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**Datasheet for the decision  
of 14 January 2009**

**Case Number:** T 0875/07 - 3.2.08

**Application Number:** 98200490.5

**Publication Number:** 0936278

**IPC:** C22C 21/02

**Language of the proceedings:** EN

**Title of invention:**

Aluminium alloy and method of its manufacture

**Patentee:**

Corus Aluminum Profiltechnik Bonn, GmbH

**Opponent:**

Erbslöh AG

**Headword:**

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**Relevant legal provisions:**

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**Relevant legal provisions (EPC 1973):**

EPC Art. 54(1)(2), 56

**Keyword:**

"Novelty of a selection (no)"

"Inventive step (no)"

**Decisions cited:**

G 0009/91, T 0198/84, T 0279/89, T 0840/93, T 0427/99,  
T 0153/85, T 0206/93, T 0396/97, T 0196/00

**Catchword:**

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Case Number: T 0875/07 - 3.2.08

**DECISION**  
of the Technical Board of Appeal 3.2.08  
of 14 January 2009

**Appellant:** Corus Aluminum Profiltechnik Bonn GmbH  
(Patent Proprietor) Friedrich-Wöhler-Str. 2  
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**Respondent:** Erbslöh AG  
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**Representative:** Mann, Volker  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
13 March 2007 concerning maintenance of  
European patent No. 0936278 in amended form.

**Composition of the Board:**

**Chairman:** T. Kriner  
**Members:** R. Ries  
A. Pignatelli

## Summary of Facts and Submissions

- I. By its interlocutory decision posted on 13 March 2007, the opposition division decided to maintain the European patent No. 0 936 278 in amended form according to the auxiliary request then on file. The claims as granted had been refused for lack of inventive step of the claimed subject matter.
- II. The patentee (appellant) lodged an appeal against this decision by notice received on 21 May 2007 and paid the appeal fee on the same day. A statement setting out the grounds of appeal was filed on 10 July 2007.
- III. On appeal, essentially the following documents have been relied upon by the parties:
- D1: WO-A-97/44501
- D5: Aluminium-Schlüssel Key to Aluminium Alloys, 5th Edition, Dr. John Datta, ISBN 3-87017-254-1, Aluminium-Verlag Marketing & Kommunikation GmbH Düsseldorf, 1997, pages 236, 243,
- IV. Oral proceeding requested by both parties were held before the Board on 14 January 2009. The following requests were made:
- The patentee requested that the decision under appeal be set aside and that the patent be maintained as granted (main request), or in accordance with request Main-C or Main-D, both filed on 12 January 2009 or in accordance with auxiliary request 1 filed on 12 December 2008.

Auxiliary request 2 filed on 12 December 2008 and request Main-B, filed on 12 January 2009, were withdrawn.

- The opponent requested that the appeal be dismissed.

V. The independent claim 1 as granted (main request) reads as follows:

"1. An AlMgSi-alloy suitable for manufacturing components having a high ductility, characterised in that the alloy contains, in wt. %:

Mg	0.3 - 1.0
Si	0.3 - 1.2
Fe	max. 0.35
Mn	>0.15 - 0.4
V	0.05 - 0.20
Cu	max. 0.3
Cr	max. 0.2
Zn	max. 0.2
Ti	max. 0.1

and whereby the Mn/Fe ratio is in a range of 0.67 to 1.0 impurities max. 0.05% each, total max 0.15%, balance aluminium."

Claim 1 of request Main-C reads as follows (amendments vis-à-vis claim 1 as granted in bold letters):

"1. An **extruded** AlMgSi-alloy **product** suitable for manufacturing components having a high ductility, characterised in that the alloy contains, in wt. %:

Mg	0.3 - 1.0
Si	<b>0.4 - 0.7</b>
Fe	max. 0.35
Mn	>0.15 - 0.4
V	0.05 - 0.20
Cu	max. 0.3
Cr	max. <b>0.1</b>
Zn	max. <b>0.1</b>
Ti	max. 0.1

and whereby the Mn/Fe ratio is in a range of 0.67 to 1.0 impurities max. 0.05% each, total max 0.15%, balance aluminium."

Compared to claim 1 as granted, claim 1 according request Main-D reads (amendments in bold letters):

"1. An AlMgSi-alloy ... balance aluminium, **and whereby the alloy has been casted into ingots and the cast ingot has been homogenized by holding the cast ingot for 8 - 20 hours in a temperature range of 580°C to just below the melting temperature.**"

Claim 1 according to auxiliary request 1 differs from the main request by the following wording (in bold letters):

"1. **Welded structure comprising at least one welded plate or extrusion made of an AlMgSi-alloy,** characterised in ....balance aluminium."

VI. The arguments of the appellant can be summarized as follows:

The claimed AlSiMg alloy represented a novel selection from the broad elemental ranges of alloy AA6008 disclosed in document D5. Moreover, there was no disclosure in document D5 of the claimed Mn/Fe ratio in the range of 0.67 to 1.0 and of the lower limit of 0.15% for the iron content resulting thereof. Contrary thereto, the Mn/Fe ratio of alloy AA6008, wherein Mn and Fe could be totally absent (= 0%), was extremely broad. Hence the composition of the AlSiMg-alloy selected in the patent was narrowly restricted compared to the broad ranges of AA6008. The first criterion for the novelty of a selection was therefore met, and so was the second criterion since D5 failed to disclose any specific examples.

