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**Datasheet for the decision
of 14 December 2021**

Case Number: T 0072/19 - 3.3.05

Application Number: 10183695.5

Publication Number: 2322677

IPC: C22C21/10, C22F1/053

Language of the proceedings: EN

Title of invention:

Aluminum alloy products

Patent Proprietor:

Howmet Aerospace Inc.

Opponent:

Constellium Issoire/C-TEC Constellium Technology
Center

Headword:

Aluminum alloy products/Howmet

Relevant legal provisions:

EPC Art. 123(2), 123(3)

Keyword:

Amendments - allowable (no)

Decisions cited:

G 0009/92

Catchword:



Beschwerdekammern

Boards of Appeal

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Case Number: T 0072/19 - 3.3.05

D E C I S I O N
of Technical Board of Appeal 3.3.05
of 14 December 2021

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
12 November 2018 concerning maintenance of the
European Patent No. 2322677 in amended form.**

Composition of the Board:

Chairman G. Glod
Members: T. Burkhardt
 S. Fernández de Córdoba

Summary of Facts and Submissions

- I. The opponent's (appellant's) appeal lies from the opposition division's interlocutory decision to maintain European patent No. 2322677 in amended form, on the basis of the then first auxiliary request.
- II. Initially, the patent proprietor (now respondent) also filed an appeal.
- III. Paragraph [0023] on page 14 of the application as originally filed contains the following passage with handwritten markings:

[0023] An important aspect of this invention focuses on a newly developed, aluminum alloy that exhibits significantly reduced quench sensitivity in thick gauges, i.e., greater than about 2 inches and, more preferably, in thicknesses ranging from about 4 to 8 inches or greater. A broad compositional breakdown for that alloy consists essentially of: from about 6% Zn to about 9, 9.5 or 10 wt.% Zn; from about ~~1.2~~^{1.2} or 1.3% Mg to about 1.68, ~~1.7~~^{1.7} or even 1.9 wt. % Mg; from about ~~1.2~~^{1.2}, 1.3 or 1.4 wt.% Cu to about 1.9, ~~or even~~^{or even} ~~2.2~~^{2.2} wt.% Cu, with $\%Mg \leq (\%Cu + 0.3 \text{ max.})$; one or more element being present selected from the group consisting of: up to about 0.3 or 0.4 wt% Zr, up to about 0.4 wt.% Sc, and up to about 0.3 wt.% Hf, the balance essentially aluminum and incidental elements and impurities. Except where stated otherwise such as "being present", the expression "up to"

- IV. With its statement setting out the grounds of appeal, the respondent resubmitted a letter with a new page 14 of the description without these handwritten markings. This letter had first been submitted with submission of 8 April 2011, i.e. prior to publication of the application and more than six months after the first filing of the application.

V. The independent claim of the main request (patent as granted) reads as follows.

"1. A wrought aluminum alloy product having a thickness of at least 51 mm (2 Inches) consisting of:

6-10 wt. % Zn;

1.2 - 1.9 wt. % Mg;

1.2 - 2.2 wt. % Cu;

with % Mg \leq (%Cu + 0.3);

one or more elements being present selected from the group consisting of:

up to 0.4 wt. % Zr,

up to 0.4 wt. % Sc, and

up to 0.3 wt. % Hf;

up to up to [sic] 0.06 wt. % TI [sic], optionally

In combination with B or C as a casting aid for grain size control;

up to 0.03 wt. % Ca;

up to 0.03 wt. % Sr;

up to 0.002 wt. % Be;

up to 0.3 wt.% Mn; and

up to 0.1 wt.% Cr;

wherein (wt. % Mg + wt. % Cu) < 3.5 wt. %;

the balance being aluminum and Impurities."

VI. As compared with claim 1 of the main request, claim 1 of the auxiliary requests has been modified as follows (emphasis and deletions added by the board).

- The word "wrought" has been omitted from auxiliary requests 1 to 6.

- The lower Zn limit has been increased to **6.9 wt.%** ~~6 wt.%~~ in auxiliary requests 2, 3, 5, 6, 8, 9, 11 and 12.

- The range of the Mg concentration has been restricted to **1.3 - 1.68 wt.%** ~~1.2 - 1.9 wt.%~~ Mg and the range of the Cu concentration has been restricted to **1.3 - 1.9 wt.%** ~~1.2 - 2.2 wt.%~~ Cu in auxiliary requests 7 to 12.

- In relation to Cu, the Mg content has been limited to $\leq (\%Cu + 0.2)$ ~~0.3~~ in auxiliary requests 1, 3, 6, 7, 9 and 12.

