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**Datasheet for the decision
of 1 October 2015**

Case Number: T 1171/13 - 3.2.08

Application Number: 04090325.4

Publication Number: 1630242

IPC: C22C29/08, B22F3/10

Language of the proceedings: EN

Title of invention:

Cemented carbide, coated cemented carbide member and
production processes of the same

Patent Proprietor:

Tungaloy Corporation

Opponent:

Sandvik Intellectual Property AB

Headword:

Relevant legal provisions:

EPC Art. 54, 56, 108, 122
EPC R. 126(2), 134(1), 101(1), 136
RPBA Art. 12(4), 13

Keyword:

Re-establishment of rights - all due care (yes)
Novelty
Inventive step

Decisions cited:

T 0949/94, T 1062/96, T 0335/06, T 0429/90, T 0828/94,
T 1465/07, J 0031/90, J 0003/93, J 0005/80, G 0001/86,
T 0836/09

Catchword:



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Case Number: T 1171/13 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 1 October 2015

Appellant: Sandvik Intellectual Property AB
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Representative: WSL Patentanwälte Partnerschaft mbB
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Respondent: Tungaloy Corporation
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Representative: Gulde & Partner
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 18 March 2013 rejecting the opposition filed against European patent No. 1630242 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman T. Kriner
Members: M. Alvazzi Delfrate
D. T. Keeling

Summary of Facts and Submissions

- I. The appeal is directed against the decision of the Opposition Division posted on 18 March 2013. In that decision the Opposition Division rejected the opposition which had been filed by the appellant against European Patent No 1630242.
- II. The appellant filed a notice of appeal on 16 May 2013 and paid the appeal fee on the same day.
- III. By letter of 29 August 2013, received at the EPO on 31 August 2013, the appellant filed a request, under Article 122 EPC, for re-establishment of rights in respect of the failure to file a statement setting out the grounds of appeal within the four-month time limit laid down in Article 108 EPC. A statement setting out the grounds of appeal was attached to that letter. The fee in respect of the request for re-establishment of rights was paid on 29 August 2013.
- IV. The request for re-establishment of rights was dealt with at oral proceedings held on 22 October 2014. The substantive aspects of the appeal were dealt with at a further hearing on 1 October 2015.
- V. The appellant requested:
 - that its application under Article 122 EPC for re-establishment of rights in respect of the time limit for submitting a statement of grounds of appeal be granted;
 - that the decision under appeal be set aside and European patent No 1630242 be revoked.

VI. The respondent (patent proprietor) requested:

- that the request for re-establishment of rights be rejected and that the appeal be rejected as inadmissible; or in the alternative

- that the appeal be dismissed; or

- that the patent be maintained according to auxiliary request 1 submitted with letter of 26 February 2015 or auxiliary request 2 submitted at the oral proceedings before the Board on 1 October 2015.

VII. The independent claims of the **main request** read as follows:

"1. A cemented carbide consisting of:

a binder phase comprising an iron family metal being present in the inner region of the cemented carbide at 2 to 20% by weight,

a first hard phase being present in the inner region of the cemented carbide at 75 to 95% by weight, wherein the first hard phase consists of WC having a hexagonal crystal structure and optionally a metal of group 4, 5 or 6 of the periodic table as solid solution in an amount of 0.1% by weight or less, and

a second hard phase being present in the inner region of the cemented carbide at 2 to 15% by weight, wherein the second hard phase consists of one or more types of a compound of a metal or metals of group 4, 5 or 6 of the periodic table having an NaCl-type cubic crystal structure; wherein,

the cemented carbide is formed by a surface region with a thickness of 2 to 50 μm consisting of the binder phase and the first hard phase, and an inner region present underneath the surface region consisting of the binder phase, the first hard phase and the second hard phase,

a ratio of an average grain size of the first hard phase in the surface region to an average grain size of the first hard phase in the inner region is 1 or less, and

a ratio of an area of the binder phase in the surface region to an area of the binder phase in the inner region is greater than 1."

