

Internal distribution code:

- (A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

**Datasheet for the decision
of 28 October 2016**

Case Number: T 1107/15 - 3.2.07

Application Number: 10777652.8

Publication Number: 2418299

IPC: C23C14/34, C22C27/02, C22F1/18,
H01L21/28, H01L21/285, C22F1/00

Language of the proceedings: EN

Title of invention:
TANTALUM SPUTTERING TARGET

Applicant:
JX Nippon Mining & Metals Corporation

Headword:

Relevant legal provisions:
EPC Art. 83, 84

Keyword:
Sufficiency of disclosure - (yes)
Claims - clarity (yes)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 1107/15 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 28 October 2016

Appellant: JX Nippon Mining & Metals Corporation
(Applicant) 6-3, Otemachi 2-chome
Chiyoda-ku
Tokyo 100-8164 (JP)

Representative: Hoarton, Lloyd Douglas Charles
Forresters
Skygarden
Erika-Mann-Strasse 11
80636 München (DE)

Decision under appeal: **Decision of the Examining Division of the European Patent Office posted on 9 January 2015 refusing European patent application No. 10777652.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman H. Meinders
Members: G. Patton
R. Cramer

Summary of Facts and Submissions

- I. The applicant (appellant) lodged an appeal against the decision to refuse the European patent application No. 10 777 652.8.
- II. The examining division held that the then main request did not fulfill the requirements of Article 123(2) EPC and that the then auxiliary request did not fulfill the requirements of Articles 84 and 83 EPC.
- III. With the statement setting out the grounds of appeal the appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request corresponding to the auxiliary request underlying the impugned decision or, subsidiarily, on the basis of an auxiliary request. Both requests were filed therewith.
- IV. Claim 1 of the main request reads as follows:
- "A tantalum sputtering target having a purity of 99.999% or more excluding niobium and gas components, characterised in that the target has a composition consisting of:
tantalum; and
niobium in a concentration of 1 mass ppm or more and 100 mass ppm or less with the remainder being unavoidable impurities, wherein variation of the niobium content in the target is $\pm 20\%$ or less."
- In view of the present decision, the wording of claim 1 of the auxiliary request is of no importance.
- V. The submissions of the appellant with respect to the main request are essentially as follows:

The method for assessing the variation of the niobium content as claimed is given in the application as originally filed, page 7, lines 13-21. The skilled person is hence provided with guidance as to how to perform the invention as defined in claim 1 of the main request, which is clear by the same token.

Reasons for the Decision

1. *Main request*

1.1 Impugned decision

According to the impugned decision (reference to the communication of the examining division of 13 November 2014, "First auxiliary request"), the feature the "variation of the niobium content in the target is $\pm 20\%$ or less" of claim 1 leads to:

- lack of clarity of the claim; and
- lack of enablement for the skilled person to perform the claimed invention.

As the size of the sampling was held to influence the result for this parameter, it would not be clear for the skilled person whether he would be working within or outside the scope of claim 1 (Article 84 EPC).

As the details of the measurement method for the niobium content were not seen as disclosed in the application, the skilled person would not be able to perform the invention (Article 83 EPC).

1.2 The Board cannot share this view for the reasons given by the appellant.

It is beyond doubt and uncontested that the skilled person knows how to measure the niobium content at a certain location of the target.

It is also common general knowledge that a **minimum** number of measurements needs to be done in order to obtain a significant statistical result. However, a limit on the maximum number of measurements is not related to statistical significance. On page 7, lines 13-18 of the application, the skilled person is given an explicit guidance as to how many measurements should be performed in the present case for measuring the variation of the niobium content, i.e. **17 measurements**. Should the "size of sampling" as mentioned in the impugned decision refer to the number of measurements, the skilled person is, with this information, provided with enough guidance in the application.

The same disclosure provides also guidance as to where to perform the measurements on a target with the form of a disc (center point, 1/2 point of the radius and the outer periphery or its vicinity). By applying this method on any disc, whatever its size as the locations are relative to each other and **independent from the size of the sample**, the skilled person will indeed be able to decide, by applying the formula disclosed on page 7, lines 19-21, whether the produced target falls within or without the scope of the claim.

Should the "size of sampling" as mentioned in the communication of 13 November 2014 refer to the dimension of the sample, by the above information the skilled person is also provided with enough guidance in the application.

The skilled person will, by analogy, apply such method disclosed for a disc to any other form (at least 17 measurements; center, halfway between center and periphery, and periphery or its vicinity). A limitation to the form of a discoid target as a result of the disclosed measurement method would result in an undue restriction.

In view of the above, the statement of the communication of 13 November 2014 that "*[L]larger samples will always lead to results closer to the overall average composition, which yields a lower variation*" cannot hold as it amounts to a mere allegation which was not substantiated by a discussion based on the relevant disclosure of the application.

As a consequence, the objections of the impugned decision with respect to Articles 83 and 84 EPC do not hold.

2. *Auxiliary request*

As a consequence of the above, a discussion about the auxiliary request is not necessary.

3. Since the decision under appeal, in so far as it is to be considered reasoned, only deals with the requirements of Articles 83 and 84 EPC, the Board sees no reason to deal with the application under Article 111 EPC any further than the review of the impugned decision.

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:



G. Nachtigall

H. Meinders

Decision electronically authenticated