

Internal distribution code:

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

**Datasheet for the decision
of 11 June 2024**

Case Number: T 1132/22 - 3.3.05

Application Number: 18151559.4

Publication Number: 3339457

IPC: C22C21/08, C22F1/05

Language of the proceedings: EN

Title of invention:

EXTRUDED AL-MG-SI ALUMINIUM ALLOY PROFILE WITH IMPROVED
PROPERTIES

Patent Proprietor:

Norsk Hydro ASA

Opponents:

Hammerer Aluminium Industries Extrusion GmbH
C-TEC Constellium Technology Center /
Constellium Singen GmbH
Knauf Interfer Aluminium GmbH

Headword:

Extruded Al-Mg-Si Alloy/Norsk Hydro ASA

Relevant legal provisions:

EPC Art. 123(2), 54, 56
RPBA 2020 Art. 13(2)

Keyword:

Amendments - allowable (no) - main request

Novelty (yes), Inventive step (no) - auxiliary request 1

Amendment after summons - exceptional circumstances (no)

Decisions cited:

T 0026/85, T 0939/92, T 1102/00, T 0210/05, T 0673/12,

T 1634/13, T 0261/15, T 0900/18, T 1989/19, T 2623/19,

T 0247/20, T 1688/20, T 1520/21, T 1800/21, T 0989/22

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1132/22 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 11 June 2024

Appellant: Hammerer Aluminium Industries Extrusion GmbH
(Opponent 1) Lamprechtshausener Straße 69
5282 Braunau am Inn - Ranshofen (AT)

Representative: Wirnsberger & Lerchbaum Patentanwälte OG
Mühlgasse 3
8700 Leoben (AT)

Appellants: C-TEC Constellium Technology Center /
(Opponents 2) Constellium Singen GmbH
Propriété Industrielle
P.O.Box CS10027
725, Rue Aristide Berges / Alusingen-Platz 1
38341 Voreppe / 78224 Singen (FR)

Representative: Constellium - Propriété Industrielle
C-TEC Constellium Technology Center
Propriété Industrielle
Parc Economique Centr'Alp
725, rue Aristide Bergès
CS10027
38341 Voreppe (FR)

Respondent: Norsk Hydro ASA
(Patent Proprietor) 0240 Oslo (NO)

Representative: Melin Granberg, Linda
Megra IPR AB
Oxundavägen 130
194 44 Upplands Väsby (SE)

Party as of right: Knauf Interfer Aluminium GmbH
(Opponent 3) Oesterweg 14
59469 Ense (DE)

Representative: Gesthuysen Patentanwälte
Partnerschaftsgesellschaft mbB
Huysenallee 68
45128 Essen (DE)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
7 March 2022 concerning maintenance of the
European Patent No. 3339457 in amended form.**

Composition of the Board:

Chairman E. Bendl
Members: G. Glod
S. Fernández de Córdoba

Summary of Facts and Submissions

I. The appeals of opponent 1 and opponents 2 lie from the opposition division's decision finding that European patent No. 3 339 457 in amended form met the requirements of the EPC.

II. Claim 1 of the request found allowable by the opposition division (current main request) reads as follows:

"1. Extruded profile comprising an Al-Mg-Si aluminium alloy with improved strength, corrosion resistance, crush properties and temperature stability, in particular useful in the front structure of vehicles, wherein the composition of the alloy is defined within the following coordinate points of an Mg-Si diagram:

c1 - c2 - c3 - c4,

where in wt% c1=0.80 Mg, 0.59 Si, c2=0.94 Mg, 0.70 Si, c3=0.85 Mg, 0.84 Si and c4=0.72 Mg, 0.71 Si, wherein the alloy has a non-recrystallised grain structure in the extruded profile, the alloy containing in addition the following alloy components in wt%:

Fe up to 0.30

Cu 0.1 - 0.4

Mn 0.50 - 0.70

Cr 0.10 - 0.20

Zr up to 0.25 and

Ti 0.005 - 0.15,

incidental impurities up to 0.1 each and including Zn up to 0.5, with balance Al."

Claim 1 of auxiliary request 1 includes the following modifications compared to claim 1 of the main request (underlined and struck through).

"1. Extruded profile ~~comprising~~ of an Al-Mg-Si aluminium [...] balance Al."

Auxiliary request 2 was withdrawn.

Claim 1 of auxiliary 3, submitted in appeal procedure during oral proceedings of 11 June 2024, includes the following insertion at the end of the claim compared to claim 1 of auxiliary request 1 (underlined).

"1. [...] including Zn up to 0.5, with balance Al, wherein the alloy is in over-aged condition, and has a yield strength Rp0.2 in the range of 280-300 MPa."

