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**Datasheet for the decision  
of 5 September 2023**

**Case Number:** T 0171/21 - 3.3.05

**Application Number:** 13842588.9

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C21D6/02

**Language of the proceedings:** EN

**Title of invention:**  
PRECIPITATION HARDENING TYPE MARTENSITIC STEEL AND PROCESS FOR  
PRODUCING SAME

**Patent Proprietor:**  
Hitachi Metals, Ltd.

**Opponent:**  
Uddeholms AB

**Headword:**  
precipitation hardening martensitic steel/Hitachi Metals

**Relevant legal provisions:**  
EPC Art. 123(2), 123(3), 83, 54, 56  
EPC R. 103(1) (a)

**Keyword:**

Amendments - allowable (yes) - broadening of scope of protection (no)

Sufficiency of disclosure - ground not considered

Novelty - (yes), implicit disclosure not proven

Inventive step - (yes)

Reimbursement of appeal fee - (no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**

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**Case Number: T 0171/21 - 3.3.05**

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.05**  
**of 5 September 2023**

**Appellant:** Uddeholms AB  
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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
23 December 2020 concerning maintenance of the  
European Patent No. 2927337 in amended form.**

**Composition of the Board:**

**Chairman** E. Bendl  
**Members:** S. Besselmann  
O. Loizou

## Summary of Facts and Submissions

- I. The opponent's appeal is against the opposition division's decision that European patent EP 2 927 337 B1, on the basis of the then pending auxiliary request 4, met the requirements of the EPC. The patent in suit concerns a precipitation hardening type martensitic steel and a process for producing same.
- II. The following documents are of relevance here:
- D5 Wilke F., "Spurenelemente in Stählen", Leaflet from Deutsche Edelstahlwerke, December 2007, pages 1 to 3
  - D6 US 2006/118215 A1
  - D7 US 3 556 776 A
  - D8 US 5 888 449 A
  - D9 Peckner D. and Bernstein I.M., "Handbook of Stainless Steels", McGraw-Hill, 1977, chapter 14, pages 14-1 to 14-2
  - D10 Ernst C. and Wewers B., "Einfluss des Schrotteinsatzes auf die Eigenschaften von Warmarbeitsstählen", Stahl und Eisen, vol. 123, no. 8, 15 August 2003, pages 71-75
  - D11 Sha W., "Steels - From Materials Science to Structural Engineering", Springer, 2013, pages 147-154
- III. The opponent (appellant), in their statement of grounds of appeal, relied on D9 and D10, *inter alia*, which were not admitted by the opposition division, and has submitted the following documents D19 and D20.

- D19 Declaration by Dr. Åke Bergman dated  
19 February 2021
- D20 Recent Internet publications, "Begleitelemente  
in korrosionsbeständigen Stählen",  
[https://www.edelstahl-rostfrei.de/werkstoff/  
werkstoffdaten](https://www.edelstahl-rostfrei.de/werkstoff/werkstoffdaten)

IV. The patent proprietor (respondent), in their reply to the appeal, defended the patent on the basis of the claims found allowable by the opposition division (main request) and filed auxiliary requests. The respondent was of the opinion that D9, D19 and D20 were not to be admitted into the proceedings.

V. The independent claims of the main request relate to a precipitation strengthening type martensitic steel (claim 1) and to a process for producing same (claim 5). They read as follows:

Claim 1: *"A precipitation strengthening type martensitic steel consisting of, in terms of mass%, 0.001 to 0.05% of C, 0.2% or less of Si, 0.4% or less of Mn, 7.5 to 11.0% of Ni, 10.5 to 13.5% of Cr, 1.75 to 2.5% of Mo, 0.9 to 2.0% of Al, less than 0.1% of Ti, and a remainder consisting of Fe and impurity elements that are unavoidably mixed in during manufacture, including S, P, N, with each said unavoidable impurity element in terms of mass % being 0.05% or less, wherein*

*the precipitation strengthening type martensitic steel contains retained and reverse-transformed austenite, wherein in terms of a volume fraction the total content of retained and reverse-transformed austenite is 2.0 to 6.0% and the content of retained austenite is 1.0 to 5.0%, and wherein the precipitation strengthening type martensitic steel has a tensile*

*strength of 1500 MPa or higher and an absorption energy obtained by a Charpy impact test of 30 J or higher."*

