and an aggregate bonding portion containing from 5 to 25 mass% of Si₃N₄ and/or Si₂N₂O and containing from 0.12 to 3.0 mass% of inorganic oxides other than a silicon oxynitride and silicon oxide, from 0.5 to 6.7 mass% of SiO₂, and the rest of SiC, wherein the inorganic oxides contain, as elemental components

thereof, from 0.06 to 1 mass% of **an Al source**, from 0.3 to 0.5 mass% of **an Fe source**, from 0.003 to 0.01 mass% of **a Ca source**, from 0.004 to 0.01 mass% of **an Ni source**, from 0.0008 to 0.01 mass% of **a Zr source** and from 0.5 to 3 mass% of **an O source**, **wherein all the above contents are each a proportion in the whole refractory.**"

(d) Auxiliary requests IV to V

These requests contain the feature "wherein the inorganic oxides contain, as elemental components thereof, from 0.06 to 1 mass% of an Al source, from 0.3 to 0.5 mass% of an Fe source, from 0.003 to 0.01 mass% of a Ca source, from 0.004 to 0.01 mass% of an Ni source, from 0.0008 to 0.01 mass% of a Zr source and from 0.5 to 3 mass% of an O source" which corresponds to the wording of claim 1 of auxiliary request 1.

- VI. With the summons to oral proceedings, the Board sent a communication pursuant to Articles 15(1) and 17(2) of the Rules of Procedure of the Boards of Appeal (RPBA) indicating to the appellant its preliminary, non-binding opinion of the case.
- VII. Oral proceedings before the Board were held on 9 August 2017.
- VIII. The appellant's arguments, insofar as relevant for the present decision, can be summarised as follows:

(a) Main request

The subject-matter of claim 1 had to be interpreted with a mind willing to understand giving it a

technically meaningful interpretation by taking into account the whole disclosure of the patent.

The deletion of the term "source" from the wording of claim 4 as originally filed did not extend the technical teaching beyond the teaching of the application as originally filed but constituted a clarifying amendment. The skilled person understood that the composition of the inorganic oxides according to claim 4 as filed was defined by referring to the content of the individual elements, since the sources for the metal components of the inorganic oxides did not define the final kiln furniture. This interpretation was confirmed by the teaching of the examples listed in tables 1 and 2 of the application.

(b) Auxiliary request 1

The amount ranges defined in claim 1 were the same as for claim 1 as granted. Adding the term "source" into the wording of claim 1 as granted did not change the scope of protection for the skilled person reading the patent as a whole and interpreting claim 1 of both auxiliary request 1 and main request in a meaningful manner.

Therefore the subject-matter of auxiliary request 1 prima facie fulfilled the requirements of Article 123(3) EPC and should not be held inadmissible by the Board.

(c) Auxiliary requests I to V

The arguments concerning the deletion of the term "source" compared to the claims as filed or the introduction of the term "source" into the wording of

claim 1 as granted remained the same as argued with respect to the main request or auxiliary request 1.

IX. The respondent's arguments, insofar as relevant for the present decision, can be summarised as follows:

(a) Main request

The application as originally filed did not teach that the amounts indicated in claim 4 as originally filed related to the content of the individual elements.

Claim 4 as filed was clear and made technical sense. Moreover, even if the skilled person would have had considered that claim 4 was unclear, there was no teaching in the application as filed that the ranges indicated in claim 4 related to the calculated content of the individual elements.

(b) Auxiliary request 1

Adding the term "source" into the wording of claim 1 as granted changed the scope of protection, since a refractory comprising a certain amount of an element source was not the same as a refractory comprising the same amount of the element itself.

Therefore the subject-matter of the late-filed auxiliary request 1 prima facie did not fulfil the requirements of Article 123(3) EPC and should be held inadmissible by the Board.

(c) Auxiliary requests I to V

The arguments concerning the deletion of the term "source" compared to the claims as filed or the introduction of the term "source" into the wording of

claim 1 as granted remained the same as argued with respect to the main request or auxiliary request 1.

Reasons for the Decision

1. Main request

Article 123(2) EPC

1.1 Claim 1 is based in principle on a combination of claims 1, 2 and 4 as originally filed.

1.2 Claim 4 as originally filed defines that the inorganic oxides contain, as elemental components thereof, from 0.06 to 1 mass% of an Al source, from 0.3 to 0.5 mass% of an Fe source, from 0.003 to 0.01 mass% of a Ca source, from 0.004 to 0.01 mass% of an Ni source, from 0.0008 to 0.01 mass% of a Zr source and from 0.5 to 3 mass% of an O source.

The same wording has been used in paragraph [0020] of the application as filed.

Thus, the amount ranges defined in claim 4 as filed refer to a source used for obtaining the inorganic oxides rather than the inorganic oxides themselves present in the final composition.

Focusing exemplary on calcium, claim 4 defines that the inorganic oxide contains 0.003 to 0.01 mass% of a Ca source. Considering calcium carbonate (100 g/mol) as the calcium source, this leads to the conclusion that the inorganic oxides contain 0.0012 to 0.004 mass% of Ca corresponding to 0.0017 to 0.0056 mass% of calcium oxide (56 g/mol).

