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**Datasheet for the decision
of 11 October 2012**

Case Number: T 0354/10 - 3.2.06
Application Number: 05014331.2
Publication Number: 1612380
IPC: F01N 3/022, B01D 39/20
Language of the proceedings: EN

Title of invention:
Filter made of porous ceramic sintered body

Patentee:
NGK Insulators, Ltd.

Opponent:
Young Thought Limited

Headword:
-

Relevant legal provisions:
EPC Art. 114(2), 111(1)
RPBA Art. 12(4)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Remittal - (yes)"
"Admittance of D13 - (yes, in relation to inventive step)"

Decisions cited:
-

Catchword:
-



Case Number: T 0354/10 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 11 October 2012

Appellant: Young Thought Limited
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Respondent: NGK Insulators, Ltd.
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted
21 January 2010 concerning maintenance of
European patent No. 1612380 in amended form.**

Composition of the Board:

Chairman: M. Harrison
Members: G. de Crignis
W. Sekretaruk

Summary of Facts and Submissions

I. By way of its interlocutory decision, the opposition division found that European Patent No. 1 612 380 in an amended form met the requirements of the European Patent Convention (EPC).

II. The opposition division held that the main request met the requirements of Article 123(2) and (3) EPC and Article 83 EPC, that the subject-matter of claim 1 was novel (Article 54 EPC) over

D1 US-A-4 632 683

and involved an inventive step over the prior art.

D13 SAE 920144 "Improvement of Pore Size Distribution of Wall Flow Type Diesel Particulate Filter", February 24-28, 1992

together with

D13a calculations taken from Figure 1a of D13 and D13b enlarged Figure 1a of D13

were not admitted into the proceedings (Article 114(2) EPC), because on the one hand they were filed only during the oral proceedings, and on the other, D13 was held *prima facie* not to be more relevant than D1.

III. The appellant (opponent) filed an appeal against this decision and re-submitted documents D13, D13a, D13b, and filed additionally

D14 SAE 932495 (September 1993).

IV. The respondent (patent proprietor) replied with letter of 14 October 2010 requesting that the decision of the opposition division be upheld, or that the patent be maintained in an amended form based on the claims of auxiliary requests 1 and 2. It also requested that D13 and D14 not be admitted into the proceedings.

V. In a communication annexed to the summons to oral proceedings, the Board indicated *inter alia* that the reasons given by the opposition division for non-admittance of D13 appeared to be correct, and that no convincing reason appeared to be present for admitting D14 into the proceedings.

VI. Oral proceedings were held before the Board on 11 October 2012.

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

The respondent requested that the appeal be dismissed or the patent be maintained in amended form on the basis of auxiliary request 1 filed 17 November 2009 or on the basis of auxiliary request 2 filed 14 October 2010. It further requested remittal to the opposition division in case document D13 would be admitted.

VII. Claim 1 of the main request reads:

"A filter in the form of a porous ceramics sintered body having a honeycomb structure having a large number of through channels partitioned by partition walls and

passing through along an axial direction, characterised in that

the average pore diameter D (μm), and the ratio $P3$ (%) of the volume of pores having a diameter of below $3 \mu\text{m}$ to the total pore volume, measured by the method of mercury penetration, and the ratio $P1$ (%) of the volume of pores having a diameter of $30 \mu\text{m}$ or more to the total pore volume, measured by a method of mercury penetration, and the thickness T (μm) of said partition wall satisfy the relationships

$$(1/P3) \times 1500 \geq T$$

$$(D \times 100) \geq T$$

$$P1 \times 15 \leq T."$$

In auxiliary request 1, the last equation in claim 1 is replaced by:

$$"P1 \times 20 \leq T."$$

Claim 1 of auxiliary request 2 is the same as that of auxiliary request 1. Amendment has been made to the dependent claims only.

VIII. The arguments of the appellant may be summarised as follows:

D13 should be admitted into the proceedings. It was filed as a reaction to the patent proprietor's submissions of 2 September 2008 including an amended main request and data (D6) concerning the $P1$ and $P3$ values linked to specific wall thicknesses, as well as to the submissions of 17 November 2009 including an auxiliary request and further data related to the

advantages of specific P1 and P3 values. In view of the unfavourable view with regard to the position on inventive step taken in the summons by the opposition division, no earlier reaction was appropriate.

