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Datasheet for the decision of 6 March 2018

Case Number: T 0027/14 - 3.2.03

Application Number: 08446001.3

Publication Number: 1953258

IPC: C23C14/40, C22C29/08

Language of the proceedings: EN

Title of invention:
Texture-hardened alpha-alumina coated tool

Patent Proprietor:
Seco Tools AB

Opponents:
KENNAMETAL INC.
Ceratizit Austria GmbH

Headword:

Relevant legal provisions:
EPC Art. 83
RPBA Art. 12(4), 13(3), 13(1), 11
EPC R. 103(1)(a)

Keyword:
Sufficiency of disclosure - reproducibility (no)
Late-filed evidence - submitted shortly before oral proceedings
Right to be heard - opportunity to comment (no) - substantial procedural violation (yes)
Reimbursement of appeal fee - (no)
Remittal to the department of first instance - (no)

Decisions cited:
T 2372/10

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0027/14 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 6 March 2018

Appellant: (Patent Proprietor)	Seco Tools AB 737 82 Fagersta (SE)
Representative:	WSL Patentanwälte Partnerschaft mbB Kaiser-Friedrich-Ring 98 65185 Wiesbaden (DE)
Respondent 1: (Opponent 1)	KENNAMETAL INC. 1600 Technology Way Latrobe, PA 15650-0231 (US)
Representative:	Prinz & Partner mbB Patent- und Rechtsanwälte Rundfunkplatz 2 80335 München (DE)
Respondent 2: (Opponent 2)	Ceratizit Austria GmbH Metallwerk-Plansee-Strasse 71 6600 Reutte (AT)
Representative:	Ciesla, Bettina Plansee Group Service GmbH Intellectual Property Department 6600 Reutte (AT)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 19 November 2013 revoking European patent No. 1953258 pursuant to Article 101(2) and (3)(b) EPC.**

Composition of the Board:

Chairman	G. Ashley
Members:	B. Miller
	M. Blasi

Summary of Facts and Submissions

I. European patent No. 1 953 258 relates to a cutting tool insert comprising a cemented carbide body and a nucleated α-Al_2O_3 layer.

II. Oppositions were filed by the present respondent 1 and respondent 2 against the patent, both oppositions based on the grounds of Article 100(b) EPC and of Article 100(a) EPC together with both Articles 54 and 56 EPC.

The opposition division revoked the patent, since the division came to the conclusion that the invention was insufficiently described (Articles 100(b) and 83 EPC).

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

III. 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 its preliminary, non-binding opinion of the case.

IV. State of the art

The following documents cited in the contested decision are relevant for this decision:

D1: EP 1 905 870 A2;
D2: US 2007/0104945 A1;
D10: EP 1 528 125 A2;
D16: EP 1 288 335 A1;

D21: PDF cards JCPDS: 00-010-0173, 00-042-1468, 00-046-1212;

D22: S. Ruppi, "Enhanced performance of α-Al_2O_3 coatings by control of crystal orientation", Surface & Coatings Technology 202, (2008), pages 4257 to 4269;

D23: M. Fallqvist et al, "Abrasive wear of texture-controlled CVD α-Al_2O_3 coatings", Surface & Coatings Technology 202 (2007), pages 837 to 843.

The following documents were filed by the appellant together with the statement setting out the grounds of appeal:

D25: "Einführung in die Festkörperphysik", Charles Kittel, 3rd edition, 1973, pages 30 to 45, 72, 88, 89 and 124 to 127;

D26: "Introduction to Texture analysis", Valerie Randle and Olaf Engler, CRC Press, 2000, pages 82 to 85;

D27: "Elements of X-ray diffraction", second edition, B. D. Cullity, 1977, pages 303 to 308;

D28: Excerpts from Bruker manual "Diffracplus Topas Version 2.1", May 6, 2003

a) Tutorial, pages 1 to 85

b) User's manual
(cover page and table of contents)

c) Texture analysis
(cover page and table of contents)

d) Texture evaluation program
(cover page and table of contents)

e) text file used in Topas software for evaluation of X-ray diffractograms including peaks from different materials;

D29: World directory of powder diffraction programs, Syb Gorter and Deane K. Smith, 1994, pages 1 to 32, 83 and 94;

Exhibit A: Raw data and profile analysis obtained by applying the Topas Software according to D28;

Exhibit B: Statement by Dr. Gunnar Brandt including TC-measurement and evaluation on thin α-Al_2O_3 layers.