*Claim 5: "A process for producing a precipitation strengthening type martensitic steel according to claim 1 and consisting of in terms of mass%, 0.001 to 0.05% of C, 0.2% or less of Si, 0.4% or less of Mn, 7.5 to 11.0% of Ni, 10.5 to 13.5% of Cr, 1.75 to 2.5% of Mo, 0.9 to 2.0% of Al, less than 0.1% of Ti, and a remainder consisting of Fe and impurity elements that are unavoidably mixed in during manufacture, including S, P, N, with each said unavoidable impurity element in terms of mass % being 0.05% or less, said process comprising:*

*subjecting a precipitation strengthening type martensitic steel to a solution treatment performed at 800 to 950°C for 1 to 4 hours followed by cooling and optionally a sub-zero treatment to obtain a precipitation strengthening type martensitic steel containing 1.0 to 5.0% of retained austenite in terms of a volume fraction,*

*subjecting said precipitation strengthening type martensitic steel containing 1.0 to 5.0% of retained austenite in terms of a volume fraction to an aging treatment performed at 490 to 540°C for more than 6 hours followed by cooling to obtain the precipitation strengthening type martensitic steel having in terms of a volume fraction a total content of retained and reverse-transformed austenite of 2.0 to 6.0%, a tensile strength of 1500 MPa or higher, and an absorption energy obtained by a Charpy impact test of 30 J or higher."*

Claims 2 to 4 relate to particular embodiments.

VI. The appellant's arguments, where relevant to the present decision, can be summarised as follows.

Claim 1 infringed the requirements of Article 123(2) EPC in view of the feature specifying a content of each unavoidable impurity element of 0.05% or less. In this context, D9, D5, D10, D19 and D20 were relied upon to demonstrate the skilled person's understanding of the disclosure of the application as originally filed. Claim 1 also violated the requirements of Article 123(2) EPC because the feature specifying the retained austenite and total austenite contents constituted an unallowable generalisation.

The requirements of Article 123(3) EPC were violated because the patent as granted did not confer protection to a steel containing reverse-transformed austenite.

The disclosure was non-enabling when the steel solely comprised 2-5 vol.% retained austenite.

The subject-matter of claim 1 was not novel in view of each of D6, D7 and D8. Specifically, Sample 7 from D6 anticipated the claimed subject-matter because it inherently had a content of retained austenite in the claimed range, as was clear from the preparation process used. Several of the steels disclosed in D7 (Table IV(a) and Table IV(b)) had a chemical composition and mechanical properties as required in claim 1. They necessarily contained retained austenite in the claimed range because they were subjected to the processing taught in the patent in suit. Steels WD15 and WA02 in D8 also exhibited the required mechanical properties, as was clear from Table 2 for the tensile strength and Figure 6 for the Charpy impact energy.

The subject-matter of claims 1 and 5 lacked an inventive step starting from D6 as the closest prior art. In D6, austenite was not detected merely because the austenite phase was too small to be detected by optical microscopy.

The opposition division committed several procedural violations, which justified a reimbursement of the appeal fee.

- VII. The respondent's arguments are reflected in the reasons for the decision.
- VIII. The appellant (opponent) requested that the decision under appeal be set aside and that the patent be revoked. Furthermore they requested that the appeal fee be reimbursed.
- IX. The respondent (patent proprietor) requested that the appeal be dismissed and that the patent be maintained in the form found allowable by the opposition division (main request), or alternatively that the patent be maintained in amended form on the basis of one of auxiliary requests 1-7 submitted with the reply to the appeal.

## Reasons for the Decision

### Main request (auxiliary request 4 during opposition)

1. Article 123(2) EPC

1.1 *Impurity content*

1.2 According to the appellant, the subject-matter of claim 1 extended beyond the content of the application as originally filed because it now defined an upper content for *all* impurity elements of 0.05% each.