"10. A method for producing a cemented carbide comprising the steps of:

(A) preparing a mixture comprising 2 to 20% by weight of an iron family metal, 75 to 95% by weight of WC, and 3 to 10% by weight of one or more types of a compound of a metal or metals of group 4, 5 or 6 of the periodic table to a total of 100% by weight;

(B) heating the mixture in a vacuum or in an atmosphere having a nitrogen partial pressure of 50 Pa or less to a predetermined temperature within the range of 1350 to 1500°C;

(C) sintering the mixture repeatedly for 3 to 15 times at the predetermined temperature for 1 to 10 minutes in the vacuum or in the atmosphere having a nitrogen partial pressure of 50 Pa or less and then in an

atmosphere having a nitrogen partial pressure of 200 to 5,000 Pa; and,

(D) cooling the mixture to a normal temperature."

Claim 1 of **auxiliary request 1** differs from claim 1 of the main request by the addition of the feature according to which

"the area of the binder phase in the surface region increases gradually from a boundary between the inner region and the surface region towards an uppermost surface of the surface region."

In **auxiliary request 2** the product claims are deleted and the sole independent claim corresponds to the independent method claim as granted.

VIII. The following documents played a role for the present decision:

D5: EP -A- 1 043 415;

D8: US -A- 5,623,723;

D14: EP -A- 0 194 018;

D15: convolute of documents relating to Sandvik cutting inserts;

D17: experimental data filed by the respondent with letter of 31 August 2015.

VII. The appellant's arguments may be summarized as follows:

Request for re-establishment of rights

The appellant's representative was aware that the time limit for filing the statement of grounds of appeal was due to expire on 29 July 2013 and prepared the document

well in advance because he was due to go on vacation from 19 July 2013 to 4 August 2013. He gave the statement setting out the grounds of appeal to his secretary (Mrs A.) on 18 July 2013 and instructed her to transmit it to the EPO by fax. Upon his return from vacation on 6 August 2013 he discovered that Mrs A. had omitted to send the statement setting out the grounds of appeal to the EPO.

Mrs A. is a well-trained, experienced and thoroughly competent secretary. She is normally reliable. Her work is regularly monitored by a patent attorney. Her failure to carry out her instructions in the present case was an isolated mistake.

The firm which represents the appellant has established a secure and reliable system for monitoring time limits and ensuring that procedural steps are taken on time. Time limits are calculated and noted down by a qualified member of staff. They are then checked by a second qualified person. Incoming post is checked every day to see whether new time limits have been fixed. These are then recorded in an electronic calendar of time limits.

Once the relevant procedural step has been performed a chit ("Fristzettel") corresponding to the time limit is initialed by the responsible patent attorney and the time limit is deleted from the electronic calendar. Daily checks are performed by competent staff to ensure that all the time limits are met.

In the present case the decision under appeal was received by the appellant's representative on 20 March 2013. The time limits for filing a notice of appeal and statement of grounds of appeal were noted in

the electronic calendar. The time limit for filing the statement of grounds of appeal was recorded as 18 July 2013 (i.e. four months from the date on which the decision was posted) since the representative's practice is to disregard the additional ten days provided for in Rule 126(2) EPC in order to build a margin of safety into the system.

The patent attorney who was dealing with the case (Mr R. Weber) prepared the statement setting out the grounds of appeal before his departure on vacation and gave it to his secretary, together with an initialed *Fristzettel*, and instructed her to fax the documents to the EPO. The secretary had demonstrated her reliability during many years of excellent service. She was well trained, highly qualified, experienced and conscientious. The attorney could therefore assume that his instructions would be carried out and that the statement setting out the grounds of appeal would be received by the EPO well before the expiry of the time limit on 29 July 2013 (the 28th being a Sunday).

Upon his return from vacation on 6 August 2013 Mr Weber discovered that the statement setting out the grounds of appeal had not been sent to the EPO.

The appellant's representative had taken all due care required by the circumstances. He had entrusted the performance of a routine task to a well trained, qualified, experienced assistant who had not previously made such a mistake. The assistant's work was subject to regular supervision.