With the response to the grounds of appeal respondent 2 filed:

D30: PDF card JCPDS: 03-065-5759.

In response to the communication of the board pursuant to Articles 15(1) and 17(2), the following documents were filed

by the appellant:

D36: NBS Monograph Standard X-ray Diffraction Powder Pattern, US Department of Commerce,

by respondent 1:

D31: Judgment United Kingdom Patents Court of 15 December 2011 - Sandvik Intellectual Property AB v (1) Kennametal UK Ltd (2) Kennametal European GmbH, [2011] EWHC 3311 (Pat);

D32: EP 0 603 144 A1;

D33: Böcker et al., Determination of Preferred Orientation Textures in Al_2O_3 Ceramics, Journal of the European Ceramic Society, 8 (1991), pages 187 to 194;

D34: Böcker et al., Texture and Properties of α-Al_2O_3 Substrates, Textures and Microstructures, 1995, Vol. 24, pages 167 to 197;

D35: Affidavit of William Edward Mayo, Ph.D., In Support of Defendant Kennametal Inc.'s Responsive Claim Construction Brief, November 19, 2010,

by respondent 2:

D37: Analysis of XRD spectrum of D1 by Mr. Stylianou.

V. Oral proceedings were held on 6 March 2018 during which the appellant confirmed that it requested the board to consider itself the issue of sufficiency of disclosure, and not to remit the case to the opposition division for this issue. Moreover, the request for reimbursement of the appeal fee was withdrawn.

At the end of the oral proceedings, the following requests were maintained:

The appellant requested that the decision under appeal be set aside and the patent be maintained as granted.

The respondents 1 and 2 requested that the appeal be dismissed.

VI. Claim 1 as granted reads:

"A cutting tool insert comprising a cemented carbide body and a coating, **characterized in that**
- the cemented carbide body comprises WC, 4-12, preferably 5-9 wt-% Co and 5-10, preferably 7.5-9,5, wt-% cubic carbides of the metals from groups IVb, Vb and VIb of the periodic table, preferably Ti, Nb and Ta, with an S-value of 0.79-0.90 and a coercivity of 9-18, preferably 10-15 kA/m at least one surface of the cemented carbide body comprises a binder phase enriched surface zone with a thickness of 5-50, preferably 5-30, µm being essentially free from cubic carbides adjacent a coating wherein at least one layer is a 1-20, preferably 2-15, µm thick nucleated α-Al_2O_3 layer composed of columnar grains with a length/width ratio from 2 to 12 whereby the α-Al_2O_3 layer has a texture coefficient TC(0006)

$$TC(0006) \geq 1.33 \ln h+2$$

where h is the thickness of the α-Al_2O_3-layer in µm and TC(0006) is defined as follows:

$$TC(hkil) = \frac{I(hkil)}{I_0(hkil)} \left[\frac{1}{n} \sum_{n=1}^{n} \frac{I(hkil)}{I_0(hkil)} \right]^{-1}$$

where
I(hkil) = measured intensity of the (hkil) reflection
I_O(hkil) = standard intensity according to JCPDS card no 46-1212
n = number of reflections used in the calculation. (hkil) reflections used are: (1012), (1014), (1120), (0006), (1123), (1126) whereby the coating comprises a first layer adjacent the body of CVD Ti(C,N), CVD TiN,

CVD TiC, CVD HfN, MTCVD Ti(C,N), MTCVD Ti(C,O,N), MTCVD Zr(C,N), MTCVD Zr(C,O,N), MTCVD Ti(B,C,N), MTCVD (Ti,Al)(C,O,N) or combinations thereof preferably of Ti(C,N) having a thickness of from 1 to 20 µm, preferably from 5 to 10 µm and said texture-hardened α-Al_2O_3 layer adjacent said first layer."