With regard to the issue of relevance, although it could be argued that the P1 and P3 values for the filters were not directly and unambiguously disclosed in D13, the skilled person could easily determine that the C-356E filter disclosed therein had about 5% of pores having a pore size of 0-5 μm and 20 to 30% of pores larger than 30 μm . The values were, however, extremely close to the limits of the claim and showed the same effects. With regard to the disclosed wall thickness of 430 μm in D13, the C-356E filter had to have a P1 value of less than about 29% and a P3 value of less than 3.5%. Such filter was notably disclosed as having a good balance of trapping efficiency and pressure drop just as in the patent and in D6. Hence, such a filter was highly comparable to the claimed filter as it had the same advantageous properties; it was thus at least *prima facie* highly relevant with respect to the patentability of claim 1.

The fact that D13 did not express the somewhat uncommon claimed relationships and values used in the claims was due to these specific relationships not normally being measured. However, the values and properties disclosed in D13 meant that it was highly relevant for inventive step and should therefore have been allowed into the proceedings at least when considering inventive step.

Although the opposition division had not allowed D13 into the proceedings, this finding was based on the

issue of relevance with regard to novelty only. There is no statement that it had ever considered its relevance to inventive step. It was self-evident that when bringing forward new evidence which was to be used to attack novelty that it would be relevant as well for inventive step if novelty were not found to be lacking. Alternatively, the Board should admit D13 by use of its own discretion since it was, having been cited as showing the presence of the P1 and P3 values, self-evidently relevant to the matter of inventive step. The question of admittance by the Board was a separate question and the Boards had consistently (see e.g. decision T 278/08) allowed a document to be admitted in view of its relevancy, even though this had not previously been admitted by the opposition division.

Should D13 be admitted, no reason for objection to remittal of the case was apparent.

In light of the Board's communication concerning D14, no further comments concerning D14 were expedient.

IX. The arguments of the respondent may be summarised as follows:

D13 and D14 should not be admitted.

As regards D13, it was filed during the oral proceedings and could have been filed earlier and the opposition division correctly exercised its discretion to refuse the admittance of D13. D13 was *prima facie* not more relevant than D1.

D13 was not cited in reaction to the new main request, but far later, nor did the opponent need to rely on it merely because D6 had been filed. The data sheets filed with letter of 17 November 2009 were not used by the opposition division. No separate arguments concerning inventive step based on D13 had been made by the proprietor, so the opposition division exercised its discretion correctly.

Also, D13 did not allow the identification of exact data from the small scale drawings. Therefore, it was not possible to derive values for P1 and/or P3 from such Figure. The amount of the error margin included the sum of each bar segment which was significant when the errors were summed. Thus, the numerical values referred to by the appellant were not accurate at all. No clear and unambiguous teaching of a filter within the scope of claim 1 could be identified, nor could it be established that the values were even close to the limits of the claim; it was not even clear for example from which material the filter C-356E was composed, nor which size or shape the filter had. Thus, it could also not be derived that D13 was in any way relevant for inventive step.

If D13 were to be admitted, remittal to the opposition division would be appropriate.

Reasons for the Decision

1. Non-admittance of D13 by the opposition division
 - 1.1 The opposition division stated that D13, which had been filed for the first time during the oral proceedings and thus long after the opposition time limit, was not *prima-facie* relevant and thus did not admit it into the proceedings under Article 114(2) EPC and Rule 116(1) EPC.
 - 1.2 The opposition division assumed (see decision of the opposition division item 4.1) that D13 could have been found at an earlier stage in the proceedings, in particular in reply to the amended main request filed by the patentee. Moreover, although the value calculated by the appellant for P1 of 26.4% was below the required threshold of 28.66% the opposition division held that the claimed relationship $(P1 \times 15 \leq T)$ was not derivable from D13, not least due to the lack of accuracy with which the graphs could be read. Even less accurate was found by the opposition division to be the value calculated for P3 whereby also the corresponding relationship $((1/P3) \times 1500 \geq T)$ was not derivable from D13. In view of such values and relationships not being disclosed in D13, the subject-matter of claim 1 of the patent in suit was held to be novel with regard to D13 and this document therefore not considered more relevant than D1.
 - 1.3 In regard to the question of lack of novelty of the subject-matter of claim 1, the Board also finds no reason to doubt that the opposition division came to the correct conclusion regarding the relevance of D13.

