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**Datasheet for the decision
of 11 July 2025**

Case Number: T 2645/22 - 3.2.01

Application Number: 05795484.4

Publication Number: 1806192

IPC: B23B27/14, B23B51/00, B23C5/16,
C23C16/30

Language of the proceedings: EN

Title of invention:

EDGE REPLACEMENT TYPE CUTTING TIP AND METHOD OF MANUFACTURING
THE SAME

Patent Proprietor:

Sumitomo Electric Hardmetal Corp.

Opponent:

Iscar Ltd.

Headword:

Relevant legal provisions:

EPC Art. 83, 111(2)

EPC R. 103(1)(a)

Keyword:

Substantial procedural violation (no)

Sufficiency of disclosure - main request and auxiliary requests (no)

Reimbursement of appeal fee (no)

Decisions cited:

T 0815/07, T 1064/15, T 2707/16, T 0516/18, T 1955/21

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 2645/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 11 July 2025

Appellant: Sumitomo Electric Hardmetal Corp.
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Representative: Vossius & Partner
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 28 October 2022
revoking European patent No. 1806192 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman G. Pricolo
Members: B. Spitzer
A. Jimenez

Summary of Facts and Submissions

- I. The patent proprietor filed an appeal against the decision of the Opposition Division revoking the European patent No. 1 806 192 ("the patent").
- II. This appeal is the second appeal in this case. After the patent had been revoked by the Opposition Division in a first decision dated 7 December 2017, for unallowable amendments, this Board (in a different composition) set aside the decision and remitted the case to the department of first instance for further prosecution (decision T 516/18 of 23 September 2020). The Opposition Division then decided to revoke the patent for insufficiency of disclosure, which led to this appeal.
- III. In a communication dated 13 February 2025 in accordance with Article 15 (1) RPBA, the Board provided its preliminary opinion.
- IV. Oral proceedings took place before the Board on 11 July 2025.
- V. The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the main request as filed on 8 September 2017 or, as an auxiliary measure, that the patent be maintained in amended form on the basis of the claims according to auxiliary requests 1 to 4 as filed with letter of 3 December 2021, or on the basis of the claims according to auxiliary requests 5 to 8 filed with letter dated 11 September 2023. In addition, they requested reimbursement of the appeal fee due to

substantial procedural violations.

The respondent (opponent) requested that the appeal be dismissed, or in an auxiliary manner, that the case be remitted to the Opposition Division for further prosecution. They further requested that the appellant's request for reimbursement of the appeal fee be rejected.

VI. Independent claims 1 and 11 of the main request have the following wording (the feature references used by the Opposition Division are included in square brackets):

"1. **[A]** A coated cutting insert (1), comprising a substrate (8);

a base layer (12) formed on the substrate (8); and
an indicating layer (13) formed on a portion of the base layer (12),

[B] wherein in said substrate (8), at least one surface serves as a rake face (2), at least one other surface serves as a flank face (3), and a ridge where the rake face (2) and the flank face (3) cross serves as a cutting edge (4),

[C] said base layer (12) has a color *[sic]* which is different from that of said indicating layer (13),

[D] said indicating layer (13) is formed on said flank face (3), and on said base layer (12) the indicating layer being formed over an entirety or a portion of a region (A2)

characterized in that

[E1] the indicating layer is not formed on region (A1) extending from said cutting edge (4) in a vertical direction with a distance of no less than 0.5 mm and less than 2.5 mm, wherein the thickness of the coated insert is 2 mm to 8 mm, and

[E2] said region (A2) is a region excluding said region (A1) from the flank face (3)."

"11. **[a]** A method of manufacturing a coated cutting insert (1) having a substrate (8), a base layer (12) which is formed on the substrate (8), and an indicating layer (13) which is formed on a portion of the base layer (12), **[b]** wherein in said substrate (8), at least one surface serves as a rake face (2), at least one other surface serves as a flank face (3), and a ridge where the rake face (2) and the flank face (3) cross serves as a cutting edge (4),

comprising the steps of:

[c] forming the base layer (12) on said substrate (8); forming the indicating layer (13) of which the color [sic] is different from that of said base layer (12) on said base layer (12);

characterized by the step of:

[d] removing said indicating layer (13) from the rake face (2), the cutting edge (4),

[e1] a region (A1) adjacent to the cutting edge (4) and extending from the cutting edge (4) in a vertical direction with a distance of not less than 0.5 mm and less than 2.5 mm, wherein the thickness of the coated cutting insert is 2 mm to 8 mm, and

[e2] optionally from a portion of region (A2), which is a region excluding said region (A1) from the flank face (3) to form said indicating layer (13) over an entirety or a portion of the region (A2)."