The patent attorney was not obliged to check in every instance whether a specific document had been posted. After signing the statement setting out the grounds of

appeal and entrusting it to his secretary with instructions to fax it to the EPO he was entitled to assume that the document would be posted, since that was a typical routine task which the secretary had always performed conscientiously in her many years of service (see Case Law of the Boards of Appeal of the EPO, VI.E.7.4.4, in particular the decisions in T 949/94, J 31/90, T 1062/96 and T 335/06).

Re-establishment of rights should be granted since the time limit was missed as a result of an isolated mistake by a reliable, experienced employee working within a normally satisfactory system.

The appellant provided affidavits signed by Mr Weber and his secretary.

Introduction of late-filed documents into the proceedings

The convolute D15 was filed to substantiate the public prior use of inserts of the type GC 4025, which had not been substantiated in opposition proceedings. However, pages 1 to 7 also served to substantiate the submission according to which the products obtained by the method described in D5 inherently exhibited all the features of claim 1 as granted, an argument already put forward in opposition proceedings. As to D14, this was a document highly relevant for inventive step. Hence, the opposition division, which disregarded D14, had not correctly exercised its discretion. Therefore, both D15 and D14 should be admitted into the proceedings.

Main request - Novelty

D5 explicitly disclosed all the features of claim 1, save for the grain size ratio between WC grains in the surface layer and WC grains in the inner layer. However, D5 was the patent document covering the product GC 4025. This commercially available insert was made by a method in accordance with D5 and exhibited the claimed grain size ratio, as could be measured from the micrographs in D15. Therefore, a grain size ratio in accordance with claim 1 was inherent in the product of D5. Accordingly, the subject-matter of claim 1 lacked novelty.

Main request - Inventive step

Even if the grain size ratio were considered not to be disclosed by D5 it could not justify an inventive step. D8, which related to the same field as D5, disclosed this microstructural feature for providing increased toughness, i.e. chipping resistance. It was true that D8 described a method for producing this microstructure that involved the use of grain refiners, for instance VC or other cubic carbides, on the surface of the green body. However, it was clear to the person skilled in the art that these carbides were dissolved in the liquid phase to act as grain refiner, so that the sintered layer, in the sintering conditions described in D8, comprised no cubic carbides in the surface layer. Accordingly, the teaching of D8 would have been considered by the person skilled in the art aiming at improving the performance of the carbide of D5, leading in an obvious way to the claimed product. Therefore, the subject-matter of claim 1 did not involve an inventive step.

Auxiliary request 1

D5 further disclosed in Figure 1 that the amount of binder phase in the surface region increased gradually from a boundary between the inner region and the surface region in the direction, i.e. towards, an uppermost surface of the surface region. Therefore, auxiliary request 1 did not introduce any further difference in view of D5. As a consequence, the subject-matter of claim 1 of the auxiliary request did not involve an inventive step either.

Auxiliary request 2

Auxiliary request 2 was submitted at an extremely advanced stage of the procedure, without any good reason. Therefore, it should not be admitted into the proceedings.

IX. The respondent's arguments may be summarized as follows:

Request for re-establishment of rights

Under the case law one of the requirements of due care applicable to a system for monitoring time limits is that the system should incorporate at least one cross check which is efficient and independent. Such a cross check should ensure that a time limit is deleted only after two persons acting independently have checked that the action necessary to comply with the time limit has in fact been performed (see T 428/98, T 828/94 and T 1465/07). The system used by the appellant's representative lacks such a cross check.

The main defect in the system is that the patent attorney signs the chit authorizing the deletion of the time limit before the necessary action has been performed. The person checking whether time limits have

been correctly deleted from the electronic system does not check whether the necessary procedural action has effectively been taken but merely whether a chit authorizing deletion of the time limit has been signed. Therefore this is not a case of an isolated mistake within a normally satisfactory system. The system itself is defective.

Introduction of late-filed documents into the proceedings

D15 could have been submitted in the opposition proceedings. There was no reason for submitting it for the first time in appeal. As to D14, the opposition division was correct in its decision not to admit it into the proceedings because this document was not more relevant than the other documents already in the proceedings. Therefore, neither D15 nor D14 should be admitted into the proceedings.

Main request - Novelty

The grain size ratio according to claim 1 was neither explicitly disclosed in D5 nor inherent in the products of the method described in this document. The experimental data of D17 showed that the application of the method of D5 could result in products with a grain size range outside the claim. Therefore, the subject-matter of claim 1 was novel.