III. The following documents cited in the impugned decision are of relevance here.

D1: JP H01-225756 A

D1a: English machine translation of D1

D8: JP H086161 B2

D8a: English translation of D8

D8 is the granted patent based on the application D1. In the following, reference is made to D1/D8.

IV. In the communication under Article 15(1) of the RPBA, the board was of the preliminary opinion that auxiliary request 1 appeared allowable.

V. In a reply to this communication, opponents 2 made a submission on 7 May 2024.

VI. The arguments of the patent proprietor relevant to the present decision can be summarised as follows.

The wording "extruded profile comprising" used in the main request was directly and unambiguously derivable from the application as originally filed, in particular from claim 1.

Novelty of the subject-matter of claim 1 of auxiliary request 1 over D1/D8 was given. All the exemplified alloys fell outside the claimed Mg-Si window.

The problem to be solved was to achieve a balance between strength, crushability, corrosion resistance and temperature stability. The aim was to meet the C28 requirements. D1/D8 did not achieve these requirements and did not give the skilled person any incentive to arrive at the claimed subject-matter.

Auxiliary request 3 submitted during oral proceedings had to be admitted into the proceedings. It was a justified reaction to opponents 2's submission of 7 May 2024, which constituted a change of their appeal case.

VII. The opponents' arguments are reflected in the reasoning given below. In addition, D1/D8 was considered to anticipate the novelty of the subject-matter of claim 1 of auxiliary request 1. The range of Mn was not far removed from alloy 3 shown in Table 1.

VIII. The requests of the parties are as follows.

Opponent 1 and opponents 2 requested that the decision under appeal be set aside and that the patent be revoked.

The patent proprietor requested that opponent 1's and opponents 2's appeals be dismissed or, alternatively, that the decision under appeal be set aside and that

the patent be maintained in amended form on the basis of the first auxiliary request submitted with the reply to the appeals or on the basis of the third auxiliary request filed during the oral proceedings before the board.

Opponent 3 did not make any comments as to the substance of the case during appeal proceedings.

Reasons for the Decision

Main request (found allowable by the opposition division)

1. Article 123(2) EPC

Claim 1 of the main request relates to an extruded profile *comprising* an Al-Mg-Si aluminium alloy. Claim 1 as originally filed relates to an "extrudable Al-Mg-Si aluminium alloy". It is further disclosed in the application as originally filed that the alloy is developed for extruded products (page 3, line 1).

The skilled person understands from the original disclosure that the extruded product is only made of the indicated alloy. There is no disclosure that a further alloy could be present. However, current claim 1 allows for the presence of a further alloy in view of the wording "comprising". Such a broad definition is not directly and unambiguously derivable from the application as originally filed.

The requirements of Article 123(2) EPC are not met, and the main request must fail.

First auxiliary request

2. Article 54 EPC

- 2.1 D1/D8 discloses very broad ranges of Mg 0.6 to 1.2 wt% and Si 0.6 to 1.5 wt% and a preferred range of 0.4 to 0.8 wt% for Mn. The alloy according to example 3 comprises 0.8 wt% Mg, 0.8 wt% Si and 0.8 wt% Mn. There is no direct and unambiguous disclosure of an alloy having the composition as claimed.

The window c1 to c4 in the Mg-Si diagram does not contain the point 0.8 wt% Mg, 0.8 wt% Si, but only 0.79 wt% Mg and 0.8 wt% Si. Furthermore, 0.8 wt% Mn is outside the range of Mn claimed. To arrive at the claimed composition, the skilled person would have to choose specific end points from the different ranges disclosed. However, this is not considered to be direct and unambiguous disclosure (see T 900/18, Reasons 4.1 citing T 1634/13, Reasons 3.2). Furthermore, the ranges cannot be regarded individually but only in combination (see T 2623/19, Reasons 3.2 citing T 261/15, Reasons 2.3.1). Also, an example is a specific embodiment that cannot be combined with the description (see T 210/05, Reasons 2.3).

The criterion to be applied when evaluating the novelty of ranges is the gold standard of whether there is direct and unambiguous disclosure (see T 1688/20, Reasons 3.4). In the case of multiple ranges, the concept of "seriously contemplating" as described in T 26/85 is not really in line with direct and unambiguous disclosure. In such a case, "seriously contemplating" is instead linked to the desired effect, which implies considerations known for inventive step (T 989/22, Reasons 1).

Even when accepting the appellants' argument that measured values may contain a certain error margin, D1/D8 is completely silent about such an error margin. Furthermore, the claimed range is not based on measured values but on nominal values which are not to be changed at will in view of theoretical observations concerning rounding and error margins (see T 1989/19, Reasons 2.2.7 and T 1688/20, Reasons 3.5.3).