1.3 The relevant part of the application as originally filed is entitled "*Remainder of Fe and impurities*" (page 9, line 4) and reads as follows:

*"The remainder is Fe, and impurity elements that are unavoidably mixed in during manufacture. Examples of representative impurity elements may include S, P and N. The amounts of these elements are desirably smaller. However, an amount to which each element can be decreased without problems during manufacture in common facilities may be 0.05% or less."* (page 9, lines 5-9)

In particular, the appellant was of the opinion that this disclosure made a distinction between S, P and N as one subset of impurity elements, which were *desirably smaller* and could be decreased during steel processing. In their opinion, the upper limit of 0.05% only related to this subset of impurity elements with S, P and N. They accordingly considered there to be a violation of Article 123(2) EPC in that the claim at issue stipulated *each* of said unavoidable impurity elements in terms of mass% as being 0.05% or less, and thus applied the upper limit of 0.05% to other impurity

elements such as copper, which could not be easily decreased during steel processing and were usually present in higher amounts. In support of these arguments, the appellant relied on D9, D19 and D20.

- 1.4 Also according to the appellant, claim 1 as originally filed disclosed "impurities", which had to be understood as implying that all impurity elements were present in their normal impurity content. They submitted that the claim at issue no longer specified the normal impurity content, but a value of 0.05%, which was higher than the normal impurity content of some elements (As, Bi, Ta, Ti, V, etc.), and lower than what could be obtained for other elements (Cu, Co).

The appellant held that D9 should be taken as proof of common general knowledge with respect to the content of impurities in stainless steel, and additionally referred to D5 and D10.

- 1.5 These arguments are not convincing. The vague reference to impurities in the context of claim 1 as originally filed has no clearly defined meaning and does not imply specific impurity elements in specific amounts. In particular, there is no basis for interpreting claim 1 as originally filed such that the impurities were those described in any one of D5, D9 and D10, irrespective of the question of whether D9 and D10 (which were not admitted by the opposition division) should be taken into consideration. There is no reference to any of these documents in the application as originally filed. Moreover, they do not even relate to the same steel.

For these reasons, it cannot be said that claim 1 as originally filed contained any features concerning the impurities which were omitted from claim 1 at issue.

Claim 1 at issue instead provides a more precise definition of the vague reference to "impurities" in claim 1 as originally filed.

- 1.6 This definition provided in claim 1 is based on the above-mentioned disclosure in the application as originally filed (page 9, lines 5-9). According to that disclosure, impurity elements are those which are unavoidably mixed in during manufacture. The impurity elements S, P and N are only indicated as examples, as expressly stated.

When referring to impurity elements which are unavoidably mixed in during manufacture, the claim thus uses the same language as the application as originally filed.

The indicated, and rather brief, disclosure (page 9, lines 5-9) cannot be understood as defining different groups of impurities by making a distinction between impurities that can be decreased during the steel processing and other impurities. The patent does not mention anything whatsoever with regard to how the amount of an impurity element can be decreased. It is not specified how the alloy is initially produced, which starting materials are used, and which specific facilities and metallurgical processes are involved. There is consequently no reason why "decreasing" should not cover adjusting the amount that is mixed in, e.g. by selecting the starting materials accordingly. The wording "can be decreased without problems" in the application as originally filed thus does not imply a limitation to a subset of impurity elements.

Even if S, P and N were somehow to be distinguished from the other impurity elements, the sentence

"[h]owever, an amount to which *each element* can be decreased without problems during manufacture in common facilities may be 0.05% or less" [emphasis added] clearly refers to "each element", i.e. each impurity element which, in this context, and in view of the antecedent mention of impurity elements, is *each impurity element unavoidably mixed in during manufacture*, and not each element of S, N and P.

Accordingly, there is no doubt with regard to this interpretation. In particular, it is not the case that the feature in the claim to which an objection was raised was the result of choosing between different possible interpretations.

- 1.7 Irrespective of the question of their consideration, D19 and D20 do not help the appellant's case. The declaration D19 sets out that the main source of Cu in steel is the obsolete scrap which is obtained from discarded cars, where the content of copper has increased over the years (item 21). It is further indicated that the allowable impurity content of Cu in stainless steels was much higher than in carbon steels; according to the updated, recent list in D20, the maximum tolerable content of copper in martensitic stainless steels was 0.5% (items 25-28 of D19).

However, D19 does not state that it would be impossible to obtain a Cu content of 0.05% or less in a precipitation strengthening type martensitic steel of the PH13-8Mo type. Likewise, D20 is also not concerned with the amount to which an element can be decreased, but with the maximum tolerable amount. D20 (first page) expressly states that relevant material standards, such as EN 10088 for stainless steels, do not contain any information on the accompanying elements, and limit

values are not defined in the standards. There is therefore no single generally recognised impurity content for the steel under consideration.