- The sum (wt.% Mg + wt.% Cu) is less than **3.3 wt.%** ~~3.5 wt.%~~ in auxiliary requests 4 to 6 and 10 to 12.

VII. After the board had issued its preliminary opinion, according to which the patent was likely to be revoked, the respondent first withdrew its appeal and then its request for oral proceedings.

VIII. Therefore, the oral proceedings were cancelled and the decision can be given in writing.

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

The Mg concentrations 1.2 and 1.9 wt.% and the Cu concentrations 1.2 and 2.2 wt.% were clearly crossed out in paragraph [0023] as originally filed. Otherwise, it would not have been necessary to file a replacement page 14 prior to publication of the patent application.

The limits of the concentration ranges on page 14 were in line with the handwritten indications in Table 2 of the application as filed (page 26).

Therefore, claim 1 of the the patent as granted did not fulfil the requirements of Article 123(2) EPC.

Claim 1 of auxiliary requests 1 to 6 was no longer limited to wrought aluminum products and therefore contravened Article 123(3) EPC.

Claim 1 of auxiliary requests 7 to 12 was the result of multiple selections from the application as originally filed and therefore contravened Article 123(2) EPC.

The patent was therefore to be revoked.

- X. The respondent's arguments, where relevant to the present decision, may be summarised as follows.

The text in paragraph [0023] as originally filed was still fully readable. The markings were not meant to be deletions. This was confirmed by claims 1, 5 and 12 as originally filed, which disclosed the concentration limits apparently crossed out in paragraph [0023]. The new version of page 14 with paragraph [0023] filed prior to publication of the patent application reflected this too.

Therefore, the patent was to be maintained as granted.

- XI. The appellant requested that the decision under appeal be set aside and the patent be revoked.

When it was still an appellant, the respondent had requested that the decision under appeal be set aside

and the opposition be rejected (patent be maintained as granted). As an auxiliary measure, it had requested that the patent be maintained on the basis of:

- one of auxiliary requests 1 to 6 as filed with the submission dated 22 January 2018 made to the opposition division, or
- one of auxiliary requests 7 to 12 as filed with the reply to the appellant's statement setting out the grounds of appeal.

Further, the respondent had requested that the appellant's appeal be dismissed, i.e. that the patent be maintained on the basis of the then first auxiliary request, as maintained by the opposition division.

Reasons for the Decision

Main request

The main request corresponds to the claims as granted.

1. Since the main request does not meet the requirements of Article 123(2) EPC, as will be shown below, it may be left open, now that the respondent's appeal has been withdrawn, whether this request contravenes the principle of prohibition of *reformatio in peius* (see G 9/92, headnote 2).

In fact, the Mg and Cu concentration ranges in claim 1 of the main request have been broadened as compared with claim 1 of the then first auxiliary request, which was maintained by the opposition division.

2. Amendments

For the following reasons, claim 1 as granted does not meet the requirements of Article 123(2) EPC.

2.1 It is established case law that "any amendment [...] is subject to the mandatory prohibition on extension laid down in Article 123(2) EPC and can therefore, irrespective of the context of the amendment made, only be made within the limits of 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 whole of these documents as filed" (Case Law of the Boards of Appeal, 9th edition 2019, II.E.1.1).

2.2 To a large extent, claim 1 as granted is based on claims 1 to 3 and on paragraphs [0016], [0023], [0026], [0027] and/or [0032] as originally filed.

Paragraph [0023] as originally filed is the only disclosure of the upper limits of the Zr, Sc and Hf concentrations of claim 1 as granted, and then only in combination with:

- a specific Mg concentration range, i.e. from about 1.3 to about 1.68 wt.% Mg, and
- a specific Cu concentration range, i.e. from about 1.3 or 1.4 wt.% to about 1.9 wt.% Cu.

The Mg limits of 1.2 and 1.9 wt.% and the Cu limits of 1.2 and 2.2 wt.%, which are part of claim 1, are crossed out in paragraph [0023] of the application as originally filed.

A crossed-out feature, even if it remains legible, does not form part of the disclosure. This understanding is

also in line with the handwritten indications in Table 2 of the application as filed.

Hence, there is no basis in the application as originally filed for the *combination* of the specific Mg, Cu, Zr, Sc and Hf concentration ranges in claim 1 as granted (Article 123(2) EPC).

2.3 The board notes that, while claims 1, 5 and 12 as originally filed do disclose the concentration limits crossed out in paragraph [0023], they do not disclose them in combination with the Zr, Sc and Hf concentrations of claim 1 as granted.

