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Datasheet for the decision of 6 May 2025

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Language of the proceedings: EN

Title of invention:
A wear resistant tool steel produced by HIP

Applicant:
Uddeholms AB

Headword:

Relevant legal provisions:
EPC Art. 123(2)

Keyword:
Amendments - allowable (yes) - selections from two or more lists

Decisions cited:
T 1621/16, T 1937/17, T 0563/22

Catchword:

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Boards of Appeal

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Case Number: T 0983/24 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 6 May 2025

Appellant: (Applicant)	Uddeholms AB P.O. Box 138 683 23 Hagfors (SE)
Representative:	Aera A/S Niels Hemmingsens Gade 10, 5th Floor 1153 Copenhagen K (DK)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 19 February 2024 refusing European patent application No. 14198569.7 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman	B. Goers
Members:	B. Miller
	N. Obrovski

Summary of Facts and Submissions

I. The appeal is based on the decision of the examining division to refuse European patent application No. 14 198 569.7.

II. In its decision, the examining division held that the amendments to claim 1 extended beyond the teaching of the application as originally filed.

III. With its submission dated 28 January 2025, the applicant ("appellant") requested that the decision be set aside and that the case be remitted to the examining division on the basis of the main request underlying the contested decision.

IV. Claim 1 according to the main request reads as follows:

"A tool steel produced by powder metallurgy and hot isostatic pressing resulting in that the steel is isotropic has a non-amorphous microstructure and has a density of > 98 % of the theoretical density (TD), the steel consists of in weight % (wt.%):

C	0.2 – 1.5
Si	0.1 – 2.5
Mn	0.1 – 2.5
Mo	12 – 35
B	0.7 – 3
Cr	2.8 - 25
V	≤ 15
Nb	≤ 15
Ti	≤ 1
Ta	≤ 5
Zr	≤ 5

Hf ≤ 5
Ni ≤ 5
Co ≤ 10
Cu ≤ 3
W ≤ 3
S ≤ 0.5
Fe and impurities balance,
wherein the steel comprises 5 – 35 volume % hard phase, wherein the hard phase comprises at least one of borides, nitrides, carbides and/or combinations thereof and wherein the maximal Equivalent Circle Diameter of the hard phase is less than 5 µm".

V. The reasons for the decision under appeal can be summarised as follows:

Although the individual values introduced into the wording of claim 1 were individually disclosed in the application as originally filed, the combination of features resulting from the amendments in claim 1 was not unambiguously disclosed in the application as filed.

The amendments made to claim 1 constituted a singling out of one combination from many possible combinations.

The application as originally filed did not contain a pointer towards the combination resulting from the amendment, which is required according to the principles developed in T 1621/16, because the only example of the application fell outside the scope of claim 1.

VI. The appellant's arguments can be summarised as follows:

The compositional ranges for the elements Cr, B, Mo and Ti were restricted in line with the disclosure in the application as originally filed.

The introduction of the limitations was further supported by page 2, lines 24 to 25, of the application as originally filed.

The amendments to claim 1 resulted in a restriction of the scope of protection and did not single out a specific invention from a plurality of options.

The restrictions of the content ranges for the elements Cr, B, Mo and Ti did not represent distinct features; they merely imposed restricted values for those elements.

Reasons for the Decision

1. Main request - amendments (Article 123(2) EPC)

1.1 Claim 1 is based on claim 1 as originally filed, with the following amendments with respect to the weight percentage ranges of the elements chromium ("Cr"), boron("B"), molybdenum ("Mo") and titanium ("Ti") in the claimed steel composition:

Mo	~~10~~	**12** - 35
B	~~0.5~~	**0.7** - 3
Cr	~~≤25~~	**2.8** - 25
Ti	~~≤5~~	**1**

The individual values of the amended limits of the compositional ranges are disclosed in the application as originally filed ("the application"):

- Mo - lower limit of 12 wt.%:
  claim 2 and page 3, line 17
- B - lower limit of 0.7 wt.%: claim 2
- Cr - lower limit of 2.8 wt.%: page 3, line 10
- Ti - upper limit of 1 wt.%: claim 3

1.2 Each one of these amendments, seen in isolation, is a convergent restriction. However, since multiple selections (four components) from lists were made, it needs to be assessed whether the specific combination resulting from the multiple selections is supported by the content of the application as filed.

