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Datasheet for the decision of 12 December 2006

Case Number: T 1170/04 - 3.2.06

Application Number: 94101389.8

Publication Number: 0637481

IPC: B23K 35/28

Language of the proceedings: EN

Title of invention:
Aluminium alloy brazing material and brazing sheet for heat-exchangers and method for fabricating aluminium alloy heat-exchangers

Patentee:
FURUKAWA ELECTRIC CO., LTD., et al

Opponent:
Corus Aluminium Walzprodukte GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 54(2), 56, 114(2)

Keyword:
"Admissibility of the appeal (yes)"
"Novelty (yes)"
"Inventive step (yes)"
"Late filed documents - not admitted"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1170/04 **-** 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 12 December 2006

Appellant: (Opponent)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 22 July 2004 rejecting the opposition filed against European patent No. 0637481 pursuant to Article 102(2) EPC.

Composition of the Board:

Chairman: P. Alting van Geusau
Members: G. Pricolo
R. Menapace

Summary of Facts and Submissions

I. The appeal is from the decision of the Opposition Division posted on 22 July 2004 to reject the opposition filed against European patent No. 0 637 481 granted in respect of European patent application No. 94 101 389.8. The extent to which the European patent was opposed was limited to claims 1, 2 and 12.

Claims 1, 2 and 12 as granted read as follows:

"1. An aluminum alloy brazing material comprising over 7.0 wt. % and not more than 12.0 wt. % of Si, over 0.1 wt. % and not more than 8.0 wt. % of Cu, over 0.05 wt. % and not more than 0.5 wt. % of Fe, further at least one kind selected from a group consisting of over 0.5 wt. % and not more than 5.5 wt. % of Zn, over 0.002 wt. % and not more than 0.3 wt. % of In and over 0.002 wt. % and not more than 0.3 wt. % of Sn, and the balance of Al and inevitable impurities."

"2. The aluminum alloy brazing material according to claim 1 comprising over 0.8 wt. % and not more than 3.0 wt. % of Cu, over 0.05 wt. % and not more than 0.4 wt. % of Fe, over 1.0 wt. % and not more than 5.0 wt. % of Zn, or further one or two kinds of over 0.002 wt. % and not more than 0.05 wt. % of In and over 0.002 wt. % and not more than 0.05 wt. % of Sn."

"12. A method for fabricating aluminium alloy heat-exchangers by joining the aluminium alloy components by brazing technique, comprising the step of brazing heating at a temperature of 570 to 585 °C by using

brazing materials or brazing sheets described in Claims 1 through 11."

II. The grounds of opposition under Article 100(a) EPC are supported by the following documents cited in the notice of opposition:

D1: US-A-3 994 695;

D2: US-A-4 735 867;

D3: Article "Mechanistic Aspects of the Nocolok Flux Brazing Process", SAE paper 870186, 1987, pages 1 to 9;

D4: Extract of Metals Handbook, Vol. 6, "Welding, Brazing and Soldering", section "Brazing of Aluminum Alloys", August 1983, page 1022.

During the oral proceedings held on 14 July 2004 before the Opposition Division the opponent filed the following additional documents:

D5: Listing of aluminium alloys AA3013 to AA5016 as registered by the Aluminum Association (AA);

D6: "Extract of the "Aluminium-Taschenbuch", 12 ed., Düsseldorf, p. 50 to 51, 54, 55, 64, 65, 68 to 69; 512 to 515;

D7A-D7F: Inspection Certificates of 4343 and 4045 products sold by the opponent.

III. In coming to its decision the Opposition Division, having decided not to introduce the late-filed

documents D5 and D7, held that the claimed subject-matter was novel and involved an inventive step over the available prior art. D1 mentioned some AA alloys which composition did not fulfil the requirements of claim 1. It also did not teach any modification of these normed alloys. The closest prior art was represented by document

D8: JP-A-61 202 772;

which was already cited during the examination proceedings and introduced by the patent proprietor in the opposition proceedings. D8 disclosed an aluminium alloy brazing material with 10% silicium, 0.2% copper, 0.3% iron, 2.5-3.5% zinc and a balance of aluminium. There was no indication in the prior art that could motivate the skilled person to increase the copper content of this known material in order to solve the problem underlying the patent in suit.