The term "source" is therefore not meaningless and implies a specific technical teaching in the context of claim 4 as filed.

- 1.3 Claim 1 of the main request corresponds to the wording of claim 4 as filed with the following amendments:

"wherein ...the inorganic oxides contain, as elemental components thereof, from 0.06 to 1 mass% of a Al source, from 0.3 to 0.5 mass% of a—Fe source, from 0.003 to 0.01 mass% of a—Ca source, from 0.004 to 0.01 mass% of a—Ni source, from 0.0008 to 0.01 mass% of a—Zr source and from 0.5 to 3 mass% of a—O source."

As a consequence, the amount ranges defined in claim 1 of the main request refer to the amount of the elements as such and not of their source.

- 1.4 Deleting the term "source" changes the composition of the inorganic oxides and thus of the refractory, since a composition comprising a certain amount of an element is not the same as a composition comprising the same amount of a source containing the element.

This can be further illustrated by the following example: an inorganic oxide composition containing 1 mass % of Al present in the form of an oxide is not the same as a composition to which 1 mass % of Al_2O_3 has been added as the latter would lead to about 0.5 mass % Al in the overall composition.

Therefore considering the literal meaning of the wording used in claim 4 of the application as filed and claim 1 of the main request, the technical teaching has been changed beyond the teaching as originally filed.

1.5 The appellant has not identified an explicit basis in the application as originally filed for a refractory comprising inorganic oxides comprising the elements in amounts corresponding to the elemental content indicated in claim 1 as granted.

1.6 It was argued that the expression including the term "source" had to be interpreted in a technically meaningful manner in the context of the application as a whole and in particular with respect to the term "as elemental components" in the claim and in view of the examples in the application.

The deletion of the term "source" from the wording of claim 4 as filed constituted a correction of an erroneous wording which did not change the technical teaching of the application as filed.

The Board does not agree with this argument.

1.6.1 According to established case law (see Chapter II.E.4.2 of the Case Law of the Boards of Appeal, 8th edition, 2016) a correction is only possible, if an application contains an obvious error and a skilled person is in no doubt that the feature concerned could not be meant as such. If, on the other hand, it was doubtful whether that feature was incorrectly defined, then a correction was ruled out (see in particular G 3/89 (OJ 1993, 117; see also G 11/91, OJ 1993, 125).

In the present case, neither from the wording of the claims as filed nor from the corresponding paragraph [0020] of the description is it evident that an obvious error has occurred and that the word "source" can be simply ignored when interpreting claim 4 as originally filed.

The wording of claim 4 and of paragraph [0020] of the description makes technical sense, since the term "source" includes the metal oxides.

Even when considering further metal sources, such as carbonates, the skilled person is aware that the use of a certain amount of a source results in a certain amount of metal oxide in the end product.

Limiting the amount of the source material therefore indirectly also limits the amount of the corresponding element in the final refractory composition.

Therefore the term "source" itself does not inevitably indicate to the skilled person that an error occurred or that the literal wording has to be ignored in order to make technical sense.

- 1.6.2 The wording of claim 4 as filed also corresponds (to a certain degree) to the examples of the application.

The introductory part of the experimental section referring to table 2 (paragraph [0036] of the application as filed) explicitly refers to the various sources of the metals: "The inorganic oxide was formed using Al_2O_3 as Al source, Fe_2O_3 as Fe source, CaCO_3 as Ca source, ...". Thus the wording of the application is consistent in this aspect and refers always to the source of the various elements when describing the invention in general.

The same teaching can be found in table 1. With respect to Al_2O_3 , the heading of table 1 explicitly indicates that the amounts reported are the amounts of the aluminium source.

Therefore the teaching of the examples is consistent with the wording of claim 4 regarding this aspect.

1.6.3 The appellant stressed that, in particular, example 3 taught the skilled person that the amounts presented in claim 4 as filed referred to the elemental content. The Board accepts that example 3 comprises 1.830 mass% Al_2O_3 (Al source), which, taken as such, does not comply with the upper limit of 1 mass% of claim 4 as filed but would comply with said limit if expressed as Al content: $\text{Al [mass\%]} = (1.830_{\text{mass\% Al}_2\text{O}_3} \times 54_{\text{g/mol 2Al}}) / 102_{\text{g/mol Al}_2\text{O}_3} = 0.968$.

However, the fact that from the seven examples on file, examples 2 and 3 do not fulfil the requirements of dependent claim 4 as filed when considering the amounts of the aluminium source indicated in table 1, is not a clear indication that an error occurred, since not all examples presented in an application as filed have to fulfil the requirements of all preferred embodiments defined in dependent claims.

This is also illustrated in paragraph [0028] of the application as filed, where a preferred refractory composed of 99.99 to 98 mass % of SiC and 0.01 to 2 mass% of SiO_2 is proposed which does not fulfil the requirements of claims 2 and 4 as filed.

1.6.4 The Board further accepts that (at least) the amounts of the aluminium source indicated in table 1 correspond to the amounts expressed for the elemental aluminium content in table 2.