As recognised in the decision under appeal, according to established case law (see Case Law of the Boards of Appeal, 10th edition, 2022, E.1.6.2.a) the sole standard to apply with respect to the allowability of such amendments to multiple lists is the gold standard, i.e. what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the entirety of these documents as filed. The present Board also agrees with the statement in T 1937/17, point 4.3 of the Reasons, that a differentiation must be made between what is "possibly rendered obvious to a skilled person in the light of the disclosure with certain pointers", and what does indeed comply with the gold standard. Against this background, the use of the terms "pointer" and "technical contribution" in the catchword of T 1621/16, in the context of assessing whether an amendment complies with the requirements of

Article 123(2) EPC, is potentially misleading. In any case, the test suggested in T 1621/16 cannot replace the gold standard. The present Board further agrees with the established case law (see, for example, T 563/22, point 1.5.2 of the Reasons) that it must be decided on a case-by-case basis whether the requirements of Article 123(2) EPC are met.

1.3 Multiple selections for the content ranges of Mo, B, Ti and Cr

1.3.1 The invention disclosed in the present application relates to a tool steel produced by hot isostatic pressing, which comprises a hard phase consisting mainly of multiple borides containing iron ("Fe") in a hardenable matrix. The application focuses on the double boride of the type Mo_2FeB_2 (see the introductory overview of the detailed description on page 2, lines 12 to 19). The invention described in the application aims at steel having a high area fraction and a uniform distribution of Mo_2FeB_2 borides in order to achieve excellent anti-galling properties (see page 7, lines 6 and 9, of the application). Hence, Mo is the main element forming the hard boride (see page 3, lines 15 to 17, of the application).

1.3.2 With respect to the Ti content, it is disclosed on page 5, lines 21 to 24, that "Ti, Ta, Zr and Hf" are **not normally added**. This is a clear indication to reduce - independently of the other components - the Ti content to the impurities level, even though, when present, Ti has an impact on the formation of the hard phase (see page 5, line 22: "These elements are boride and carbide formers").

1.3.3 The description further discloses that Cr is only an optional component. It has, when present, the effect of providing a good hardenability in large cross sections. The amount of Cr is adjusted depending on the required hardenability and the desired type of steel. There is no indication in the application as filed that Cr has an impact on the formation of the hard phase, i.e. with the boron and molybdenum content.

1.3.4 As there is no functional relation disclosed between the content of Cr and Ti on the one hand (Cr is explicitly disclosed as being optional and used for a particular purpose and Ti is essentially taken out of the composition) and the formation of the Mo_2FeB_2 borides on the other hand, the adaptation of the content ranges of Mo and B and those of Cr and Ti can be considered independently.

Further, as the content ranges of Cr and Ti are taken from individual convergently restricted lists, their respective amendments are each in line with Article 123(2) EPC.

1.4 The combination of the Mo and B content ranges

The content ranges of the elements for forming the hard borides according to the invention, namely B and Mo, were claimed in combination in claim 1 as originally filed (Mo: 10-35 wt.%; B: 0.5-3 wt.%) and are claimed in the same way in claim 1 of the main request (Mo: **12**-35 wt.%; B: **0.7**-3 wt.%). It is apparent that the ranges in claim 1 of the main request have only been marginally reduced with respect to what was claimed in claim 1 as originally filed. This marginal reduction in the claimed range does not single out a particular aspect of the invention. Claim 1 of the main

request still defines largely the same content ranges of the elements necessary for the inventive Mo_2FeB_2 borides.

The lower end values of the amended B and Mo ranges are based on preferred options of converging ranges (the neighbouring range in the series of converging ranges of original claims 1 to 8) and are thus disclosed to the skilled person in the context of a preferred sub-range (see also Case Law of the Boards of Appeal, 10th edition, 2022, Chapter II.E.1.5.1, related to the replacement of an end value with the respective end value of the neighbouring originally disclosed range originally disclosed).

In the present case, claim 2 as filed discloses preferred content ranges of Mo and B, with the lower limit as introduced into the wording of claim 1 of the main request. The amounts of Mo and B are independent of the amounts of the other elements of the alloy defined in claim 2 as filed. This is derivable from claim 2 as filed itself, which only requires that "at least one" of the conditions listed therein (including restricted ranges of Mo and B) be fulfilled. Moreover, the accompanying specification also discloses the amounts for the remaining elements, i.e. carbon ("C", see page 2, lines 27 to 32), silicon ("Si", see page 4, lines 16 to 22) and manganese ("Mn", see page 4, lines 24 to 31), independently of the amounts disclosed for Mo and B.
Hence, the compositional ranges of the various elements listed in claim 2 are disclosed independently of each other and can be individually selected without changing the technical teaching of claim 2.