In the light of the above, it cannot be concluded that the skilled person, on the basis of their common general knowledge, would have attributed a different meaning to the indicated disclosure in the application as originally filed (page 9, lines 5-9) than what is stipulated in the claim. The claim mirrors the wording of the indicated passage.

In terms of cost, it may be common and desirable to have high tolerances of e.g. copper in the steel, as may result from processing scrap, but this does not imply that it would be technically impossible to obtain the claimed impurity levels. In any case, this would not be an issue under Article 123(2) EPC.

1.8 *Amount of austenite*

1.9 Claim 1 stipulates that the precipitation strengthening type martensitic steel contains retained and reverse-transformed austenite, wherein in terms of volume fraction the total content of retained and reverse-transformed austenite is 2.0 to 6.0% and the content of retained austenite is 1.0 to 5.0%.

1.10 The appellant argued that this constituted an unallowable generalisation because the claim now included embodiments which did not automatically fulfil the requirements placed on the mechanical properties (tensile strength of 1500 MPa or higher; absorption energy obtained by a Charpy impact test of 30 J or higher), for instance the presence of solely 2 to 5 vol.% retained austenite. The claim also

constituted an unallowable generalisation because, in their opinion, the application as originally filed specified the relationship between the total austenite content and the retained austenite content as an additional feature. Namely, it derived from the application as originally filed that the reverse-transformed austenite content was linked to the retained austenite content in that it resulted *in a slight increase* in the austenite content. This relationship of there being a *slight increase* in the austenite content had been omitted from the claim. To illustrate this, the appellant referred to the possible presence of e.g. 1 vol.% retained austenite and 5 vol.% reverse transformed austenite, covered by the claim, which in their opinion was not supported by the application as originally filed.

- 1.11 These arguments are not convincing. The volume fractions of the total content of retained and reverse-transformed austenite and of the retained austenite, respectively, have been derived from the disclosure on page 5, lines 9-16 in combination with page 6, lines 1-4 (paragraph [0011]) of the application as originally filed. According to this disclosure, the retained austenite content in the stage after solution treatment and before ageing treatment may be approximately 0.1 to 5.0 vol.%, and, taking into consideration the austenite content to be increased by ageing treatment, the volume fraction of austenite is set to be 0.1 to 6.0%. It was not disputed that the latter disclosure relates to the total austenite content, i.e. retained and reverse-transformed austenite.

The same ranges in combination have also been disclosed in claim 3 of the application as originally filed, in line with the correct finding in the impugned decision

(point 3.4(c)) dealing with the opponent's objection that an only *slight* increase was an additional requirement (point 3.3(c)).

- 1.12 These ranges have been limited on the basis of the respective preferred lower limits (page 6, lines 1-4 of the application as originally filed). Combining a general range with the preferred lower limit normally does not infringe Article 123(2) EPC (Case Law of the Boards of Appeal of the EPO, 10th edn., 2022, II.E. 1.5.1a).
- 1.13 Furthermore, the claimed subject-matter does not constitute an unallowable generalisation, and in particular does not cover steels which do not exhibit the mechanical properties required by the wording of the claims. Claim 1 at issue specifically requires that the steel contains retained *and* reverse transformed austenite, thus excluding steel having a volume fraction of 2-5 vol.% retained austenite and no reverse transformed austenite, by contrast with the appellant's argument. Furthermore, the mechanical properties are an additional requirement of the claim, meaning that the claim is limited to those steels exhibiting the required mechanical properties.
- 1.14 The argument that the contents of retained austenite and reverse-transformed austenite were inextricably linked to an additional requirement cannot be followed either. The disclosure on page 5, third paragraph that "[t]hen, during aging treatment..., reverse-transformed austenite is sometimes generated in addition to the retained austenite, resulting in a slight increase in the austenite content" cannot be understood as imposing an additional requirement on the amount of reverse-transformed austenite in the final steel, in that it

should be the result of only a *slight* increase, but merely describes the process by which the reverse-transformed austenite is obtained. Furthermore, no such additional requirement, and in particular no relationship between the amount of retained austenite and the amount of reverse-transformed austenite, is derivable from the subsequent paragraph [0011] or claim 3 as originally filed.