However, this does not demonstrate that an error occurred when drafting claim 4 as filed, but that tables 1 and 2 are consistent in this respect.

1.6.5 When describing a refractory known in the art in paragraph [0004] of the application, the content of the metal Si is defined in mass % of a metal Si in the refractory. The application as filed therefore presents amounts of metal oxides in the refractory composition in different ways, as mass % of a metal source when addressing the invention and mass % of a metal when addressing the prior art. The application itself therefore uses the different definitions in different contexts and consequently implies that they have different meanings.

1.7 Therefore it is not evident from the application as filed that the wording of claim 4 as filed contained an obvious error.

1.8 The appellant further argued that the term "as elemental components" in claim 4 as filed has to be interpreted in the light of the examples.

However, it is observed by the Board that in table 1, which summarizes the composition of the examples, it is explicitly the amounts of the aluminium source that are presented.

Furthermore, it is indicated in the heading of table 1 that the amounts of aluminium oxide and the silicon oxide indicated therein are the amounts based on the aggregate bonding portion. This teaching does not correspond to the teaching in paragraph [0017], which reflects the invention as understood by the skilled person according to the appellant and where the invention is defined to contain the aluminium and silicon oxide in the amounts based on the whole refractory composition.

Similarly, in paragraph [0036] of the application as filed it is explicitly stated that table 2 shows results of a wet analysis of the inorganic oxides in the aggregate bonding portion. The statement, that the inorganic oxides "in the aggregate bonding portion" are analysed, further creates doubts that the results shown in table 2 reflect the invention defined by the claims as originally filed and as defined in paragraph [0017], since according to them the invention is characterised by a specific content of inorganic oxides in the total refractory composition and not by their content in the aggregate bonding portion as explicitly stated in the context of table 2.

Hence the examples themselves do not reflect the invention as presented in the claims and in paragraph [0017] as filed and therefore do not provide any clear guidance when interpreting claim 4 as filed.

- 1.9 Therefore the Board reaches the conclusion that the deletion of the word "source" in claim 4 as filed cannot be considered as an obvious correction of an error or unclear wording.

In the absence of a clear basis in the application as originally filed for the wording of claim 1 as granted, the subject-matter of claim 1 as granted consequently violates the requirements of Article 123(2) EPC.

- 1.10 The features of original claims 1, 2 and 4 have been regrouped and the wording of the claims as originally filed has been further changed by deleting the terms "as main components", "the inorganic oxides in the refractory are adjusted to contain" and "0.1 to 1.9 mass% of Al₂O₃".

However, in view of the finding above any further assessment of the further amendments becomes obsolete.

2. Auxiliary request 1

2.1 Auxiliary request 1 was filed in response to the provisional opinion of the Board set out in the summons to attend oral proceedings.

2.2 Claim 1 as granted requires that the inorganic oxide contains specific amounts of certain elements.

The numerical ranges defined in claim 1 of auxiliary request 1 are the same as for claim 1 as granted. However, they refer not to the elements itself but to their source.

As set out above, a "source" of an element such as its oxide or carbonate comprises the element in a concentration which is not the same as when considering the element itself.

By changing the various ranges for the amounts of elements to amounts of sources thereof the scope of claim 1 compared to claim 1 as granted appears to have been broadened, since claim 1 of auxiliary request 1 covers refractory compositions comprising inorganic oxides which can contain the elements listed in lower amounts than those required by claim 1 as granted.

2.3 It is therefore concluded by the Board that auxiliary request 1 prima facie does not comply with the requirements of Art. 123(3) EPC, and is therefore not admitted into the proceedings by the Board pursuant to Article 13(1) RPBA.

3. Auxiliary requests I to III

These requests contain the feature "wherein the inorganic oxides contain, as elemental components thereof, from 0.06 to 1 mass% of Al, from 0.3 to 0.5 mass% of Fe, from 0.003 to 0.01 mass% of Ca, from 0.004 to 0.01 mass% of Ni, from 0.0008 to 0.01 mass% of Zr and from 0.5 to 3 mass% of O" which corresponds to the wording of claim 1 of the main request.

Therefore claim 1 of auxiliary requests I to III does not fulfil the requirements of Article 123(2) EPC for the reasons indicated in point 1 above with respect to claim 1 of the main request.

4. Auxiliary requests IV to V

These requests contain the feature "wherein the inorganic oxides contain, as elemental components thereof, from 0.06 to 1 mass% of an Al source, from 0.3 to 0.5 mass% of an Fe source, from 0.003 to 0.01 mass% of a Ca source, from 0.004 to 0.01 mass% of an Ni source, from 0.0008 to 0.01 mass% of a Zr source and from 0.5 to 3 mass% of an O source" which corresponds to the wording of claim 1 of auxiliary request 1.

Therefore claim 1 of auxiliary requests IV and V does not fulfil the requirements of Article 123(3) EPC for the reasons indicated in point 2 above with respect to claim 1 of auxiliary request 1.

5. In conclusion, the ground for opposition pursuant to Article 100(c) EPC prejudices the maintenance of the patent.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Spira

G. Ashley

Decision electronically authenticated