Main request - Inventive step

Starting from D5, the person skilled in the art would not consider the teaching of D8 to improve wear resistance and chipping resistance. The teaching of D8 involved the use of cubic carbides on the surface of

the insert as grain refiners. However, D5 required that such cubic carbides were absent from the surface layer. Hence, the teaching of D8 was at odds with that of D5, so that the person skilled in the art would not consider to combine these two documents. In any event, the application of the teaching of D8 would result in cubic carbides in the surface layer, contrary to what was stipulated by claim 1. Therefore, the combination of D5 and D8 would not lead to the claimed invention. Hence, the subject-matter of claim 1 of the main request involved an inventive step.

Auxiliary request 1

The increase in the area of the binder phase in the surface region shown in Figure 1 of D5 did not continue till the uppermost surface of the surface region. Hence, auxiliary request 1 introduced a further difference in view of D5, which was not rendered obvious by the prior art. Also for this reason the subject-matter of claim 1 of auxiliary request 1 involved an inventive step.

Auxiliary request 2

Auxiliary request 2 consisted merely in the deletion of the product claims, while the method independent claim was unamended. This request was the same auxiliary request 2 already submitted in opposition proceedings. Moreover, it was prima facie allowable. Indeed, as pointed out in the letter of 26 February 2015 the respondent had not objected to the claimed method. Therefore, this request should be admitted into the proceedings and allowed.

Reasons for the Decision

1. Request for re-establishment of rights

1.1 The decision under appeal was dispatched to the parties on 18 March 2013. It was received by the appellant's representative on 20 March 2013. However, by virtue of Rule 126(2) EPC, it is deemed to have been received by the appellant on 28 March 2013. The two-month time limit for filing the notice of appeal therefore expired on 28 May 2013 (Article 108, first sentence, EPC) and the four-month time limit for filing a statement setting out the grounds of appeal expired on 28 July 2013 (Article 108, third sentence, EPC). Since 28 July 2013 was a Sunday the time limit was extended by one day (Rule 134(1) EPC). The appellant filed the notice of appeal on 16 May 2013 (i.e. within the relevant time limit) but failed to file a statement setting out the grounds of appeal by 29 July 2013. The appeal must therefore be rejected as inadmissible under Rule 101(1) EPC, unless the appellant's application for re-establishment of rights under Article 122 EPC is granted.

1.2 Article 122(1) EPC provides as follows:

"An applicant for or proprietor of a European patent who, in spite of all due care required by the circumstances having been taken, was unable to observe a time limit vis-à-vis the European Patent Office shall have his rights re-established upon request if the non-observance of this time limit has the direct consequence of causing the refusal of the European patent application or of a request, or the deeming of the application to have been withdrawn, or the

revocation of the European patent, or the loss of any other right or means of redress."

- 1.3 The wording of Article 122(1) EPC implies that re-establishment of rights is available only to patent applicants and patent proprietors. However, the case law has established that an opponent who files a notice of appeal within the two-month time limit laid down in the first sentence of Article 108 EPC but who fails to file a statement setting out the grounds of appeal within the four-month time limit laid down in the third sentence of Article 108 EPC may apply for re-establishment of rights in respect of that failure: see G1/86 (OJ 1987, 447).
- 1.4 Under Rule 136(1) EPC a request for re-establishment of rights must be filed "within two months of the removal of the cause of non-compliance with the period, but at the latest within one year of expiry of the unobserved time limit". The final sentence of Rule 136(1) states that the request for re-establishment of rights is not deemed to have been filed until the prescribed fee has been paid. According to Rule 136(2) EPC, the request must state the grounds on which it is based and set out the facts relied on; moreover, the omitted act must be completed within the relevant period for filing the request.
- 1.5 The conditions referred to in paragraph 1.4 above have all been met. The "the removal of the cause of non-compliance with the period" occurred on 6 August 2013 when Mr Weber returned from vacation and discovered that the statement setting out the grounds of appeal had not been transmitted to the EPO. The letter requesting re-establishment of rights was received at the EPO on 31 August 2013, well within the time limits

specified in Rule 136(1) EPC. The prescribed fee was paid on 29 August 2013. The letter of 31 August 2013 stated the grounds on which the request for re-establishment of rights was based and set out the facts relied on. The "omitted act" was completed at the same time since a statement setting out the grounds of appeal was appended to the letter.

