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D E C I S I O N
of 4 November 2003

Case Number: T 1151/02 - 3.2.2

Application Number: 97933943.9

Publication Number: 0914490

IPC: C22C 29/08

Language of the proceedings: EN

Title of invention:
Cemented carbide insert for turning, milling and drilling

Applicant:
SANDVIK AKTIEBOLAG

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 84

Keyword:
"Clarity (yes)"

Decisions cited:
-

Catchword:
-

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Case Number: T 1151/02 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 4 November 2003

Appellant: SANDVIK AKTIEBOLAG
SE-811 81 Sandviken (SE)

Representative: Taquist, Lennart
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 29 July 2002 refusing European application No. 97933943.9 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: W. D. Weiß
Members: S. S. Chowdhury
U. J. Tronser

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division dated 29 July 2002 to refuse European patent application No. 97 933 943.9.

The ground of refusal was that claim 1 was not clear and therefore did not meet the requirement of Article 84 EPC.

II. On 27 September 2002 the appellant (applicant) lodged an appeal against the decision and paid the prescribed fee on the same date. On 8 November 2002 a statement of grounds of appeal was filed.

III. The appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of claims 1 and 2 filed with its letter dated 15 April 2002.

IV. Claim 1 reads as follows:

"A cemented carbide cutting tool insert provided with a thin wear resistant coating with excellent properties for machining of steels and stainless steels comprising WC, 5-12.5 wt-% Co and 0-10 wt-% cubic carbides such as TiC, TaC, NbC or mixtures thereof in which the WC-grains have an average grain size in the range 1.0-3.0 µm characterised in that the WC grains have a grain size distribution in the range 0.5-4.5 µm and the W-content in the binder phase expressed as the "CW-ratio" defined as CW-ratio=Ms / (wt%Co * 0.0161) where Ms is the measured saturation magnetization of the sintered cemented carbide insert in kA/m and wt%Co

is the weight percentage of Co in the cemented carbide is 0.86-0.96.".

Claim 2 is dependent on claim 1.

Reasons for the Decision

1. The appeal is admissible.

2. The application was refused for the reason that the claims did not meet the clarity requirement of Article 84 EPC. The impugned decision states that the parameter "CW-ratio" was not known and/or usual for defining the W-content in the binder, at the priority date of the application, and could not, therefore, be considered as being internationally accepted as a standard parameter. A consequence of this was that no meaningful comparison of the claimed subject-matter with the prior art could be made. The decision refers to the Guidelines for Examination at the EPO, C-III, §4.7a in this respect. The application was refused, accordingly. The Board will, therefore, restrict its present findings to the question of the clarity of the claims.

3. *Clarity*

Claim 1 defines the CW-ratio as "CW-ratio=M_S / (wt%Co * 0.0161) where M_S is the measured saturation magnetization of the sintered cemented carbide insert in kA/m and wt%Co is the weight percentage of Co in the cemented carbide". The decision concedes that M_S can be measured, indeed the applicant has provided sufficient

evidence that it was known to measure the magnetic saturation for non-destructive quality control of metals. The Board presumes that the examining division accepts that wt%Co can also be measured. Therefore, the CW-ratio can be calculated, and in this sense the claim is clear.

What appears to trouble the Examining Division is the use of an "unusual" parameter in the claim. In principle the Board sees no objection to such use since an application may, within reason, act as its own dictionary and define new variables so long as it is clearly stated how the variables are defined and measured. In the present case the parameter "CW-ratio" is a shorthand way of expressing a quotient of two physical values representing, respectively, the tungsten content in the binder phase and the Co content in the cemented carbide, a high value of the CW-ratio corresponding to a low W content in the binder phase. Therefore, the parameter is allowable, irrespective of whether or not it was an internationally accepted standard at the priority date.

The reason for using this device for expressing the tungsten content is that a direct determination of this parameter is not possible with any accuracy in the sintered product owing to the fine size of the binder phase. A measurement of its magnetic properties provides an alternative and reliable way of measuring this quantity, and the CW-ratio merely echoes the physical measurements actually used to determine the tungsten content in the binder phase.

That this ratio is not only usual but also useful for characterising hardmetals is indicated in the authoratative publication "Hartmetalle" by Kieffer and Benesovsky, Springer Verlag, 1965, pages 130-135, which was submitted by the applicant as evidence but which the examining division chose to ignore. The section "5. Magnetische Untersuchung" clearly says that the magnetic saturation may be used to characterise hardmetals since their properties depend not only on the composition but also on the distribution of tungsten between the hard phase and the binder phase.

Moreover, claim 1 does in fact comply with the restrictions on the use of parameters set out in the Guidelines for Examination at the EPO, C-III, §4.7a. Since the W content cannot be measured directly it is expressed instead via the CW-ratio, which in turn reflects the physical measurements used to determine the tungsten content. Furthermore, the CW-ratio can be clearly and reliably determined by objective procedures.

4. The Examining Division's argument, that owing to the use of an unusual parameter no meaningful comparison of the claimed subject-matter with the prior art can be made, is not justified in the present case. The final properties of a sintered product depend largely on its composition, but is also a legacy of its manufacturing history. If a prior art method of manufacturing a sintered cemented carbide uses the same starting ingredients and the same processing steps as those used to make a product defined in a product claim, then no amount of disguising the claim by using unusual parameters will succeed in masking lack of novelty.

However, there is no evidence that the applicant is resorting to this subterfuge in the present case.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Examining Division for further prosecution.

The Registrar The Chairman

V. Commare W. D. Weiß