The AlSiMg-alloy set out in claim 1 as granted was further distinguished from D5 by a Mn-content higher than 0.15% which in combination with the iron content as a mandatory alloying element and the low Cr content led to an improved ductility as reflected by the test results given in Tables 1 to 4. In addition, better welding properties were achieved and the alloy was less sensitive to hot cracking during casting. The narrowly limited composition of alloy claimed in the patent thus displayed a technical effect, i.e. a significant improvement in the previously mentioned properties so that the third criterion for the novelty of a selection was also satisfied. All these beneficial effects were described in the patent specification.

During the appeal proceeding, settlement negotiations took place between the patentee and the opponent, which were however stopped shortly before the date for oral proceedings. As a consequence and in response to the opponent's letter of 30 December 2008, requests Main-C and Main-D were filed.

Claim 1 of the auxiliary request 1 was restricted to a welded structure comprising at least one welded plate or extrusion and its subject matter was therefore novel over the general disclosure of AA6008 according to document D5. Since the alloy contained in this claim led to clearly improved welding characteristics, the claimed subject matter also involved an inventive step.

VII. The arguments of the respondent can be summarized as follows:

Claim 1 as granted related to an alloy composition which was exactly taught by D5 under the designation AA6008. No technical effect could be associated with the AlSiMg composition that had been selected in the patent from AA6008 so that the requirements for the novelty of a selection invention were not met.

Even if the novelty of claim 1 of auxiliary request 1 was acknowledged, it was generally known in the art to use the 6XXX alloys for producing welded structures. None of the request was therefore allowable.

## **Reasons for the Decision**

1. The appeal is admissible.

2. *Main request, novelty (Article 54(1),(2) EPC 1973)*

2.1 Document D5, as the closest prior art, discloses the elemental ranges for standard aluminium alloy AA6008 which are compared with the claimed composition in the following Table (in wt.%):

	claim 1 of the patent at issue	AA 6008 (D5)
Mg	0.3 - 1.0	0.40 - 0.7
Si	0.3 - 1.2	0.50 - 0.90
Fe	max. 0.35	max. 0.35
Mn	>0.15 - 0.4	max. 0.30
Mn/Fe	0.67 - 1.0	0 to ∞
V	0.05 - 0.20	0.05 - 0.20
Cu	max. 0.3	max. 0.20
Cr	max. 0.2	max. 0.30
Zn	max. 0.2	max. 0.20
Ti	max. 0.1	max. 0.10
Al	balance	balance
impurities	total max. 0.15%, max. 0.05% each	total max. 0.15%; max. 0.05 each

Due to the given Mn/Fe ratio, the minimum iron content of the claimed alloy amounts to >0.15%, as has been correctly pointed out by the appellant.

The comparative table shows that the ranges for Mg, Si, Cu, V, Zn, Ti and the impurities of AA6008 fall within the claimed ranges or are identical, respectively, and that an overlap exists for the ranges of Fe, Mn and Cr. Compared to AA6008, compositional restrictions could be seen in the Mn-content, the claimed Mn/Fe ratio between

0.67 to 1.0 and in the Fe-content ranging from >0.15 to 0.35%. It therefore has to be considered whether the claimed composition represents a novel selection from standard alloy 6008.

When applying the three criteria which were developed in particular in T 198/84 (OJ 1985, 209) and T 279/89 and all need to be satisfied for the novelty of selection inventions, particular attention is drawn in the present case to criterion (c). Accordingly, the sub-range selected from a broader known range should not be an arbitrarily chosen specimen but must provide a new invention, i.e. must be a purposive selection.

- 2.2 It is however noted that the selected compositional range does not show the substantial improvement in ductility and weldability the appellant alleges to be associated with the claimed elemental restrictions. Nothing is said in the patent specification in detail about the influence of iron taken individually or in combination with Mn in the form of the ratio Mn/Fe on the properties of the claimed alloy (see e.g. paragraph [0008] of the patent specification). The patent merely notes in a general form in paragraphs [0006] and [0033] that an increase of the Mn-content to >0.15% has a significant effect on ductility (%A) and the welding behaviour. However, the test results listed in Tables 1 to 4 do not confirm this statement. When comparing the mechanical properties (T-shaped section) of examples 2 and 3 (0.02%Mn) of the prior art with examples 4 and 5 (1.8%Mn) according to the patent, the skilled reader realizes that the ductility values (%A) of samples 2 and 4 are identical and that for samples 3 and 5 which were homogenized at 600°C/10h, the ductility values

differ by 1% only. Such a small difference could possibly result from the accuracy of measurement. Similar test results are listed in Table 3 for the samples 1 to 5 having a multi-hollow profile and likewise showing only minor differences in ductility. Turning to Table 4, comparative sample 1 (A = 3.5%;) and sample 4 (A = 3.9%; according to the patent) which were both homogenised at 565°C/10h, the difference in ductility is 0.4%. Again, such a small variation cannot be rated as a substantial improvement in ductility. The better ductility of sample 5 is attributed to the higher temperature of the homogenization (600°C/10h) rather than to the composition of the alloy.