Claims 2 to 8 as granted relate to preferred embodiments of the cutting tool insert according to claim 1.

VII. The arguments of the appellant, as far as relevant for this decision, can be summarised as follows.

The opposition division surprised the appellant during the oral proceedings by raising a new objection with respect to sufficiency.
As is evident from the minutes, the appellant was not made aware of all objections before the decision was taken. Documents D22 and D23 were introduced in the procedure and considered in the contested decision without any discussion regarding their admission into the proceedings with the parties. Moreover, they were discussed in the contested decision in a different context than presented by respondent 2 in the written procedure.
Therefore the right to be heard of the appellant had been violated. Notwithstanding these procedural violations, the board should itself deal with the present case and, in particular, consider the issue of sufficiency of disclosure.

The skilled person could rework the invention within the usual experimental routine in view of the information provided in the contested patent and taking

into account the common general knowledge of the skilled person.
Paragraph [0026] and the examples provided the necessary instructions for obtaining an α-Al_2O_3 layer having the desired texture. The texture could be verified by XRD. None of documents D1, D2, D10, D16, D22 and D23 could give raise to any doubts that the cutting tool insert defined by claim 1 could be reproduced. The skilled person was aware of the factors which influence crystal growth and texture. Performing a certain amount of routine experiments was not an undue burden for the skilled person.

VIII. The respective arguments of respondents 1 and 2 can be summarised as follows.

The contested patent did not describe a single embodiment describing all necessary parameters to achieve the required texture coefficient TC(0006). In particular paragraph [0026] of the contested patent did not describe how the nucleation and the grain growth was controlled in order to achieve the required TC(0006) according to claim 1. Furthermore, the teaching of the examples and figures was inconsistent and misleading. The contested patent provided no guidance how to modify the parameters governing nucleation and growth when the desired texture was not obtained by using standard setting. Thus, the skilled person was not able to rework the invention defined in the contested patent.

The case should be remitted to the opposition division in case that novelty and inventive step would be considered.

Reasons for the Decision

1. Consideration of documents filed for the first time in appeal proceedings

1.1 Documents D25 to D29 and exhibits A and B

Together with its statement setting out the grounds of appeal, the appellant submitted documents D25 to D29 and exhibits A and B, the admission or not of which is governed by Article 12(4) RPBA.

These documents were filed in response to the reasoning in the impugned decision. Hence, the board does not see any reason for holding documents D25 to D29 and exhibits A and B as being inadmissible pursuant to Article 12(4) RPBA.

1.2 Documents D30, D36 and D37

These documents have been submitted by the appellant (D36) and respondent 2 (D30, D37) in reaction to the respective submissions.
None of the parties objected to the admission of these documents into the proceedings and the board itself also has no concern against taking these documents into consideration.

The board therefore admits these documents into the proceedings pursuant to Article 13(1) and (3) RPBA.

1.3 Documents D31 to D35

These documents were submitted one month before the oral proceedings by respondent 1. D31 concerns a

judgment of a UK court on the validity of D32, a case having a priority date from 1992; the purpose of these documents was to show the common general knowledge of the skilled person in 1992. However, common general knowledge develops over time, and it cannot be concluded that these documents are relevant for establishing the common general knowledge of the skilled person at the priority date of the contested patent in 2007.

Documents D33 to D35 are scientific articles and an expert opinion concerning XRD measurements and texture coefficients. In combination with D31, which itself makes already reference to various expert opinions, these documents, presented at a late stage in the appeal proceedings, increase the complexity of the case to such an extent that the board and the other parties could not be reasonably expected to deal with them at the oral proceedings.

By exercising its discretion pursuant to Article 13(1) and (3) RPBA the board therefore does not admit documents D31 to D35 into the proceedings.

2. Procedural defects of the opposition proceedings

2.1 Admission of documents D22 and D23 into the opposition proceedings

Documents D22 and D23 were filed by respondent 2 after the opposition period two months before the oral proceedings in opposition proceedings and therefore were late filed documents.