- 1.6 An applicant for re-establishment of rights must, according to the wording of Article 122(1) EPC, demonstrate that "all due care required by the circumstances" was taken. The duty to exercise all due care applies first and foremost to the applicant for re-establishment and then, by virtue of the delegation implicit in his appointment, to the professional representative authorized to represent the applicant before the EPO (J3/93, at paragraph 2.1).
- 1.7 Where a loss of rights results from some error in a party's failure to implement its intention to comply with a time limit, it is sufficient to show that the failure is due to exceptional circumstances or that it results from an isolated mistake within a normally satisfactory monitoring system: see Case Law of the Boards of Appeal of the European Patent Office, 7th edition, 2013, section III. E.4.
- 1.8 The appellant's representative has proved that he operates a normally satisfactory system for monitoring compliance with time limits. Incoming post is checked every day and time limits are systematically recorded in an electronic calendar. Time limits are deleted from the electronic calendar only when a chit indicating that the relevant procedural step has been performed is initialed by the patent attorney. The system is

operated by qualified, well trained, experienced staff and generally functions in a satisfactory manner.

- 1.9 The failure to file the statement setting out the grounds of appeal within the relevant time limit was due not to a defect inherent in the system but to an isolated human error by an experienced and competent assistant who normally performs her duties satisfactorily. It is well established in the case law of the Boards of Appeal that a professional representative may delegate the performance of routine tasks such as posting a letter to an assistant (see, for example, J 5/80 (OJ 1981 343), at paragraph 5; J 31/90, at paragraph 7; T 949/94, at paragraph 3.1). An error made in the course of carrying out routine tasks is not to be imputed to the representative if the latter has shown that he or she exercised the necessary due care in dealing with the assistant. In this respect it is incumbent upon the representative to choose a suitable person, to properly instruct him or her in the task to be performed, and to exercise reasonable supervision (T 949/94, at paragraph 3.1).
- 1.10 The appellant's representative has shown that he chose a suitable assistant, gave her proper instructions and supervised her work adequately. He was entitled to assume that she would send the statement setting out the grounds of appeal to the EPO within the relevant time limit. The respondent's argument that the appellant's system for monitoring compliance with time limits did not incorporate an independent cross-check is not decisive in the present case. When a time limit is missed solely as a result of a failure to dispatch a document that has been prepared in good time, the requirement of at least one effective cross check is dispensed with, irrespective of whether or not a large

firm is concerned. The reason is that, as compared with the monitoring of time limits, the risk of an error in the processing of outbound mail is low because such processing generally involves the execution of straightforward steps (T836/09, point 5.2). It follows that the appellant and its representative took all due care required by the circumstances.

- 1.11 Since all the conditions laid down by Article 122 EPC and Rule 136 EPC are satisfied, the appellant's request for re-establishment of rights must be granted.

2. Since the request for re-establishment of rights is allowed, the appeal is admissible.

3. Introduction of late-filed documents into the proceedings

- 3.1 The convolute of documents D15 has been submitted for the first time in appeal proceedings, although it could have been already submitted in opposition. Therefore, under Article 12(4) RPBA its admission into the proceedings is subject to the Board's discretion. The same applies to D14, which was filed late in opposition proceedings and not admitted into the proceedings by the opposition division (decision under appeal, point 4. on page 12).

- 3.2 The pages which constitute the convolute D15 fall under two different categories: pages 8 to 33 relate solely to an alleged public prior use of inserts of the type GC 4025. Pages 1 to 7 also relate to this alleged public prior use but, in addition, serve also to substantiate the submission according to which the products obtained by the method described in D5

inherently exhibit all the features of claim 1 as granted.