In conclusion, nothing is found in the patent specification implying that the claimed alloy composition chosen within the ranges of standard alloy AA6008 actually represents a "purposive selection" which is associated with a significant improvement in ductility and weldability. Criterion (c) is therefore not met. Given this situation, there is no need to deal with criteria (a) and (b).

Consequently, the subject matter of claim 1 as granted lacks novelty over D5.

### 3. *Requests Main-C and Main-D*

- 3.1 As has been stated in G 9/91 (OJ EPO 1993, 408, point 18 of the reasons) the purpose of the appeal procedure in *inter partes* proceedings is mainly to give the losing party the possibility of challenging the decision of the first instance. The appealing proprietor of the patent, unsuccessful before the

opposition division, thus has the right to have the rejected requests reviewed by the Board of appeal. However, if he wants other requests to be considered, admission of these requests into the proceedings is a matter of discretion of the board of appeal, and is not a matter of right of the appealing proprietor of the patent (see also T 840/93, OJ 1996, 335, point 3.1 of the reasons; T 427/99 point 3 of the reasons, not published in the OJ EPO). For exercising due discretion in respect to the admission of requests by the appealing proprietor that were not before the opposition division and were not filed with the statement setting out the grounds of appeal, the criteria to be applied are stated in Article 13(1) RPBA, i.e. the complexity of the new subject-matter, the current state of the proceedings and the need for procedural economy. It is established case law of the Boards of appeal that the amended claims of requests filed very late should be clearly allowable and that there should be proper justification for their late filing to forestall tactical abuse (see e.g. T 153/85, OJ EPO 1988, 1, points 2.1 and 2.2 of the reasons; T 206/93, point 2.4 of the reasons; T 396/97, point 6 of the reasons and 196/00 point 3.2 of the reasons, not published in the OJ EPO).

- 3.2 The auxiliary requests Main-C and Main-D were submitted on 12 January 2009, i.e. only two days before the oral proceedings. The negotiations referred to by the appellant do not constitute in the Board assessment a reason justifying the late filing of the requests, because this is not an objection or reason raised during the appeal proceedings but an external circumstance.

3.3 From the technical point of view, claim 1 of request Main-C relates to an extruded AlMgSi-alloy product having a composition within the ranges of standard alloy 6008. Due to their high formability, the 6XXX series AlSiMg-alloys are generally provided for producing extrusion profiles, a fact which was undisputed at the oral proceedings. Extrudibility is derivable also from document D1 which deals with the same type of Al-alloy as claimed in the patent (see D1, page 1, lines 28, 29, page 3, line 34 to page 4, line 4). Therefore, the question arises whether the subject-matter of claim 1 of request Main-C involves an inventive step.

Claim 1 of request Main-D appears to be drafted as a "product-by-process" claim which, however, needs further examination as to clarity and inventive step.

Since the claims of requests Main-C and Main-D are not immediately allowable and appellant has not provided good reasons for their late filing, these requests are not admitted to the appeal proceedings.

4. *Auxiliary request 1*

With respect to standard alloy AA6008 given in D5, the welded structure comprising at least one welded plate or extrusion made of the claimed AlMgSi-alloy set out in claim 1 is novel.

However, the weldability of the AA6XXX series alloys is already discussed in the patent specification itself in paragraph [0002] and also referred to in document D1

which is likewise concerned with the same type of AlSiMg alloy. The restriction of the claimed alloy to a welded structure therefore amounts to nothing more than conventional practice. The subject matter of claim 1 of auxiliary request 1 thus lacks inventive step.

**Order**

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

The appeal is dismissed

The Registrar:

The Chairman:

V. Commare

T. Kriner



Case Number: T 0875/07 - 3.2.08

**DECISION**  
of the Technical Board of Appeal 3.2.08  
of 10 March 2009 correcting errors in the decision of the  
Technical Board of Appeal 3.2.08 of 14 January 2009

**Appellant:** Aleris Aluminum Bonn GmbH  
(Patent Proprietor) Friedrich-Wöhler-Str. 2  
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**Representative:** Müller, Frank Peter  
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Patentanwälte  
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**Respondent:** Erbslöh AG  
(Opponent) Siebeneicker Str. 235  
D-42553 Velbert (DE)

**Representative:** Mann, Volker  
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D-40211 Düsseldorf (DE)

**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
13 March 2007 concerning maintenance of  
European patent No. 0936278 in amended form.

**Composition of the Board:**

**Chairman:** T. Kriner  
**Members:** R. Ries  
A. Pignatelli

## Decision

In application of Rule 140 EPC in the decision of  
14 January 2009 the name of the Appellant (Patent proprietor)  
is hereby corrected from

Corus Aluminium Profiltechnik Bonn GmbH

to

Aleris Aluminum Bonn GmbH  
Friedrich-Wöhler-Str. 2  
53117 Bonn  
DE

The Registrar:

The Chairman:

V. Commare

T. Kriner