The minutes of the oral proceedings before the opposition division do not mention any discussion or

decision on the admission of these late filed documents into the proceedings, nevertheless they are cited and taken into account in the impugned decision (see points 1.2 and 2.2 of the Reasons for the decision).

Therefore it has to be concluded that the appellant, then patent proprietor, did not get an opportunity to discuss the admission of documents D22 and D23 into the proceedings before the decision on their admission was taken, contrary to the requirements stipulated by Article 113(1) EPC.

2.2 Request for adjournment of the oral proceedings

A new objection concerning sufficiency of disclosure was raised during oral proceedings by the opposition division which arose from their assessment of D21, which had actually been submitted by the appellant in a different context; see minutes (first paragraph):

"Then the chairman made clear to the parties that document D21, filed by the proprietor, called into question the sufficiency of disclosure of the patent, the proceedings will therefore start with discussion on opposition ground under Article 100(b) EPC. The first examiner explained what the problem was."

According to the minutes, a break of 15 minutes was given to the parties to prepare any additional arguments after which the appellant requested an adjournment of the oral proceedings "to file new information documents" to support its arguments (see minutes, fourth paragraph). The opposition division refused the adjournment of the oral proceedings.

The board considers that in the present case the refusal of the adjournment constitutes an unfair treatment of the appellant since the appellant did not have an appropriate opportunity during the oral proceedings to prepare a proper defense against this new objection. Accordingly, as the appellant could not present its comments on the ground on which the decision was based, the appellant's right to be heard pursuant to Article 113(1) EPC was violated.

The refusal of the adjournment is justified in point 1.3 of the contested decision by referring to the fact that the ground of sufficiency of disclosure had been raised by the opponents already before in the written procedure. The opposition division pointed out that further data could have been filed earlier and would in any case not have been suitable for supplementing the insufficient information in the contested patent.

The board in principle agrees that further data cannot necessarily supplement the insufficient information in a patent. However, according to page 1, 4th paragraph of the minutes the appellant asked for time to provide further information, not just data, to support its arguments. Further information on the common general knowledge of the skilled person can demonstrate that information not explicitly disclosed in a patent specification nevertheless is known to the skilled person, since it belongs to the common general knowledge. Therefore the reasoning of the contested decision does not take into account the arguments presented by the appellant as indicated in the minutes.

Moreover, the appellant had no reason to expect that further information on the common general knowledge was

needed at the oral proceedings, since it was not aware of the objection before the oral proceedings, in particular, since the objection raised by the opposition division is based on document D21, submitted by the appellant in preparation of the oral proceedings in a different context.

2.3 Lastly, the opposition division presented a line of argument for a lack of sufficiency of disclosure based on D16 in the decision. However, according to the minutes of the opposition division , sufficiency had not been discussed in light of D16 during the oral proceedings. Nor can the board identify in the written submissions of the then opponents the line of argument later presented in the impugned decision. This amounts to a further violation of Article 113(1) EPC.

2.4 In conclusion, the procedure leading to the contested decision contains several procedural defects, since the appellant was confronted with a new objection for the first time during the oral proceedings but did not get sufficient and adequate opportunity to prepare its defence. Furthermore, it was not made aware of the essential legal and factual reasons, that lead to the revocation of its patent, before the decision was taken. As a causal link between these procedural defects and the decision is clearly given, these defects qualify as substantial procedural violations.

2.5 Irrespective of these substantial procedural violations, constituting in the board's opinion fundamental deficiencies within the meaning of Article 11 RPBA, the appellant explicitly requested that the board, instead of remitting the case to the opposition division, should itself deal with the issue of sufficiency of disclosure. Against the background

that the respondents had no objections in this regard and the issue of sufficiency of disclosure was discussed in detail in the written submissions of the appeal proceedings, the board did not remit the case pursuant to Article 11 RPBA and considered the issue of sufficiency of disclosure in accordance with Article 111(1), second sentence, EPC.

3. Article 100(b) EPC

3.1 Claim 1 is directed to a cutting tool insert comprising a cemented carbide body and a coating. The coating comprises a 1 to 20µm thick nucleated α-Al_2O_3 layer.