Reasons for the Decision

1. Binding effect of prior decision T 516/18 (Article 111(2) EPC) and alleged substantial procedural violation

The Opposition Division did not contradict nor neglect the *ratio decidendi* of decision T 516/18. No substantial procedural violation can thus be recognized in this respect.

- 1.1 The appellant alleged a substantial procedural violation, arguing that the Opposition Division ignored the Board's interpretation of the description in the earlier decision T 516/18 of same case.
- 1.2 Article 111(2) EPC provides that, where a Board of Appeal remits a case to the EPO department of first instance whose decision was appealed, that department is bound by the Board's *ratio decidendi*, as far as the facts are the same.
- 1.3 In the Board's view, in decision T 516/18 the *ratio decidendi* is essentially that the claim has to be construed as requiring **the region (A1) to be on the flank face** (whereby it does not e.g. extend into the rake face; see decision T 516/18, Reasons, points 1.3 and 1.6).
- 1.4 As regards the issue of insufficiency in the decision under appeal in the present appeal proceedings, it is exclusively linked to the question of how to measure the distance, in a "vertical direction", of the region (A1) from the cutting edge (see in particular points 16.4 and 16.6 and 16.7 of the Reasons of the decision under appeal). The Opposition Division considered that the patent provided no guidance as to which is the "vertical direction" that must be taken into account when the flank face is not at 90° with the rake face as in Figures 5 and 6 but is slanted as in Figures 1 to 4 of the patent.

1.5 Decision T 516/18 does not go so far as construing the claim such as the "vertical direction" along which the distance for region (A1) is to be measured lies in the flank face. In point 1.3 of the decision T 516/18, the Board states that it is unclear what is the "vertical direction" because the claim fails to define a reference horizontal direction. The Board in T 516/18 also stated that the respondent (opponent) interprets the claim as meaning that the region (A1) extends in a direction perpendicular to the cutting edge, thereby leaving open whether the region (A1) is located on the flank face or on the rake face. In point 1.5 of decision T 516/18, the Board reasoned that "*Figures 2 and 5 of the published application are the only indicating a range for the extent of the regions (A1) in the sense of feature (E1)*" but this applies only to the extent that the figures make it clear that the region (A1) is on the flank surface (and not on the rake face).

2. Further alleged substantial procedural violations

No substantial procedural violations occurred in the first-instance proceedings.

2.1 In addition to the above, the appellant submitted that the following substantial procedural violations took place:

- (I) Substantial delay between the oral decision of 9 February 2022 and the written decision issued on 28 October 2022;
- (II) A remark by the first examiner about his imminent retirement, where upon an allegation of partiality was based;
- (III) Insufficient reasoning in Opposition Division's decision, in particular due to

contradictory findings in its preliminary opinion, and the rejection of the request to correct the minutes.

- 2.2 Regarding issue I, the Board shares the respondent's view that there is no set time limit, provision or case law regarding delay between the oral decision and the issuing of the written decision (reference was made to decisions T 2707/16 and T 1955/21). While the decision is short and not complex, and an earlier issuance of the written decision would have been desirable, the delay itself does not justify the presence of a substantial procedural violation (see Case Law, V.A. 11.6.11a)(ii)).
- 2.3 Regarding issue II, the remark after the closure of the oral proceedings regarding the retirement is a matter of fact merely linked to the representative's hint at a possible further meeting with the Opposition Division in third first instance proceedings. No partiality can be inferred from to this statement.
- 2.4 Regarding issue III, the Board does not see how, by deviating from a preliminary opinion issued after having heard the parties orally - even if the facts and arguments were the same as presented in writing - the Opposition Division might have committed a substantial procedural violation. The change in the Opposition Division's opinion demonstrated that it properly (re)considered the parties' arguments. The Opposition Division gave a detailed reasoning as outlined in sections 16.1 to 16.7 of the Reasons of the decision under appeal.
3. Main request - sufficiency of disclosure (Article 83 EPC) - features E1/e1

- 3.1 The requirements of Article 83 EPC are not met.
- 3.2 The Board concurs with the Opposition Division's finding and confirms the respondent's objection that, due to the undefined "vertical direction" in features E1/e1 of claims 1/11 of the main request, the feature *"in a vertical direction with a distance of no less than 0.5 mm and less than 2.5 mm"* is unclear to such an extent that invention is insufficiently disclosed.
- 3.3 The Opposition Division held that the main request did not fulfil the requirements of Article 83 EPC because the term "vertical direction" in features E1/e1 of claims 1/11 of the main request was not defined and, for slanted flank faces, there existed different "vertical directions" (see decision under appeal, Reasons, point 16.7).