- 3.2.1 The alleged public prior use of inserts of the type GC 4025 relates to a product of the appellant itself. Accordingly, all the relevant information was in the possession of the appellant at the time of filing of the opposition. Nonetheless, the appellant delayed the submission of this line of attack until the appeal proceedings. No good reason can be seen for this delaying tactic. Therefore, the Board decided not to admit pages 8 to 33 of the convolute D15 into the proceedings.
- 3.2.2 Pages 1 to 7 relate additionally to a line of attack already put forward during the opposition proceedings, namely the alleged lack of novelty in view of D5 (appealed decision, point 2.2 of the Reasons). Therefore, as far as they relate to this line of attack, pages 1 to 7 of the convolute D15 do not serve to substantiate a fresh case but rather to back up an argument which was already made in opposition proceedings. Under these circumstances, the Board decided to admit pages 1 to 7 of D15 into the proceedings.
- 3.3 D14 was not admitted into the proceedings by the opposition division on the grounds that it was not more relevant for inventive step than the already cited prior art, *inter alia* D8 (decision under appeal, point 4. of the Reasons).

Hence, the opposition division took its discretionary decision, on the basis of the relevance of D14, i.e. taking into account the correct criteria. The appellant did not dispute that but argued that the assessment of

the opposition division was not correct. However, the Board also considers that D14, which relates to a drawing die, i.e. a field removed both from the patent in suit and the relevant prior art already present in the proceedings, is not more relevant than D8. Therefore, the Board saw no reason to overturn the discretionary decision of the opposition division and did not admit D14 into the proceedings.

4. Main request - Novelty

D5 undisputedly discloses a cemented carbide consisting of: a binder phase comprising an iron family metal being present in the inner region of the cemented carbide in an amount comprised in the range of at 2 to 20% by weight (claim 1 and paragraphs [0013] and [0016]), a first hard phase being present in the inner region of the cemented carbide in an amount comprised in the range of at 75 to 95% by weight, wherein the first hard phase consists of WC having a hexagonal crystal structure, and a second hard phase being present in the inner region of the cemented carbide in an amount comprised in the range of at 2 to 15% by weight, wherein the second hard phase consists of one or more types of a compound of a metal or metals of group 4, 5 or 6 of the periodic table having an NaCl-type cubic crystal structure (claim 1 and paragraphs [0013] and [0016]).

The cemented carbide is formed by a surface region with a thickness in an amount comprised in the range of 2 to 50 μm consisting of the binder phase and the first hard phase, and an inner region present underneath the surface region consisting of the binder phase, the first hard phase and the second hard phase, wherein a ratio of an area of the binder phase in the surface

region to an area of the binder phase in the inner region is greater than 1 (claim 1 and paragraphs [0013] and [0016]).

It is common ground that D5 does not explicitly disclose the ratio of an average grain size of the first hard phase in the surface region to an average grain size of the first hard phase in the inner region. The appellant argued that the microstructure of the product of the examples of D5 was the same as the microstructure of the GC 4025 insert shown on pages 5 to 7 of D15, which exhibits a grain size ratio in accordance with claim 1. However, D5 does not describe all the details of the production process of the carbides: for instance the milling conditions, the pre-sintering and heating parameters as well as the duration of sintering are not disclosed. Accordingly, it is doubtful whether all the possible production methods falling within the disclosure of D5 would lead to a microstructure in agreement with claim 1. Indeed, the respondent has submitted with D17 evidence to the contrary. Accordingly, it has not been shown that a grain ratio according to claim 1 is inherent in the products described in D5.

5. Main request - Inventive step

- 5.1 Starting from D5, which undisputedly represents the most relevant prior art, the object underlying the present invention is the provision of a cemented carbide for a coated cemented carbide cutting tool capable of imparting superior wear resistance and chipping resistance (paragraphs [0001] and [0007]).

This object is achieved by the claimed carbide, wherein a ratio of an average grain size of the first hard

phase in the surface region to an average grain size of the first hard phase in the inner region is 1 or less. If the ratio is 1.0 or less, irregularities in the uppermost surface of the cemented carbide can be suppressed. For a cutting tool, localized stress concentration is thus avoided, resulting in enhancement of chipping resistance. Furthermore, since decreases in dispersability of the binder phase in the surface region can be prevented while also preventing decreases in hardness caused by increased size of the dispersed grains, wear resistance can be maintained at a high level (paragraph [0016] of the patent in suit).