In particular, having regard to the thickness of the lines therein and the lack of certain specific data points at the lower end of the horizontal scale, D13 cannot be considered such that it directly and unambiguously discloses the specific numerical values alleged to be present by the opponent. Indeed, during the oral proceedings before the Board, the appellant conceded that, due to the imperfect presentation provided by the graphs, the exact values could not be established with certainty to lie within the claimed ranges, even though it contended the values were undeniably very close and thus did not argue further that D13 should be admitted when considering lack of novelty.

1.4 The appellant was of the view that the decision not to admit D13 should be reversed because the late filing of the document was in part due to the course of the proceedings and the relevance of D13 was not only to be considered with regard to novelty as set out by the opposition division when considering the *prima facie* relevance of D13 but also with regard to inventive step.

2. Admittance of D13 in relation to inventive step

2.1 Under Article 114(2) EPC, the first instance as well as the Boards of Appeal have a discretion to admit late-filed submissions and documents. The exercise of this discretion depends on the facts of each case. Additionally, it is evident from Article 12(4) Rules of Procedure of the Boards of Appeal (RPBA), that it lies within the discretion of the Board to admit any facts, evidence or requests which were not admitted in the first instance proceedings. In particular, the

relevance of a late-filed submission or document as well as the question why it had not been earlier submitted should normally be factors which are taken into account when considering how to exercise this discretion.

2.2 Time of filing

2.2.1 The reason given by the appellant for filing D13 during the oral proceedings before the opposition division was that there had been no reason for searching for another document or filing any further documents earlier, since the opposition division had set out in its annex to the summons to oral proceedings, dated 15 September 2009, that - albeit provisionally - no inventive step was considered to be present in the subject-matter of claim 1 with regard to Example 6 in D1. Only after the proprietor had filed further arguments and data concerning inventive step with its letter of 17 November 2009, did any necessity whatsoever appear to arise for reliance on further documentation, not least as a possible insurance position should an unexpected change of opinion occur for some, at that time unknown, reason when taking into account the new submission of the proprietor. According to the appellant's point of view, only at this time would the submission of a document having relevance with regard to, in particular the pore size distribution, have become apparent and necessary. First, merely because a provisional opinion of an opposition division in one party's favour has been issued, this does not imply a justified expectation on behalf of that party that the opposition division might not subsequently find differently when deciding on the case, nor that it

should, when faced with an altered viewpoint of the opposition division, then have justification for filing new evidence to alter that viewpoint. However, as explained below, this was not the only matter to be considered in this case.

2.2.2 The argument of the respondent that the main request had been filed much earlier and accordingly any document should have been filed directly in response, is not persuasive for not admitting it into proceedings. In view of the submissions which were filed by the proprietor on 17 November 2009, i.e. only shortly before the oral proceedings before the opposition division and which *inter alia* referred to the effect of the filter and related data on P1 and P3 values, it is evident (even though this data is not referred to by the opposition division in its written decision) that the pore distribution and the claimed relationships may indeed have assumed a new significance with regard to inventive step, also when compared to the disclosure in D1. No data concerning any such effects or advantage had been submitted previously; D6 supplied earlier by the proprietor notably had a different significance.

2.2.3 The respondent also argued that during the opposition proceedings, no arguments with regard to inventive step based on D13 had been put forward by the opponent and thus the opportunity to do so had been waived. Indeed, it appears from the minutes and decision that no specific attack had been made by the opponent concerning lack of inventive step based on D13. However, it cannot be overlooked that although it was argued D13 was prejudicial to novelty of claim 1, it is seemingly not possible to conclude immediately that D13 would not,

given its disclosure already considered in relation to novelty, have been highly relevant to the question of inventive step. Nothing in the decision demonstrates that the opposition division indeed considered D13 for any purpose other than possible *prima facie* relevance to novelty of the subject-matter of claim 1. Since the values derivable from D13 were also seemingly, at least *prima facie* (based on the conclusions reached by the opposition division) very close to the claimed ranges of P1 and P3 in claim 1, even if not unambiguously within these, high relevance of D13 *prima facie* to inventive step appears inherent. Thus it could have been expected, typically at a time subsequent to a discussion on novelty, that an attack concerning lack of inventive step would, in the present case, have been based on D13. Since, when considering only the matter of novelty, the opposition division did not admit D13 into proceedings at all, there was seemingly no possibility in the first instance proceedings for the opponent to put forward arguments based on D13 related to inventive step.