2.4 While the respondent submits that no deletions were intended in paragraph [0023] as originally filed, it does not indicate what else these markings, which do resemble deletions, could be.

The fact that a new version of page 14 with paragraph [0023] had to be filed prior to publication of the patent application indicates that there was indeed a problem with the legibility of that page.

Auxiliary requests 1 to 12 and auxiliary request 1 as maintained by the opposition division

3. The board notes that none of the auxiliary requests 1 to 12 on file is identical to what was then auxiliary request 1, which was maintained by the opposition division.

The board also notes that, at the appeal stage, the respondent has neither indicated the basis for the

amendments in the auxiliary requests nor explained why they would overcome any of the raised objections.

Since these requests fail on other grounds, there is no need to discuss their consideration/admissibility under Article 12(4) RPBA 2007.

Since the auxiliary requests fail for other reasons, as will be shown below, it may be left open, now that the respondent's appeal has been withdrawn, whether they contravene the principle of prohibition of *reformatio in peius*.

In fact, the Mg and Cu concentration ranges in claim 1 of auxiliary requests 1 to 6 have been broadened as compared with claim 1 of what was then auxiliary request 1, which was maintained by the opposition division. Moreover, the product is no longer limited to wrought products.

4. Auxiliary requests 1 to 6 had already been submitted at the opposition stage and were not explicitly withdrawn or superseded.

However, claim 1 of these requests is no longer limited to "a *wrought* aluminum alloy product" (emphasis added by the board), contrary to claim 1 as granted.

The scope of protection of claim 1 of these requests has therefore been extended as compared with the version as granted, contrary to the requirements of Article 123(3) EPC.

5. With regard to auxiliary requests 7 to 12 and auxiliary request 1 as maintained by the opposition division, the application as originally filed has been considered a

reservoir to artificially create the embodiments of claim 1.

Paragraphs [0023], [0031] and [0032] as originally filed respectively disclose a broad compositional breakdown for the inventive alloy, a narrowly stated composition and preferred compositional ranges.

The following table summarises the respective concentration ranges (the features in claim 1 of the different auxiliary requests are shown in bold):

	[0023] "broad compositional breakdown for that alloy"	[0031] "narrowly stated composition"	[0032] "presently preferred compositional ranges of this invention"
% Zn	6 - 9/9.5/10	6.4/6.9 - 8.5/9	6.9/7 - 8.5
% Mg	1.3 - 1.68	1.2/ 1.3 - 1.65/ 1.68	1.3/1.4 - 1.6/1.7
% Cu	1.3/1.4 - 1.9	1.2/ 1.3 - 1.8/1.85	1.4 - 1.9
%Mg<= %Cu+	0.3	-	0.3/0.2/0.1
% Mg + % Cu	-	-	3.3/3.5
% Zr	<= 0.3/ 0.4	0.05 - 0.15	0.08 - 0.15/0.16
% Sc	<= 0.4	<= 0.4	-
% Hf	<= 0.3	-	-

The following tables summarise the feature ranges as disclosed in paragraphs [0016], [0026], [0027] and [0029] as originally filed (the features in claim 1 of the different auxiliary requests are shown in bold):

	[0016]
% Mg + % Cu	< 3.3/3.5

	[0026]
% Ti	0.01 - 0.06 or up to 0.06
% Ca	up to 0.001 or up to 0.03
% Sr	0.03
% Be	0.002

	[0027]
% Cr	up to 0.1
% Mn	below 0.2/ 0.3

	[0029]
% Fe	up to 0.04/0.05
% Si	up to 0.02/0.03

It is evident from these tables that multiple selections from different paragraphs of the application as originally filed need to be made in order to arrive at the subject-matter of claim 1 of these auxiliary requests. Moreover, in some cases the range referred to as the *broad compositional breakdown* of an element is retained in claim 1, in other cases a range corresponds to a *narrowly stated composition* (6.9% Zn, %Mg<= %Cu+0.2, wt.% Mg + wt.% Cu < 3.3 wt.%), while in yet others no specific limit at all is given (although

paragraph [0029] clearly discloses limits for Fe and Si).

Since it is known that the properties of an alloy are the result of interactions between the different elements, the concentration ranges of the different elements of the alloy are inextricably linked to each other.

The respondent has failed to demonstrate an indication of how these selections are to be combined in the application as originally filed. Nor could the board identify a hint of it.

However, without such an indication, the independent claims of auxiliary requests 7 to 12 and of auxiliary request 1 as maintained by the opposition division do not comply with Article 123(2) EPC.

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

G. Glod

Decision electronically authenticated