IV. The appellant (opponent) lodged an appeal against this decision, received at the EPO on 29 September 2004, and simultaneously paid the appeal fee. In the statement setting out the grounds of appeal, received at the EPO on 17 November 2004, the appellant referred to the documents D5 and D7 disregarded by the Opposition Division and filed the following additional documents:

D9: Extract of the book "Aluminum Alloys: Structure and Properties", by L.F. Mondolfo, 1979, pages 771-773;

D10: US-A-3 168 381;

D11: US-A-4 211 827;

D12: US-A-4 732 311;

D13: US-A-2 821 014;

D14: GB-A-2 090 290;

D15: US-A-4 781 888.

V. In a letter dated 7 October 2005 filed in reply to the grounds of appeal, the patentee (respondent) objected to the admissibility of the appeal because the grounds of appeal did not address the reasons given in the contested decision but, in substance, raised a fresh case based upon the new documents D8 to D15. The respondent also requested that documents D5, D7 and D8 to D15 be not admitted into the proceedings because they were not more relevant than the documents already on file, and submitted arguments in favour of the patentability of the claimed subject-matter also in view of the newly cited documents.

VI. By letter dated 25 October 2005 the appellant filed the further document:

D16: Extract of the book "Aluminum: properties and physical metallurgy", 1984, American Society for Metals, pages 230, 231 and 353.

VII. In an annex to the summons for oral proceedings pursuant to Article 11(1) Rules of Procedure of the boards of appeal the Board expressed its preliminary opinion according to which the appeal was admissible. The Board further stated that it saw no reason to

interfere with the discretionary decision of the Opposition Division to disregard documents D5 and D7. Moreover, it appeared that D8 should be taken into consideration, as it was mentioned in the decision under appeal and thus was in the proceedings, and that documents D9 to D16 filed in the appeal proceedings should count as late-filed.

VIII. Oral proceedings, at the end of which the decision of the Board was announced, took place on 12 December 2006.

The appellant requested that the decision under appeal be set aside and that the European patent be revoked as far as claims 1, 2 and 12 were concerned.

The respondent (patentee) requested that the appeal be dismissed or, in the alternative, maintenance of the patent in amended form on the basis of the claims according to auxiliary requests I and II as filed by letter dated 15 October 2003.

IX. The arguments submitted by the appellant in support of its requests can be summarized as follows:

The subject-matter of claim 1 was not novel in the light of the disclosure of document D1. This document provided specific disclosures of AA aluminium brazing alloys having silicon content within the claimed range. As regards the other constituents, D1 disclosed that the alloy might include one or more of the following: up to 5% copper, up to 10% zinc and up to 5% magnesium. Since the ranges for copper and zinc specified in claim 1 of the patent in suit were broad and overlapping the ranges disclosed by D1, they could not

be regarded as novel. The skilled person would exclude magnesium if, as in the patent in suit, the brazing alloy had to be used in a brazing operation using a brazing flux, in view of the generally known fact (see D3) that magnesium negatively affected the flux brazing process. Furthermore, iron was always present in the known alloys, at least as an impurity and in such case in an amount falling within the range specified in claim 1 of the patent in suit.