- 2.2.4 Also, in the statement of the grounds of appeal, the objection concerning lack of novelty with regard to D13 had been retained largely on the same basis that had been put to the opposition division, i.e. without providing a specific attack against claim 1 concerning lack of inventive step when starting from D13 as the closest prior art. However, for the same reasons, the opponent found it inappropriate - in the specific circumstances of the present case - to detail why any particular feature of claim 1 might be considered not disclosed in D13 and thus formulating an attack on inventive step on this premise. However, and different

to the situation before the opposition division, it was also stated in the grounds of appeal (see point 12) that there was no value for the P3 parameter cited in D13 but that a reasonable estimate could be established. Thus the possible high relevance of D13 to the question of inventive step should have been recognisable, once an analysis of D13 in the question of novelty of the subject-matter of claim 1 had been completed. In the appeal case before the Board this is even further evident due to the fact that D13 had been used in the appeal grounds as a starting point to attack inventive step in relation to the subject-matter of claims 2 and 3.

2.2.5 It also cannot be overlooked in the present case that the patent proprietor filed earlier (with letter of 2 September 2008) - an amended main request and only subsequently in reply to the annex to the summons to oral proceedings by the opposition division, did it file (with letter of 17 November 2009) an amended auxiliary request as well as data and arguments concerning, in particular, the pore size distribution in reply to the grounds of opposition. This demonstrates that the opponent was justifiably reacting to those submissions by filing D13 and such behaviour cannot, in the particular circumstances of this case, be considered as an abuse of the procedure. It is also not derivable from the facts of the case that the submission of D13 at such a late stage was made deliberately for tactical reasons.

2.2.6 Hence, although the Board finds that the opposition division exercised its discretion correctly when considering whether or not to admit D13 (and D13a and b)

into proceedings for the discussion of novelty of the subject-matter of claim 1, the use of discretion when considering inventive step is not derivable from the decision.

2.2.7 Although it is stated (last but one paragraph of point 4.2 on page 8 of the appealed decision) that "...there are not clear reasons to suspect that the late-filed material D13 would prejudice the maintenance of the patent under dispute or would be a better prior art document as D1 already on file." -, such statement precedes the novelty section and only the direct derivability of all claimed characteristics in combination had been assessed. The respondent also admitted that the conclusion could not be drawn, when referring in this section to a "better prior art document", that this was a reference to any inventive step considerations.

2.2.8 Since the filing of D13 was subsequent to submissions and further evidence of the patent proprietor concerning inventive step, its *prima facie* relevance with regard to inventive step should therefore, in the present case, have been assessed by the opposition division before deciding not to admit D13 into the proceedings.

2.3 Relevance of D13

2.3.1 As stated above, the values of P1 and P3 appear *prima facie* to lie at least very close to the ends of the P1 and P3 ranges which are required to fulfil the claimed relationships. Thus, rather than remitting the case to the opposition division to first exercise its

discretion as to whether to admit D13 with regard to the matter of inventive step, the Board has itself instead chosen to consider the *prima facie* relevance of D13 for the judgement of inventive step and thus whether D13 should now be admitted for this purpose.

- 2.3.2 The subject-matter of claim 1 includes relationships concerning wall thickness, average pore diameter and pore size distributions P1 and P3.
- 2.3.3 The patent in suit appears to disclose (for the diesel particle filters shown in its Examples) a wall thickness of 305 μm and an average pore diameter of 16.1 μm for cordierite and of 10.5 μm for SiC. Concerning the P1 values (pores having a diameter of 30 μm or more), Table 1 of the patent in suit appears to disclose for the cordierite material a value of 16.06% and, for the SiC material, a value of 6.84%. Concerning the P3 values (pores having a diameter of below 3 μm), no values or data are seemingly disclosed in the patent in suit. Hence, although the defined P3 equation (in relation to wall thickness (T)) contributes to the finding that novelty is present in the subject-matter of claim 1, it appears highly questionable that the same finding could give rise to the conclusion that D13 was not relevant for the consideration of inventive step. Tables 2 and 3 of the patent in suit appear to disclose that soot scavenge efficiency as well as initial pressure loss are dependent on the thickness of the partition wall. Thus, it is questionable whether these Tables add anything supporting the presence of an inventive step when considering the claimed relationships.