The α-Al_2O_3 layer is defined by its texture coefficient TC(0006), which has to have a minimum value of

$$TC(0006) \geq 1.33 \ln h + 2$$

where h is the thickness of the α-Al_2O_3-layer in µm and TC(0006) is defined as follows:

$$TC(hkil) = \frac{I(hkil)}{I_0(hkil)} \left[\frac{1}{n} \sum_{n=1}^{n} \frac{I(hkil)}{I_0(hkil)} \right]^{-1}$$

where
I(hkil) = measured intensity of the (hkil) reflection
I_O(hkil) = standard intensity according to JCPDS card no 46-1212
n = number of reflections used in the calculation
(hkil) reflections used: (1012), (1014), (1120), (0006), (1123), (1126).

3.2 The respondents argued that the skilled person is neither in the position

a) to achieve a α-Al_2O_3 layer with a strong (0001) texture as defined by the texture coefficient TC(0006) nor

b) to determine the texture coefficient TC(0006) defined in claim 1 without undue burden.

3.3 In the reasons of the impugned decision the opposition division focuses only on the ability of the skilled person to determine the texture coefficient defined in claim 1.

The board considers it more appropriate firstly to evaluate whether the skilled person is put into position to achieve a cutting tool insert comprising an α-Al_2O_3 layer with a strong (0001) texture, before going on to assess the ability to determine whether the texture coefficient as defined in claim 1 is met.

3.4 Paragraph [0002] of the contested patent refers to several documents which demonstrate that the skilled person is aware that by using CVD techniques α-Al_2O_3 layers with various textures can be obtained.

The contested patent starts from this knowledge of the skilled person and proposes a cutting tool comprising an α-Al_2O_3 coating having a strong (0001) texture as defined by the TC(0006) in claim 1. According to the last two sentences of paragraph [0026] of the contested patent, a strong texture in (0001) orientation was unknown at the priority date of the contested patent and can only be achieved when both, nucleation and growth are controlled correctly.

Therefore according to the contested patent the skilled person was aware that different grain orientations could be obtained when depositing an α-Al_2O_3 layer, but was not aware of a method of manufacturing an α-Al_2O_3 layer having a sufficient high amount of the required

(0001) texture as expressed by the TC(0006) value defined in claim 1.

3.5 Therefore the question arises whether the contested patent provides the necessary information to the skilled person for obtaining the required stronger (0001) texture.

The board observes in this context that the contested patent does not provide any detailed teaching concerning the apparatus and the specific conditions of the various coating steps, such as the composition of the gas mixture, gas flow, duration and pressure, which can be used to manufacture the cutting tool insert defined in claim 1. In particular, no detailed example is presented which guides the skilled person to achieve the required texture of the α-Al_2O_3 layer.

The appellant confirmed during the oral proceedings before the board, that the orientation of the deposited α-Al_2O_3 differs from apparatus to apparatus. Even on an identical apparatus the same orientation cannot be obtained consistently without further modification of the process steps.
Therefore it can be concluded that the orientation obtained by depositing α-Al_2O_3 is highly sensitive to the process conditions and apparatus used.

If a manufacturing method is extremely sensitive to the experimental setup, the board considers it to be particularly important that the skilled person is informed at least on the critical parameters and their influence on the intended outcome of the manufacturing process, since he cannot rely on a best practice known from the common general knowledge.

Should the skilled person have to rely on a mere chance, as to whether or not he obtains the desired product, the invention cannot be regarded as being described sufficiently.

3.6 The sole information concerning the manufacturing process for achieving the α-Al_2O_3 layer with a strong (0001) texture can be found in paragraph [0026] on page 5 of the contested patent.

3.6.1 On page 5, lines 23 to 26 it is disclosed that "The α-Al_2O_3 layer is deposited on a bonding layer of (Ti,Al)(C,O,N) preferably with increasing aluminium content towards the outer surface. Onto this layer a Ti(C,O) layer is deposited with controlled O-content. A nucleation layer is obtained in the similar way as used in ALD (Atomic Layer Deposition)."