In any event, the claimed subject-matter did not involve an inventive step. When considering inventive step, the aluminium alloy brazing material of claim 1 was to be considered independently from any particular application. Accordingly, the effect of providing an amount of copper within the claimed range could only be seen in lowering the melting point of the alloy and not in improving resistance to corrosion of a brazed product, as the latter effect was only obtained when the brazing alloy was used in a brazing sheet consisting of an aluminium alloy core cladded with the brazing alloy. Since it was well known, see e.g. D4, that the addition of copper and zinc in aluminium alloys lowered the melting point thereof, the skilled person starting from the general teaching of D1 to use an aluminium alloy containing from 5 to 12% silicon, and optionally copper, zinc and magnesium, would arrive in an obvious manner at copper and zinc amounts within the ranges of claim 1 of the patent in suit. Furthermore, as already explained, the skilled person would not include magnesium if the brazing material was intended for use in a flux brazing process, and the iron content would certainly, as in all commercially grade aluminium alloy (see e.g. D2 and D8), be present,

as an impurity, within the claimed range. In analogous manner, the skilled person would arrive at an alloy falling within the scope of claim 1 when starting from the specific disclosure in D1 of the AA alloy 4145. The same conclusion would be reached even taking into account the alleged effect of improving the corrosion resistance. Indeed the skilled person knew that in order for a cladding layer to provide optimal cathodic corrosion protection to a base material, the potential difference between the base material and the cladding layer should lie within a certain range. The increase of potential difference caused by a high content of copper could be reduced by adding zinc, which had the opposite effect of copper.

The filing of additional documents in appeal proceedings was justified by the fact that the effect of improved resistance to corrosion was only emphasized in the oral proceedings before the Opposition Division. In particular, D14 explained the interaction of copper and zinc in providing corrosion resistance. D9 disclosed that copper and zinc were added to lower the melting point of aluminium alloys. D16 disclosed that iron was the most common impurity found in aluminium. As regards D13, although it did not explicitly disclose the amount of iron, it was novelty destroying because, as already explained, iron contents of 0.05 to 0.5% were common and established practice within the industry.

X. The respondent's reply can be summarized as follows:

D1 did not disclose or suggest including iron intentionally as a constituent element in an aluminium

alloy. Nor did D1 disclose or suggest including copper and zinc in amounts falling within the specific ranges recited by claim 1. D1 generally disclosed aluminium alloys containing from 5 to 12% silicon and, optionally, up to 5% copper, up to 10% zinc and up to 5% magnesium. It also specifically disclosed some AA aluminium brazing alloys, but did not suggest modifying their copper and/or zinc content such as to meet the requirements of claim 1. These constituents not only lowered the melting point of the brazing alloy but also contributed to improving the corrosion resistance of a brazed product comprising a core on which the brazing alloy was cladded. Furthermore, D1 taught the inclusion of magnesium in the brazing alloy. Although D3 disclosed that the presence of magnesium reduced the efficiency of a flux brazing process, it did not constitute a prejudice against the use of magnesium. In fact, it even disclosed measures to improve the tolerance of the flux brazing process to magnesium. D4 generically disclosed that lower melting points could be attained by adding copper and zinc to aluminium-silicon brazing alloy, but was silent about corrosion resistance. In fact, it was D8, rather than D1, which focused on the composition of the core material and not on that of the brazing material, which represented the closest prior art. D8 disclosed an aluminium brazing alloy from which the subject-matter of claim 1 only differed by a greater amount of copper. Since there was no suggestion in the prior art to increase the amount of copper of the brazing alloy known from D8, the subject-matter of claim 1 involved an inventive step.

The additional documents filed during the appeal proceedings were not more relevant than the prior art on file and should therefore be disregarded.

Reasons for the Decision

1. *Admissibility of the appeal*

1.1 In the communication pursuant to Article 11(1) RPBA annexed to the summons to oral proceedings, the Board explained in detail why in its preliminary opinion the appeal appeared to be admissible. During the oral proceedings the respondent did not comment on this view and simply relied on its written submissions. The Board therefore does not see any reason to deviate from its provisional opinion, whose reasons are the following:

1.2 The grounds of appeal contain an argument based on document D1 (with particular reference to alloy 4343) and on the general knowledge of the skilled person (see section 13 of the grounds of appeal). With this argument it is sought to refute the reasons given in the decision under appeal, according to which the skilled person starting from D1 would not arrive at a brazing alloy falling within the scope of claim 1 (see point 3.2 of the decision under appeal).