1.15 Claim 1 of the present main request does not specifically indicate a volume fraction of 1 vol.% retained austenite in conjunction with 5 vol.% reverse-transformed austenite. This combination of volume fractions is only generically covered by the claimed ranges. It was already covered by the ranges disclosed in the application as originally filed (see above, point 1.11), and therefore there is no added matter in this regard. A volume fraction of 1.0 vol.% retained austenite is the preferred lower limit (page 6, line 4), as indicated.

1.16 In conclusion, there is no reason to deviate from the opposition division's finding that the requirements of Article 123(2) EPC were met.

2. Article 123(3) EPC

2.1 It is readily apparent that the claimed range of 1.0 to 5.0 vol.% retained austenite is narrower than the range of 0.1 to 6.0 vol.% retained austenite stipulated in claim 1 as granted, and lies fully within this range. Likewise, specifying the additional presence of reverse-transformed austenite and the total content of retained and reverse-transformed austenite, namely 2.0 to 6.0 vol.%, clearly constitutes a

limitation compared with claim 1 as granted, which did not stipulate these features. In particular, the additional presence of reverse-transformed austenite was not excluded from claim 1 as granted in view of the open definition ("contains").

2.2 In summary, there is no reason to deviate from the opposition division's decision on this point. The requirements of Article 123(3) EPC are met.

3. Sufficiency of disclosure (Article 83 EPC)

3.1 The appellant was of the opinion that the disclosure of the patent as granted and of the main request was non-enabling when the steel solely comprised 2-5 vol.% retained austenite.

3.2 Since the wording of the claims of the main request does not cover a steel solely comprising 2-5 vol.% retained austenite, the reasoning with regard to sufficiency of disclosure is irrelevant. In any case, it would constitute a fresh ground for opposition on appeal that may be considered only with the patent proprietor's consent, which was not given (submission of 27 June 2023).

4. Novelty (Article 54(1) EPC)

4.1 The appellant submitted that the subject-matter of claim 1 lacked novelty in view of each of D6, D7 and D8.

4.2 *Document D6*

- 4.3 According to the impugned decision, there was no proof that the relevant Sample 7 in Table 1 of D6, in which no retained or reverse-transformed austenite was detected by optical microscopy, contained the claimed amounts of retained and reverse-transformed austenite.
- 4.4 According to the appellant, it had to be concluded that Sample 7 had a content of retained austenite in the claimed range because it had been subjected to a solution treatment in accordance with claim 5 of the patent in suit. It was similar to Test 2 of the patent in suit, but no sub-zero treatment was performed.
- 4.5 D6 describes a range of ageing temperatures, and only Sample 7, which was heated at 925°C for 1 hour, air-cooled and subjected to ageing at 550°C for 4 hours (paragraph [0054] of D6 in conjunction with Figure 6), exhibits a tensile strength and an absorption energy by a Charpy impact test within the claimed ranges, as can be seen in Figures 6-8.

These process conditions (the ageing conditions) do not even fall within the scope of claim 5 at issue, and even the process conditions in claim 5 may not inevitably lead to the claimed volume fractions of retained austenite and total austenite (see e.g. Test 21). Furthermore, while the alloy composition and the solution treatment (time and temperature) of Sample 7 in D6 are very similar to those of e.g. Sample 3 in the patent in suit (Table 1), the cooling step following the solution treatment is different (oil cooling in the examples of the patent in suit versus air cooling and quenching in D6; see paragraph [0054]), and the ageing treatment (524°C for 8 hours in the patent in suit versus 550°C for 4 hours in D6) is also different. By comparing Table 3, Test 4 of the patent in suit with

Figure 8, Sample 7 of D6, it can be seen that different mechanical properties of the final steel result, with the latter having a tensile strength of slightly above 1500 MPa and an absorption energy of slightly above 30 J, i.e. only just within the claimed ranges.

On the basis of a mere comparison of Sample 7 in D6 with the patent in suit, it is therefore not possible to conclude that Sample 7 must inevitably have volume fractions of retained or reverse-transformed austenite within the ranges of claim 1. D6 indicates that no residual austenite phase was detected using optical microscopy (paragraph [0065]). No proof is available that the austenite volume fraction requirements would nevertheless be met and would have been detected if a more sensitive method had been used.