In addition, the application aims at the provision of a steel comprising a desired precipitation of the hard phase Mo_2FeB_2 in an amount of at least 5% (see page 3, line 24) in order to achieve excellent anti-galling properties (see page 1, line 24, and page 7, lines 6 to 14). Also for this reason, the higher lower limits for Mo and B in combination are clearly and unambiguously part of the disclosure of the application as filed.

1.5 In view of the above, the Board concludes that the amendments in claim 1 fulfil the requirements of Article 123(2) EPC.

1.6 Just for completeness, the Board will in the following also address the criteria referred to in T 1621/16, thereby dealing more specifically with the reasoning in the decision under appeal, which is essentially based on T 1621/16.

1.6.1 The examining division concluded that the combination of the four amendments resulted in subject-matter which extended beyond the content of the application as filed because the combination of the amendments resulted in a singling out of one combination from many possible combinations, which was not supported by a pointer.

1.6.2 Firstly, in line with the arguments presented by the appellant and as stated in point 1.4 above, the Board does not agree with the examining division that a "singling out" has taken place. In point 1.7.2. of the reasons of T 1621/16, it was stated that in the case of a list of converging alternatives, each of the narrower elements is fully encompassed by all of the preceding less preferred and broader options. Consequently, the elements of such a list do not represent distinct features, but restricted versions of one and the same

feature. Thus, amending a claim by selecting one element from a list of converging alternatives does not result in the singling out of an invention from a plurality of distinct options, also according to T 1621/16; rather, it merely results in subject-matter based on a more or less restricted version of the same feature.

1.6.3 Secondly, it is stated in point 1.7.3 i) of T 1621/16 that it needs to be assessed whether the specific combination resulting from the multiple selections is associated with an undisclosed technical contribution, meaning that no unwarranted advantage should be derived from linking the specific combination of preferred alternatives to an inventive selection which is not supported by the application.

In the present case, the amendments to claim 1 do not provide an unwarranted advantage to the appellant, because the amendments restrict the subject-matter and are not associated with an undisclosed technical contribution. As set out above, the claimed subject-matter still aims, even after the amendments, at steel having a high area fraction and a uniform distribution of Mo_2FeB_2 borides in order to achieve excellent anti-galling properties (see page 7, lines 6 and 9, of the application). Neither the focus of the application nor the inventive concept thereof has changed by restricting the compositional ranges of the elements Cr, B, Mo and Ti.

1.6.4 Thirdly, in the words of T 1621/16 a "pointer" towards the selections in the application can be a sign that a combination of amendments is unambiguously derivable from an application.

In the present case, the example of the application demonstrates that the alloy comprises the main essential components (C, Si, Mn, Mo, B and Fe) in the amounts as defined in claim 1. However, the alloy in the example does not contain Cr in the amount defined in the amended claim 1.

Having said this, the examples of an application are not the only possible source of a "pointer" within the meaning of T 1621/16.

In the case in hand the mere fact that the single example of the application does not meet all of the requirements of the amended claim 1 does therefore not automatically result in the conclusion that the application does not contain a "pointer" for the combination of amendments. This is also in line with T 1621/16 (see point 1.7.3 ii) of the Reasons), as examples and embodiments disclosed in an application are therein identified as only one possibility ("can by provided by") of a "pointer" supporting the combination of amendments. In the present case, the Board indicated in points 1.3 and 1.4 what it considers as "pointers" in favour of the amendments.

2. Remittal to the examining division

2.1 Under Article 11 RPBA, the Board has discretion to remit the case to the department whose decision was appealed in accordance with Article 111(1) EPC if there are special reasons for doing so.

The Board decided to remit the application in accordance with Article 111(1) EPC to the examining division for further prosecution for the following reasons.

2.2 The primary object of the appeal proceedings is to review the decision under appeal in a judicial manner (Article 12(2) RPBA).

In the case at hand, the examination of the application has not been completed and the examining division has not yet taken a decision with respect to, *inter alia*, the requirements of patentability.

The examining division had sent a communication under Rule 71(3) EPC (dated 6 July 2016) with the intention to grant on the basis of the claims as originally filed; however, this was not agreed to by the appellant. Then, in the subsequent communications the examining division raised objections of a lack of novelty and a lack of inventive step in view of D2 and D3. In addition, objections under Article 84 EPC were raised.

Thus, special reasons exist to remit the case and the Board also considers it appropriate to remit the case to the examining division.

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:

C. Spira B. Goers

Decision electronically authenticated