2.3.4 Hence, since no data is seemingly present in the patent in suit which clearly demonstrates that soot scavenge efficiency or initial pressure loss would necessarily be dependent on the claimed relationships, the patent proprietor seemingly filed D6 - specifying experimental data concerning P1 to P4 values of the above materials - and submitted further arguments and data concerning filter efficiency and pressure drop with its letter of 17 November 2009, both of which could be relevant in particular with regard to the question of inventive step, since D6 does not seemingly disclose a dependency of the performance, initial pressure loss or soot scavenge efficiency on the claimed relationships. D6 is seemingly at best capable of demonstrating that initial pressure loss and soot scavenge efficiency are dependent on wall thickness - which is already known from Tables 2 and 3 in the patent in suit. The further data submitted on 17 November 2009 have neither been commented on by the opposition division nor by the parties in the appeal proceedings.

2.3.5 In view of the nature of the parameters P1 and P3, it is understandable that explicit disclosure in the prior art of these specific values might not be present. D13 however appears to disclose four test filters, of particular relevance being the test filter with the material code C-356E. Figure 1a appears to disclose a bar chart concerning the pore size distribution in steps of 5 μm in the range of 0 to 100 μm and Figure 1b, appears to disclose the mean pore diameter, Table 2 seemingly specifying the porosity and further data. The diesel particle filters appear to have a wall thickness of 430 μm and information is also present about

pressure loss and soot scavenge efficiency (Table 3, Figures 5 to 9).

- 2.3.6 According to the appellant, the graph shown in Figure 1b of D13 reveals that the C-356E filter has about 5% of pores having a pore size of 0 to 5 μm and about 20 to 30% of pores larger than 30 μm , a porosity of 50%, an average pore diameter of 20 μm and the wall thickness is 430 μm . Thus, according to such calculations, P1 would then seemingly be less than about 29% and P3 would also be less than about 3.5%. Additionally, the filter is seemingly disclosed as having a good balance of trapping efficiency and pressure drop (page 187, Figures 5 and 6).
- 2.3.7 Thus, although D13 discloses none of the claimed relationships directly and unambiguously, it appears to show, in particular for material C-356E used as a diesel particle filter for a defined wall thickness, a pore size distribution which is at, or close to, the borderline of the claimed relationships - even when acknowledging an error margin possibly higher than the one included in the calculations of the appellant. Moreover, this filter is reported seemingly as having the same alleged advantageous properties as the claimed filter. Thus, based on this *prima facie* assessment of D13, it qualifies as being *prima facie* highly relevant for the discussion of inventive step in particular when taking into account that amended claim 1 of the patent in suit (i.e. corresponding to the amended form of the patent found as meeting the requirements of the EPC in the decision under appeal) does not explicitly specify the material used, beyond defining that it is in the

form of a porous ceramics sintered body. Nor does it explicitly define the size or the shape of the filter.

2.3.8 Hence, no other document in the proceedings is as specific as D13 in this regard. The only other document cited in this respect, D1, does not appear to be as relevant as D13, in that the pore size distribution in Figure 4 of its example 6 seemingly disregards the through-holes having 100 to 250 μm diameters and hence, is seemingly not complete when determining pore size distribution. Therefore, the only document seemingly disclosing all relevant characteristics of such a filter, in at least the claimed order of magnitude, is D13.

2.3.9 Thus, the Board exercises its discretion under Article 12(4) RPBA and admits D13 into the proceedings in relation to the issue of inventive step. Merely for the avoidance of doubt, it may be added that D13 (and also D13a and D13b) is not admitted into the proceedings for the consideration of novelty of the subject-matter of claim 1 according to the form found allowable in the decision under appeal.

3. D14

D14 was submitted by the appellant with the statement of grounds of appeal in order to demonstrate that a thicker walled filter would give rise to greater soot scavenging efficiency. The Board expressed in its preliminary view that such was well-known in the art and anyway accepted in the patent in suit and thus there was no reason to admit D14 into the proceedings. During the oral proceedings no arguments were presented

contrary to such view. Hence, the Board sees no reason to change its opinion and accordingly, exercised its discretion not to admit D14 into the proceedings.

4. Remittal

In the present situation, where the appealed decision does not include an evaluation of inventive step of the subject-matter of claim 1 taking account of the disclosure in D13, and given the fact that D13 at least *prima facie* appears to be highly relevant to the question of inventive step, remittal is appropriate in order to allow both parties to fully address this issue. Additionally it is noted that the respondent not only requested that the case be remitted to the opposition division should D13 be admitted but that no objection was raised against remittal by the appellant. Thus the Board, in exercising its discretion under Article 111(1) EPC, finds that the case should be remitted to the opposition division for further prosecution.

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 for further prosecution.

The Registrar

The Chairman

M. Patin

M. Harrison