The appellant confirmed during the oral proceedings that the α-Al_2O_3 layer should be deposited on the Ti(C,O) layer and that the Ti(C,O) layer is deposited on a bonding layer of (Ti,Al)(C,O,N) which has an increasing aluminium content towards the outer surface.

The board accepts that the skilled person would interpret the first lines of paragraph [0026] in the same manner as the appellant.

However, it is observed by the board that the contested patent does not disclose any process details for depositing the Ti(C,O) layer and the (Ti,Al)(C,O,N) layer, despite the fact that these layers have an influence on the formation of the nucleation layer and consequently on the formation of the texture.

3.6.2 On page 5, lines 26 to 34 the procedure for forming the nucleation layer is presented:

"(i) exposure of a first precursor $TiCl_4$, preferably together with $AlCl_3$,
(ii) purge (N_2),
(iii) exposure of the second precursor (H_2O) and
(iv) purge (N_2).
The duration of the steps (i) and (iii) is 1-5 min, preferably 2 min each and the steps (ii) and (iv) 2-10 min, preferably 5 min each."

The formation of the nucleation layer is an important process step when aiming at a specific orientation, since the final orientation is mainly influenced by the nucleation layer, as was confirmed by the appellant during the oral proceedings.

However, paragraph [0026] only describes in general terms the reactants and a commonly used sequence of steps. These reactants and general process steps can equally be used to obtain α-Al_2O_3 layers with different orientations, as is described in D10 (examples) and D16 (table 2). A specific teaching of the process parameter(s) that should be given particularly attention, in order to promote a strong (0001) texture is not disclosed in paragraph [0026], despite the fact that it is repeatedly stated that the nucleation step has to be performed "correctly", see page 5, lines 37 to 38 and 44 and 45.

In the absence of any indication what the correct nucleation conditions are, the skilled person has to guess what is meant by the term "correctly".

The contested patent therefore does not provide sufficient teaching for creating a nucleation layer that would lead to a strong (0001) orientation.

3.6.3 The appellant argues that the skilled person is taught by the patent that the stronger (0001) texture can be obtained by a deposition process using a $CO+CO_2$ gas mixture, where $CO = 2.5\text{-}5.5 \times CO_2$ (page 5, lines 41 to 42).

During the oral proceedings the appellant explained that the CO/CO_2 ratio is important for improving the kinetics of the $\alpha\text{-}Al_2O_3$ layer formation, i.e. it is important to achieve fast layer growth.
However, setting a parameter for obtaining fast growth of the $\alpha\text{-}Al_2O_3$ layer does not alone necessarily lead to the formation of a specific dominant orientation. Thus, it is not credible that the skilled person can achieve a strong (0001) texture simply by adapting the CO/CO_2 ratio.

This is confirmed by document D2, which is referred to in example 3 of the contested patent although it has been published after the priority date of the contested patent. D2 discloses a manufacturing process for achieving a strong (0001) texture (see table 1 of D2), which is achieved by a CO/CO_2 ratio of 2 (see paragraph [0044] of D2), which is lower than the ratio indicated in paragraph [0026] of the contested patent. Hence the required texture cannot result merely from the CO/CO_2 ratio.

3.7 In summary, the contested patent teaches that careful control of both the nucleation and growth steps is required, but does not teach the required technical

details to perform the manufacturing process "correctly".

Furthermore should the skilled person have an initial idea of how to start the nucleation step and how generally to perform the growth step on a given apparatus, there is no guidance in the contested patent and in particular paragraph [0026] of how to modify the parameters governing nucleation and growth when the desired texture is not immediately obtained.

The skilled person has therefore to rely on mere chance or pure speculation and guess work to modify a given process in case of failure to obtain the desired texture.

3.8 The appellant argues that the lack of explicit technical teaching in the contested patent is filled by the common general knowledge of the skilled person, as confirmed by decision T 2372/10. This decision concerned a patent application of the appellant, different from one on which the patent in suit is based, but in the same technical field. Under point 3.3 of the reasons textured α-Al_2O_3 is discussed and the question of sufficiency with regard to the disclosure of the CVD method of obtaining different texture coefficients is answered in the affirmative.