Point 16.7 of the Reasons of the decision under appeal reads:

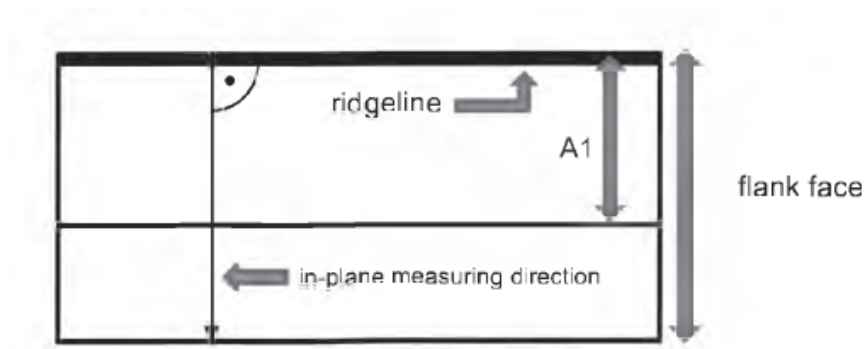
"Therefore a skilled person trying to implement the invention considering the embodiments of figures 2 and 5 of the patent and in particular the one where the flank faces are slanted will be confronted with the fact that at least two different "vertical" directions can be defined, the one following the slanted flank face and the one following the vertical direction of the drawings. These two directions form an angle that for a value of the order of 20° will provide different measurements for the same claimed "distance" of the order of 6%. These different results are such that a skilled person is unable to know whether he has arrived at the invention or not and consequently the invention

is not sufficiently clearly and completely disclosed."

3.4 Definition of the distance in a "vertical direction" according to features E1/e1 of claims 1/11

The question is whether the *"extending from said cutting edge (4) in a vertical direction with a distance of no less than 0.5 mm and less than 2.5 mm"* (feature E1/e1) is unambiguously defined. The parties dispute where the distance in a "vertical direction" is to be measured.

3.4.1 The appellant argued that there was only one way of measuring the distance, namely along the flank face. The term "vertical" was understood to mean perpendicular. Thus, in the three dimensional space, it described an indefinite number of directions "vertical"/perpendicular to the cutting edge. The cutting edge ridgeline, defined as the intersection of the rake and flank faces, was a virtual line (see patent, Figure 5, paragraph [0039]). The skilled person had to select one plane vertical to this line. Since the distance in a "vertical direction" defined the boundaries for regions A1/A2, which lie on the flank face, the flank face was the only plane on which the distance could be measured. Therefore, contrary to the respondent's arguments, only one reference plane existed. A plane being two-dimensional, only one line within it could be perpendicular/"vertical" to the cutting edge ridgeline (see drawing below; statement of grounds of appeal, page 12).



Appellant's drawing on page 12 of its statement of grounds of appeal

The further directions alleged by the respondent - vertical to the supporting surface and vertical to the rake face, were not mentioned in the patent. The patent neither disclosed a supporting surface nor identified it as a reference plane for the "vertical direction". By contrast, there were hints that the flank face served as the reference plane along which the distance in "a vertical direction" had to be measured. Figures 2 and 5 of the patent clearly showed a direction and distance lying within the flank face. When interpreting the patent with a mind willing to understand, the skilled person would not arrive at any other alternative interpretation of the term "vertical direction".

Regarding document D8, referred to by the respondent, the appellant argued that it was a patent document and not a standard reference book reflecting the common general knowledge of the skilled person.

The appellant acknowledged that the patent disclosed various flank face configurations. However, contrary to the respondent's allegations, the skilled person would still understand where to measure the distance from the cutting edge in a "vertical direction". The measurement

would be taken in the two-dimensional plane of the flank face. Furthermore, vertical flank faces were standard.