Decision T 673/12 is not relevant for the case in hand. In that case, only the amount of Cu of a specific example was not according to the claimed range. A small change in Cu would not have impacted the other elements such that they possibly fell outside the claimed ranges. In the case in hand, however, a change in Mn in example 3 would also impact the amount of the other elements. In particular, Mg and Si would not inevitably fall in the window claimed. This is also evident from the fact that the amounts of Si and Mg of alloys 1 and 2 of D1 are outside the window.

The subject-matter of claim 1 is novel over D1/D8a.

3. Article 56 EPC

3.1 The invention relates to an extruded profile of Al-Mg-Si aluminium alloy.

3.2 It was undisputed that D1/D8 is a suitable starting point for the evaluation of inventive step. Example 3 discloses an alloy comprising 0.8 wt% Mg, 0.8 wt% Si, 0.3 wt% Cu, 0.12 wt% Cr, 0.8 wt% Mn, 0.01 wt% Ti, 0.02 wt% B and 0.2 wt% Fe. The presence of boron at 0.02 wt% does not differentiate the example from claim 1 of the first auxiliary request since impurities of up to 0.1

wt% in each case are allowed in the alloy claimed. It makes no difference whether the component was intentionally added or is present as an impurity since claim 1 is not a process claim but a product claim. In the product, it cannot be distinguished whether boron was added intentionally or whether it originated as an impurity from the other metals added.

- 3.3 The problem to be solved by the current patent is to provide an extruded alloy having not only high tensile and yield strength but also good crush properties and being temperature stable (paragraph [0010]).
- 3.4 The proposed solution to the problem is an extruded profile according to claim 1 characterised in that the composition of the alloy is defined within the following coordinate points of an Mg-Si diagram:
c1 - c2 - c3 - c4, where in wt% c1=0.80 Mg, 0.59 Si, c2=0.94 Mg, 0.70 Si, c3=0.85 Mg, 0.84 Si and c4=0.72 Mg, 0.71 Si and containing in addition 0.5 to 0.7 wt% Mn.
- 3.5 It cannot be accepted that the problem is solved over the whole range claimed.

Although the patent states that the narrowest window c1-c4 only includes alloys meeting the C28 requirements (page 5, line 30), it is evident from the data present in the patent that this statement is not valid for all alloys falling within the c1-c4 window. Example C28-C1 shown in Figure 6; examples c1 T6x_2h/185, c3 T6x_2h/185 shown in Figure 22; examples C2-Cu1 T6x_2h/185, C2-Cu1 T6x_3h/185, C2-Cu1 T7_4h/205, C2-Cu2 T6x_2h/185 shown in Figure 24 and examples C2-Ti1 T6x_2h/185, C2-Ti2 T6x_2h/185 shown in Figure 26 do not reach the minimum yield strength of 280 MPa (Rp0.2) required for

meeting the C28 requirements (page 2, line 11 of the patent in suit).

As set out in paragraphs [0049] to [0051], the crush behaviour is dependent on the ageing properties, but such a feature is not present in claim 1.

Concerning temperature stability as defined in the patent (page 2, line 13), no benefit is apparent from Figures 5 and 6 for the claimed alloy compared to alloys not falling within the scope of the claim (see for example Figure 5, alloys C28-B2 vs C28-C1).

The patent proprietor argued that opponents 2's submission of 7 May 2024 was a change of case and should not be taken into consideration in view of Article 13(2) RPBA.

The board does not concur for the following reasons. The objection of inventive step based on D1/D8 was part of the impugned decision. In opponents 2's grounds of appeal, it was explicitly stated that the objective problem starting from D1/D8 could only be seen as the provision of an alternative composition (page 6, last paragraph). This was repeated in their letter of 20 January 2023 (point 1.c.). Opponent 1 also had indicated in its letter of 1 February 2023 that the problem to be solved with respect to D1/D8 could only be seen as the provision of an alternative composition (point 2.5.1).

In the communication pursuant to Article 15(1) RPBA, the board was of the preliminary opinion that the problem to be solved as indicated in the patent in suit was possibly successfully solved. Thus, the board

considered that high tensile yield strength (C28 requirement) was obtained.

In reply to this communication, opponents 2 relied on the patent to show that high yield strength was not obtained *over the whole range* claimed and that the problem was merely an alternative as already set out in the grounds of appeal. The opponents did not rely on any new document or any different problem to be solved but only on the figures and statements made in the patent.