4.6 In conclusion, the objection of lack of novelty in view of D6 is not convincing.

4.7 *Document D7*

4.8 D7 discloses a steel having a chemical composition and mechanical properties as required by claim 1; see Table IV(a) and Table IV(b) of D7 (see the samples subjected to double treatment (z) for which Charpy test results are available). D7 does not mention anything regarding the presence of austenite.

These samples were heat-treated at 1700°F (927°C) for 1 hour, air-cooled, sub-zero treated at -100°F (-73°C) for 8 hours, heated at 950°F (510°C) for 1 hour and air-cooled; see the footnote (z) under Table IV(b) and column 11, lines 32-35.

- 4.9 The heat treatment performed in D7 thus involves a sub-zero treatment which, according to the patent in suit, reduces the retained austenite (paragraph [0025], last sentence; paragraph [0052]), as demonstrated in Tests 11 and 12 (compared with Tests 3 and 5, respectively). Test 21 also demonstrates that processing conditions involving a sub-zero treatment may lead to too low a retained austenite content (Table 5).
- 4.10 On the basis of a mere comparison of D7 with the patent in suit, it is therefore not possible to conclude that the steels known from D7 must inevitably have volume fractions of retained or reverse-transformed austenite within the ranges of claim 1. It cannot be seen that the teaching of D11 could change this conclusion. D11 is very general. In particular, the fact that "*a certain amount of austenite can be retained after quenching to room temperature*" (D11, page 148, second paragraph) does not demonstrate that retained austenite is inevitably present.
- 4.11 In conclusion, the objection of lack of novelty in view of D7 is not convincing.
- 4.12 *Document D8*
- 4.13 D8 is even less relevant, because the relevant steels WD15 and WA02 are not directly and unambiguously disclosed as exhibiting the required mechanical properties in combination. The steels WD15 and WA02 have a tensile strength higher than 1500 MPa (as calculated by the appellant from the disclosed values of 217.7 Ksi and 220.9 Ksi, respectively) when submitted to the heat treatment summarised in the header of Table 2, but their corresponding Charpy impact energy is not specified. It cannot be derived

from D8 that Figure 6 depicts the Charpy impact energy of these same steels, *subjected to the same heat treatment* (and not, for instance, the heat treatment summarised in Table 3 of D8, which results in a lower tensile strength of the same steels).

Additionally, D8 is silent regarding austenite.

4.14 In summary, there is no reason to deviate from the opposition division's finding. The subject-matter of claim 1 is novel.

5. Inventive step

5.1 According to the appellant, the subject-matter of claims 1 and 5 lacked an inventive step starting from D6 as the closest prior art.

5.2 According to the impugned decision, the objective technical problem could be formulated as that of providing further precipitation strengthening type martensitic steels with a consistent improved balance between high tensile strength and high absorption energy. This problem was considered solved by the claimed steel having the content of retained austenite and the total content of retained and reverse-transformed austenite stipulated in the claims.

5.3 The appellant disagreed with the opposition division's finding, stressing that D6 stated only that residual austenite was not detected.

5.4 The appellant thus merely repeated their objection of lack of novelty, but without providing convincing arguments for why the skilled person would have

adjusted the austenite contents as stipulated in the claim.

- 5.5 The experimental data provided in the patent in suit confirm that the austenite contents are associated with the desired mechanical properties (Tables 3 and 5; in particular, compare Test 3 with Test 11, Test 5 with Test 12, and Test 22 with Test 21). The objective technical problem may thus even be considered that of providing an improved steel.
- 5.6 The appellant did not present any argument for why it would have been obvious for the skilled person, starting from D6 and wishing to provide an improved steel having the desired balance between high tensile strength and high absorption energy, to adjust the austenite fractions to the claimed ranges. By contrast, the observation in D6 that no austenite was detected and the statement that "*a residual austenite phase can be reliably prevented*" (paragraph [0008]) provides teaching leading away from increasing the austenite content.
- 5.7 The subject-matter of claim 1 thus involves an inventive step.
- 5.8 Claim 5 relates to a method for producing the steel and includes all the features of claim 1, including the content of retained austenite and the total content of retained and reverse-transformed austenite. Therefore, the same considerations apply, and the subject-matter of claim 5 also involves an inventive step.
- 5.9 Claims 2-4 are dependent on claim 1, and therefore the same conclusion applies.