- 3.4.2 The Board concurs with the appellant that,
- in the present context, the terms "vertical" and "perpendicular" are used interchangeably,
 - in the three-dimensional space, there are infinite planes which are vertical to the cutting edge,
 - that the indicating layer, the boundary for regions A1/A2 and the regions itself lie on the flank face, and that
 - document D8 is a patent document and, as such, does not present a standard reference book or evidence for the common general knowledge.
- 3.4.3 However, the Board cannot follow the appellant's argument that the skilled person would inevitably use the flank face as reference plane and measure the distance in a "vertical direction" from the cutting edge on that face.

As pointed out by the respondent, various "vertical directions" could reasonably be envisaged by the skilled person: one along the flank face (as argued by the appellant), one vertical to the rake face, and one vertical in absolute terms, i.e. vertical to the supporting surface (see Figures 11 and 3 of the patent with the respondent's annotations, see reply to the statement of grounds of appeal, page 10; reproduced below).

FIG.11

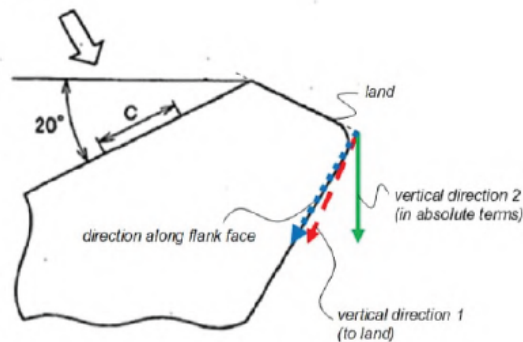
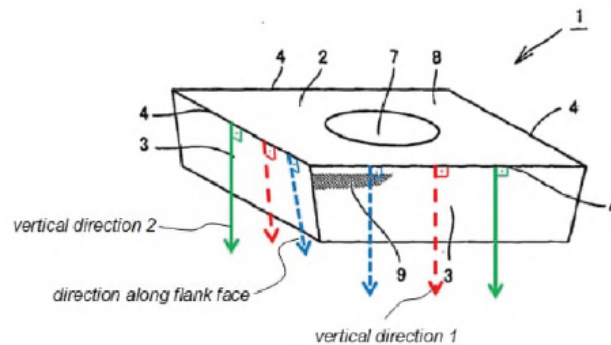


FIG.3



Figures 11 and 3 of the patent with the respondent's annotations

Measuring the distance in a plane vertical to the supporting surface is particularly suitable for slanted, chamfered, or variously shaped flank faces.

As argued by the respondent, different measurement directions yield varying distance values. Depending on the distance and the flank angle, these differences quickly reach the magnitude of the wear values shown in Table 2 of the patent, making them significant in the relevant field.

3.4.4 The appellant's arguments are not convincing:

Although regions A1 and A2 extend on the flank face, claim 1 does not disclose the flank face as reference

plane for determining the distance; the only reference mentioned is the cutting edge. Neither the claims nor the patent as a whole - including the description and the figures - disclose any reference plane for measuring the distance in a "vertical direction".

Figure 2 of the patent discloses a cutting insert with slanted flank faces without defining the distance in a "vertical direction". Figure 5 of the patent discloses a distance in a "vertical direction" for region A1, but only for a cutting insert with a vertical flank face, where the various "vertical directions" identified by the respondent align.

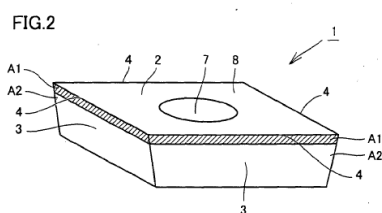
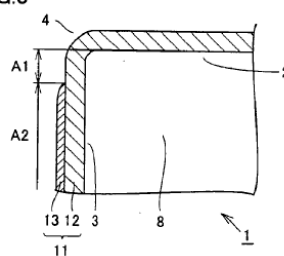


FIG.5



Figures 2 and 5 of the patent

The appellant's allegation that vertical flank faces, as shown in Figure 5 of the patent, are standard is unsubstantiated in the absence of supporting evidence, and anyway irrelevant, since paragraph [0040] of the patent explicitly mentions different flank face configurations covered by claims 1 and 11.

As argued by the respondent, a cutting insert is a three-dimensional object, and the patent does not disclose that the skilled person would consider only the two-dimensional plane of the flank face when determining the distance in a "vertical direction".

3.4.5 In view of the foregoing, it cannot be concluded that the skilled person would have considered the distance measurement only along the flank face. The Board thus comes to the conclusion that the "vertical direction" is not defined and, thus, the feature *"extending from said cutting edge (4) in a vertical direction with a distance of no less than 0.5 mm and less than 2.5 mm"* is so unclear that the skilled person would not be able to carry out the invention.