Accordingly, the respondent's objection that the appeal is not admissible because the grounds of appeal only raise a fresh case based upon the new documents D8 to D15, must already fail on this ground (irrespective of the question whether an appeal exclusively based on a fresh case is admissible or not).

2. *Prior art considered by the Opposition Division*

The prior art documents considered by the Opposition Division in the decision under appeal are documents D1 to D4 and, as already indicated in the above-mentioned preliminary opinion of the Board which was not contested by the parties, also document D8 which is explicitly mentioned in the "grounds for the decision" of the decision under appeal (page 5, last paragraph).

In the Board's view, it is appropriate to consider first whether the view of the Opposition Division, which is based on these documents only, is correct.

2.1 *Novelty*

2.1.1 D1 relates to a brazing sheet consisting of an aluminium alloy core and a layer of a brazing alloy on at least one surface of the core (col. 1, lines 12 to 15). As regards the brazing alloy, D1 generally discloses that it may be one of several alloys of the generic type which contain silicon and optionally copper, zinc and magnesium (see col. 1, lines 52 to 55). It further discloses (see col. 2, lines 40 to 51) specific brazing alloys having the designations 4343, 4145, 4047, 4045 and X4004 (=4004, since the prefix "X" is dropped when the alloy is no longer experimental) in accordance with the International Alloy Designations of the Aluminium Association (AA) Alloys). As is generally known, the chemical composition limits for AA alloys are registered, see table 2 of the patent in suit which lists the chemical composition limits of these alloys. According to the undisputed data of Table 2 (which are

confirmed by the data of document D6), all these registered alloys have a silicon content within, or overlapping (alloy 4047) the range of 7 to 12% defined in claim 1, and iron content which is less than 0.8%. They all have a copper content of less than 0.25% or 0.3% and a zinc content of less than 0.2% or 0.1%, except alloy 4145 which has a copper content of 3.3 to 4.7%. Furthermore, all these alloys include manganese as a constituent element and, except alloy 4343, also magnesium. Accordingly, the subject-matter of claim 1 differs from these specific alloy at least by having a higher amount (0.5% to 5.5%) of zinc, and by the presence of manganese.

When describing "*typical brazing alloys suitable for use in the present invention*" (see D1, col. 2, lines 40 ff.), D1 not only states that they include the AA alloys in question, but also that (col. 2, from line 48) "… *they all contain 5 to 12% silicon. Further constituents of these alloys may include one or more of the following; up to 5% copper; up to 5% magnesium; and up to 10% zinc, with as little as 0.01% of each of these materials being contemplated*". Although the latter sentence apparently refers to the specifically disclosed AA alloys 4343, 4145, 4047, 4045 and X4004, the question arises as to whether this is effectively the case, since the mentioned AA alloys all have a zinc content which is less than 0.2% and not up to 10%. Accordingly, the disclosure in the latter sentence is ambiguous. However, if the latter sentence is read, in accordance with the appellant's interpretation, as a general disclosure of an aluminium alloy having 5 to 12% silicon and one or more of the following: up to 5% copper; up to 5% magnesium; and up to 10% zinc, with as

little as 0.01% of each of these materials being contemplated, this general disclosure still cannot deprive the subject-matter of claim 1 of the required novelty. Apart from the fact that it does not indicate the amount of iron, this general disclosure merely gives the possible amounts of the constituents copper, magnesium and zinc without teaching how these amounts should be in relation to each other. Since the effects of each constituent of an alloy cannot be generally considered to be independent of the presence of the other constituents, the general disclosure cannot be regarded as a teaching to arbitrarily select one or more of the constituents copper, magnesium and zinc, in any amount within the ranges disclosed and in any possible combination. In particular, there is no clear and unambiguous teaching that, if an alloy is selected which has an amount of copper within the range of 0.8% to 8.0% specified in claim 1 of the patent in suit, which range largely overlaps the range of 0.01% to 5% disclosed by D1, then the amount of zinc should be within the range of 0.5% to 5.5%, which represents about 50% of the range of 0.01 to 10% disclosed by D1, and magnesium should not be present at all as a constituent element.