6. Alleged procedural violation

6.1 The appellant made a number of submissions concerning alleged procedural violations relating to various parts of the opposition division's reasoning which the appellant found surprising or did not consider as taking their arguments sufficiently into account.

6.2 However, the appellant had chosen not to attend the oral proceedings before the opposition division, despite the number of requests and issues under discussion (see the opposition division's preliminary opinion and the numerous subsequent submissions by both parties). Furthermore, it is established case law that it is not necessary to consider each and every argument of the parties in detail in a decision, and arguments irrelevant for the outcome may be disregarded (Case Law of the Boards of Appeal of the EPO, 10th edn., 2022, III.B.2.4.1).

6.3 The opposition division provided reasons for why the requirements of Article 123(2) EPC were considered to be met and in particular dealt with the opponent's objections, providing reasons for why they were not considered convincing (points II.3.3 and 3.4 of the impugned decision), referring to that part of the application as originally filed (page 9, lines 5-9) which had been cited throughout the opposition proceedings.

The opposition division additionally provided the reasons for why D9 was not admitted into the proceedings (point II.1.2 of the impugned decision), using the *prima facie* relevance criterion.

It is thus not apparent that further details were required in the reasoning. The board cannot see any "*line of argumentation ... on which the opponent was deprived [of] his fundamental right to comment*".

- 6.4 The appellant also criticised the fact that the patent as upheld by the opposition division included unidentified amendments to the description and the drawings. This made it more cumbersome to examine this issue when preparing the appeal. The appellant also objected that they should not have been excluded from selected parts of the written submissions.

However, the appellant (opponent) had to expect that the patent proprietor would adapt the description during the oral proceedings if the patent were to be maintained in amended form (see also the Case Law of the Boards of Appeal of the EPO, 10th edn., 2022, IV.C. 6.3). It was the appellant's choice not to attend the oral proceedings, where they could have raised objections.

It is stated in the minutes of the oral proceedings that the proprietor submitted amended description pages 1-9 and an amended drawing sheet 1/2, which were reviewed and accepted by the opposition division (point 6 of the minutes). The amended (clean) pages were annexed to the minutes of the oral proceedings. The appellant confirmed during the oral proceedings before the board that they had received these amended (clean) pages, which are also available in the public file.

There is no marked-up version on file. It is only known from the patent proprietor's indication in their reply to the appeal that they had also provided a marked-up version during the oral proceedings.

It would have been desirable to annex this marked-up version to the minutes, particularly if it had been used to facilitate the discussion during the oral proceedings, or to otherwise identify the amendments made during the oral proceedings.

However, omitting this does not constitute a substantial procedural violation. A marked-up version is not mentioned in the impugned decision or the minutes. There is no indication that it was relevant to the outcome of the opposition proceedings. It is not impossible for the appellant to examine the amendments without a marked-up version, either. The amendments can be easily identified using the amended pages on file. For the same reason, it cannot be said that the appellant was excluded from selected parts of the written submissions.

- 6.5 According to the appellant, the opposition division did not take their arguments into account when it decided that "*the amendments amount to a restriction of the patent in suit*" (point II.6.1 of the impugned decision).

However, comparing the scope of the independent claims of the then fourth auxiliary request with the scope of the patent as granted in this case boils down to a mere comparison of numerical ranges, and it is not apparent why further explanation would have been needed.

- 6.6 In its decision, the opposition division set out why the opponent's arguments regarding novelty and inventive step in view of D6 were not considered convincing, taking D1 and D11 into account (points II.6.2.2 and II.6.3). The opposition division in

particular considered whether there was evidence of the presence of austenite despite the indication in D6 that no austenite was detected using optical microscopy. In this regard, too, it is not apparent why further details would have been needed.

- 6.7 For these reasons, the board considers there to be no substantial procedural violation.
- 6.8 Furthermore, a reimbursement of the appeal fee pursuant to Rule 103(1)(a) EPC is only possible where the Board of Appeal deems an appeal to be allowable. This is not the case here.
- 6.9 The request for reimbursement of the appeal fee is therefore rejected.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



A. Voyé

E. Bendl

Decision electronically authenticated