In line with T 247/20 (Reasons 1.3), parties must be allowed to refine their arguments, even to build on them provided they stay within the framework of the arguments and of course the evidence, submitted in a timely fashion in the written proceedings. This certainly applies in the case in hand. Consequently, opponents 2's submission constitutes no change of case, and the board has no discretion not to admit the submission. Therefore, it was taken into consideration for determining whether the problem presented in the patent was successfully solved or not.

To sum up, the board concludes that the problem postulated in the patent is not solved over the whole range claimed. It needs to be redefined in less ambitious terms and can be seen as the provision of an alternative alloy.

3.6 The solution of this not very ambitious problem is obvious for the following reasons.

D1/D8 discloses a Mg range of 0.6 to 1.2 wt%, a Si range of 0.6 to 1.5 wt%, Fe up to 0.35 wt%, a Cu range of 0.15 to 0.35 wt%, a Mn range of 0.4 to 0.8 wt% and

Ti less than 0.1 wt% (see D8a, page 3, lines 15 to 35). Zr is not mentioned in D1/D8 but is also not mandatory in the alloy claimed, as confirmed by the alloys exemplified (see for example alloys C2 in Table 5 of the patent). It is evident that the ranges claimed and the ranges disclosed in D1/D8 are overlapping. The skilled person considers that all the alloys covered by the ranges of D1/D8 are alternative and acceptable alloys. Consequently, D1/D8 teaches many different alloys, among which only a small number falls within the alloy of claim 1 of the patent. All these alloys would be considered possible solutions to the posed problem. A mere arbitrary choice being made from the possible solutions cannot be regarded as involving an inventive step (T 939/92, Reasons 2.5.3).

If the problem to be solved is the provision of an alternative, the presence of an incentive towards the solution is not mandatory (T 1102/00, Reasons 14).

- 3.7 The subject-matter of claim 1 lacks an inventive step in view of D1/D8. Therefore, auxiliary request 1 fails.

Auxiliary request 3

4. Article 13(2) RPBA

Under Article 13(2) RPBA, any amendment to a party's appeal case made after notification of a communication under Article 15, paragraph 1, must, as a rule, not be taken into account unless there are exceptional circumstances justified with cogent reasons by the party concerned.

Auxiliary request 3 was submitted during oral proceedings after the board had announced that it

considered auxiliary request 1 to lack an inventive step, contrary to the opinion expressed in the communication pursuant to Article 15(1) RPBA. There is no doubt that the new request is an amendment of the patent proprietor's case since claim 1 includes modifications taken from the description. At least the feature "and has a yield strength Rp0.2 in the range of 280-300 MPa" had not been present in any of the requests submitted before. In the case in hand, there are no exceptional circumstances justifying that the request be taken into consideration.

The patent proprietor argued that opponents 2's submission of 7 May 2024 was a change of case. Therefore, the patent proprietor should be given the possibility to react.

As set out above under point 3.5, opponents 2's submissions of 7 May 2024 are only a refinement of their arguments that the problem to be solved was only the provision of an alternative alloy. It is not considered a change of case, which would trigger the need for an additional auxiliary request at such a late stage of the proceedings.

The communication pursuant to Article 15(1) RPBA, the discussion during oral proceedings and the board's change of position compared to the communication cannot be regarded as creating exceptional circumstances (Case Law of the Boards of Appeal of the EPO, 10th edn., 2022, V.A.4.5.6(c) and (i)).

Generally, patent proprietors have to anticipate that the board might evaluate a case differently from what they expected. Therefore, the respondent should have reacted to all the appellants' objections immediately,

even if it considered them to be completely without substance.

Furthermore, the communication pursuant to Article 15(1) RPBA 2020 is not an invitation to make new submissions (Case Law of the Boards of Appeal of the EPO, 10th edn., 2022, V.A.4.5.6(a)).

The board is aware of cases in which account was taken of a request submitted after notification of the communication pursuant to Article 15(1) RPBA and amended only by the deletion of claims. These cases relate to requests that did not shift the case, did not necessitate a new discussion and were *prima facie* allowable (T 1800/21, Reasons 3.4.5 to 3.4.8 and Case Law of the Boards of Appeal of the EPO, 10th edn., 2022, V.A.4.5.5(g)).

In the case in hand, the situation is different. Compared with claim 1 as granted and claim 1 of previously filed requests, claim 1 of auxiliary request 3 includes a feature ("and has a yield strength Rp0.2 in the range of 280-300 MPa") taken from the description. If the request was taken into account, it would entail a discussion of this feature not originally present in any of the claims. This clearly qualifies as a shift of the case contrary to what is set out in T 1800/21 mentioned above.

Therefore, auxiliary request 3 is not taken into account and is thus not part of the proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



C. Vodz

E. Bendl

Decision electronically authenticated