3.5 Implications of the unclear feature *"extending from said cutting edge (4) in a vertical direction with a distance of no less than 0.5 mm and less than 2.5 mm"*

3.5.1 The appellant argued that the patent was sufficiently disclosed. Even if the distance in a "vertical direction" was unclear, it was not so ill-defined as to prevent the skilled person from carrying out the invention. An alleged lack of clarity in the claim language was not to be confused with insufficient disclosure. Moreover, at least one embodiment illustrated the distance in a "vertical direction" (see patent, paragraph [0042] and Figure 5). In that example the issue of various "vertical directions" did not arise.

3.5.2 The appellant's arguments do not convince the Board:

(a) According to established case law, the requirement of sufficiency of disclosure relates to the invention defined in the claims (see Case Law, II.C.3.2.).

Here, the "vertical direction" is part of features E1/e1 of claims 1/11 of the main request. It is an essential feature of the claimed invention and is of

particular relevance for bringing about the desired technical effect (see patent, claim 1, paragraphs [0006] to [0010], [0021]).

- (b) Consistent with the Case Law, it is necessary to show that the patent as a whole (i.e. not only the claims) does not enable the skilled person to carry out the invention (see Case Law, II.C.8.2.).

As elaborated above under point 3.4.3, the "vertical direction" is nowhere defined in the patent. Figure 5 of the patent discloses a distance for region A1, but only for vertical flank faces. Therefore, the teaching of Figure 5 of the patent does not help in defining the "vertical direction" for slanted flank faces.

- (c) Under established case law, the requirements of sufficiency of disclosure are met if a person skilled in the art can carry out the invention as defined in the independent claims over the whole scope of the claims without undue burden using their common general knowledge. The disclosure of one way of performing an invention is only sufficient if it allows the invention to be performed in the whole range claimed rather than only in some members of the claimed class to be obtained (see Case Law, II.C.5.4.; see decision T 1064/15).

In this case, the sole example in Figure 5 of the patent is insufficient, as it does not define the "vertical direction" for slanted or, more generally, non-vertical flank faces, which are also encompassed by claim 1. Figure 2 of the patent, for instance, shows a cutting insert with slanted flank faces. However, the patent - including the claims, the description and the

figures - provides no guidance on where to measure the distance for such flank faces.

- (d) According to decision T 815/07, cited by the respondent, the purpose of a parameter contained in a claim is to define an essential technical feature of the invention. Its significance is that the presence of this technical feature contributes to the solution of the technical problem underlying the invention. The method specified for determining the parameter should therefore be such as to produce consistent values, so that the skilled person will know when he carries out the invention whether what he produces will solve the problem or not. (see decision T 815/07, Reasons, point 5., see Case Law, II.C.5.5.1).

In the present case, it is not the method which is not specified but the "vertical direction" where the distance has to be measured. The distance measured in different "vertical directions" results in significant different values. Therefore, the above-mentioned case is comparable and rather confirms the finding of insufficient disclosure.

- 3.6 In view of the above, the appellant's arguments that the "vertical distance" and as such features E1/e1 of claims 1/11 of the main request were clear and that the invention was disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art do not persuade the Board.

4. Conclusion

The main request does not fulfil the requirements of Article 83 EPC.

Since the feature "*extending from the cutting edge in a vertical direction with a distance of not less than 0.5 mm and less than 2.5 mm*" is present in all auxiliary requests, they also fail to meet the requirements of Article 83 EPC for the same reasons as the main request.

At the oral proceedings, the appellant did not dispute that if the main request was found not allowable for lack of sufficient disclosure in view of this feature, then also the auxiliary requests would fall.

The appeal, therefore, has to be dismissed.

5. Reimbursement of the appeal fee

There are two conditions for reimbursement of the appeal fee in accordance with Rule 103(1)(a) EPC: first, that "*the Board of Appeal deems an appeal to be allowable*" and second, that the reimbursement is due to a substantial procedural violation. None of the conditions are met. The appeal has to be dismissed (see point 4.) and no substantial procedural violation occurred (see points 1. and 2.).

Accordingly, the appellant's request for reimbursement of the appeal fee is dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The request for reimbursement of the appeal fee is rejected.

The Registrar:

The Chairman:



A. Wille

G. Pricolo

Decision electronically authenticated