The present board agrees with the reasoning in point 3.3 of decision T 2372/10 that a skilled person with a high level of operating experience and expert knowledge is required to achieve a textured α-Al_2O_3 layer, in particular since different reactors necessitate type-specific conditions.

This is also confirmed by the various prior art documents cited in paragraph [0002] of the contested patent, which propose methods for achieving textured α-Al_2O_3 layers.

However, in the present case the invention underlying the contested patent goes beyond merely obtaining a α-Al_2O_3 layer with a (0001) texture, in that it aims to have a particularly strong (0001) orientation, which has been unknown so far (see last sentence of paragraph [0026] of the contested patent).

Therefore the contested patent itself indicates that the common general knowledge forming the basis of the reasoning in decision T 2372/10 is not sufficient for obtaining a textured α-Al_2O_3 as claimed, since this was achieved for the first time by the inventor of the contested patent.

Hence, the reasoning in decision T 2372/10 is not contested by the present board but does not apply to the present case.

3.9 The appellant further argues that scientific articles such as D22, which was written by Mr. Ruppi, the inventor of the contested patent, demonstrate that the skilled person at the priority date of the contested patent was aware of the factors which influence the orientation of crystal growth. According to the appellant, D22 confirms that the skilled person is aware that very small adjustments of the experimental data are sufficient to modify the coating texture. Performing minor adjustments does not require an undue amount of experimentation.

The board is not persuaded by this argument. D22 is neither a general textbook reflecting the common general knowledge nor was it publicly available at the priority date of the contested patent.
Therefore D22 does not demonstrate that a standard method for obtaining the strong (0001) texture required by claim 1 was known to the skilled person at the priority date of the contested patent.

Furthermore, the board accepts that D22 discloses in section 2.1. that only very small adjustments of the experimental data are needed to modify the coating texture. However, it does not disclose how these adjustments have to be made and which experimental setup was used for performing the experiments. Moreover, the statement that minor adjustments are already enough to change the coating confirms that the process described in D22 is highly sensitive. Thus, it is the more important that the skilled person gets sufficiently detailed information on how to obtain the desired texture with a reasonably high expectation of success. However, this information is missing from D22 as is for the contested patent.

3.10 The appellant further argues that the contested patent relates to a specific field of research which is pursued only by a very limited number of experts worldwide, each expert working on a different apparatus. Therefore a meaningful, general guidance cannot be given, since specific process parameters are only meaningful for a specific experimental setup and vary from apparatus to apparatus. Nevertheless, the skilled practitioner working for years in this field has no problem in obtaining a textured α-Al_2O_3 layer and is well aware of the possible options to influence the texture.

The board accepts that the contested patent relates to a technical field in which only a limited number of experts are working and that the process conditions highly depend on the apparatus and the skilled person. Thereby it can even be expected that an expert has a certain experience to adapt a known specific process running on one apparatus to the particularities of his experimental setup by using his experimental experience.

However, in the absence of any indication which equipment and which process has been used in detail in the experiments reported in the contested patent, the skilled person has to start his own research program to find the appropriate conditions. This clearly constitutes an undue burden.

3.11 In summary the board comes to the conclusion that the contested patent does not contain sufficient information to obtain without undue burden a cutting tool insert comprising a textured α-Al_2O_3 layer which is orientated in the (0001) direction to an extent as required by claim 1. Therefore it is decided that Article 100(b) EPC prejudices the maintenance of the patent as granted.

4. Reimbursement of the appeal fee

According to Rule 103(1)(a) EPC, the appeal fee shall be reimbursed in full in the event of interlocutory revision or where the board deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation.

A number of substantial procedural violations had occurred in the present case and a causal link between them and the filing of the appeal cannot be denied. However, as the case was not directly remitted, the reimbursement of the appeal fee further depends on the final outcome of the appeal. As the board, in its assessment of the issue of sufficiency of disclosure under Article 100(b) EPC, comes to the conclusion that the patent as granted cannot be upheld, the appeal cannot be allowed. Accordingly, the appeal fee is not reimbursed pursuant to Rule 103(1)(a) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

C. Spira G. Ashley

Decision electronically authenticated