- 5.2 D8 relates to hard composites for metal cutting applications, in particular cutting tool inserts (Figures 1 to 4) with increased toughness, i.e. chipping resistance, and wear resistance (column 1, lines 11 to 17).

It is true that D8 describes a method of obtaining these composites that involves placing a grain refiner, preferably VC, CrC, TaC or NbC, on an exposed surface of the green compact, to obtain after sintering a peripheral zone with a finer size of WC grains (column 2, lines 50 to 61 and column 4, lines 14 to 19). However, it is clear for the person skilled in the art that the grain refining action is not performed by the carbides but rather by their metallic component (V, Cr, Ta or Nb) once it is dissolved in the binder phase. This is the same mechanism exploited by the patent in suit. Hence, the person skilled in the art understands that there is no need in D8 to have these carbides in the surface layer of the sintered body. Therefore, the teaching of D8 is not in contrast with the teaching of D5, that aims at a body with a binder-rich surface layer without cubic carbides.

Accordingly, when faced with the given object starting from D5 the person skilled in the art would consider the teaching of D8, which deals with the same object.

D8 teaches to achieve this object by providing a peripheral zone enriched in binder with finer WC grain size and an interior zone with a coarser WC grain size (column 2, lines 38 to 49). Therefore, D8 renders it obvious to provide the cemented carbide of D5 with a ratio of an average grain size of the first hard phase (WC) in the surface region to an average grain size of the first hard phase in the inner region of 1 or less.

The respondent argued that by following the teaching of D8 a structure with cubic carbides in the surface layer, contrary to what is stipulated by claim 1, would be obtained. The Board does not share this view. As already explained above the role of the grain refiners of D8 is not to act as carbides. The sintering conditions described in D8 (15 torr argon atmosphere at 2700°F) result in a denitrifying atmosphere, which, as is also the case in the patent in suit (paragraphs [0025] and [0026]), dissolves said carbides in the binder.

Therefore, the subject-matter of claim 1 of the main request does not involve an inventive step.

6. Auxiliary request 1

The feature according to which the area of the binder phase in the surface region increases gradually from a boundary between the inner region and the surface region towards an uppermost surface of the surface region does not require that the increase continues

till the uppermost surface, but merely stipulates the direction of the increase, namely from the boundary towards the uppermost surface. This type of distribution is already present in the carbide of D5 (Figure 1). Hence, the subject-matter of claim 1 of the auxiliary request does not involve an inventive step for the reasons already given above.

7. Auxiliary request 2

7.1 The admission of auxiliary request 2 into the proceedings is subject to the discretionary power of the Board (Article 13 RPBA).

It is true that this request was submitted at a very advanced stage of the procedure, namely at the oral proceedings before the Board. However, the request consists merely in the deletion of the product claims, while the second independent claim (the method claim) is unamended. This type of amendment cannot be surprising for the appellant, considering also that the same set of claims was already submitted as auxiliary request 2 in opposition proceedings. Furthermore, the respondent pointed out in the letter of 26 February 2015 (page 2) that no objections had been raised against the independent method claim, despite the fact that it had been considered and found to involve an inventive step in the decision under appeal (point 3.2 of the reasons). Under these circumstances the Board decided to admit auxiliary request 2 into the proceedings.

7.2 Save for questioning its admission into the proceedings the appellant did not raise any objection against auxiliary request 2. The Board does not see any reason to doubt of its allowability either.

Order

For these reasons it is decided that:

1. The request of the appellant for re-establishment of rights is granted.
2. The decision under appeal is set aside.
3. The case is remitted to the Opposition Division with the order to maintain the patent in amended form on the basis of the following documents:
 - Claims 1 to 6 of the 2nd Auxiliary Request as filed at the oral proceedings before the Board of Appeal on 1 October 2015;
 - Description, pages 2 to 10, as filed at the oral proceedings before the Board of Appeal on 1 October 2015.

The Registrar:

The Chairman:



V. Commare

T. Kriner

Decision electronically authenticated