As regards the presence of magnesium, the appellant submitted that the skilled person would not include magnesium if the brazing material was intended for use in a flux brazing process, and referred to document D3. In this respect it is noted that this consideration falls rather within the assessment of inventive step than of novelty, since D1 leaves it open whether to use magnesium or not (see the above-mentioned passages: "*further constituents of these alloy* ***may include one or***

***more** of the following*"), in combination with the other constituent elements.

Therefore, the claimed subject-matter is novel over the disclosure of document D1.

2.1.2 As for the other documents D2 to D4 and D8, the appellant did not base any novelty objection on them and the Board concurs with the Opposition Division that they are not detrimental to novelty.

2.2 *Inventive step*

2.2.1 In respect of the aluminium alloy brazing material, which is the subject of claim 1 of patent in suit, the main problem underlying the patent in suit is to provide a brazing material with a sufficiently low brazing temperature such that it is suitable for use with basis aluminium materials having high strength but relatively low melting point (see para. [0008], [0011], [0032] of the patent in suit) without decreasing the corrosion resistance of the brazed product.

2.2.2 The Board agrees with the view of the Opposition Division and of the respondent according to which document D8 represents the closest prior art. This document discloses namely an aluminium alloy brazing material comprising (in wt.) 10% of silicon, 0.3% iron and 2.5 to 3.5% zinc (see table 3 of D8), and from which the subject-matter of claim 1 only differs by a major amount of copper: according to D8 the copper content is 0.2%, which is outside the range of 0.8% to 8% recited in claim 1 of the patent in suit.

2.2.3 The distinguishing feature effectively solves the above-mentioned problem. In particular, the higher amount of copper lowers the melting point of the alloy (see para. [0035] of the patent in suit).

2.2.4 Although it is known from D4 (see the first paragraph of the section "Filler Metals") that lower melting points of brazing aluminium-silicon alloys can be attained by adding copper and zinc, there is no indication in the prior art that would suggest to the skilled person that he should lower the melting point of the alloy known from D8 by an increase of the copper content from the disclosed value of 0.2% to a value falling within the claimed range of 0.8 to 8%. In fact, D4 does not disclose any specific amount of copper. Furthermore D4 teaches that the addition of copper and zinc is accompanied by a sacrifice of the resistance to corrosion. Since the main objective of D8 is the provision of a corrosion-resistant unit (see the patent abstract from "Patent Abstracts of Japan"), the skilled person would not be inclined to choose, as a measure for lowering the melting point of the alloy, an increase in the amount of copper of about more than four times that present in the alloy of D8.

D1, as discussed above, discloses that aluminium alloys having 5 to 12% silicon may include up to 5% copper. However, in the absence of any indication that such a relatively high amount of copper is suitable in combination with the respective amounts of the other constituents of the alloy of D8, there is no reason for a skilled person to extract this information from the whole disclosure of D1 and apply it to the alloy of D8. Moreover, the only specific disclosure in D1 of an

alloy having a relatively high amount of copper, namely the AA alloy 4145 (copper content between 3.3 and 4.7%, see table 2 of the patent in suit), teaches away from an increase of the copper content in the alloy of D8. The alloy 4145 has indeed a zinc content (less than 0.2%) which is much lower than that of the alloy of D8 (2.5 – 3.5%). Since zinc affects the resistance to corrosion as disclosed by D4, the skilled person would not be inclined to add, in an alloy which already has a substantial amount of zinc, further quantities of a constituent which has the same effect of reducing the resistance to corrosion.

Finally, D2 discloses (see table 2, alloys 4045 and 4104) aluminium alloy brazing material having a content of silicon within the range of claim 1 of the patent in suit but lower copper and zinc contents. Therefore, also D2 does not hint to the skilled person that he should increase the content of copper of the alloy of D8.

2.2.5 The appellant submitted that either the general disclosure of D1 or the specific disclosure of the AA alloy 4145 should be considered to represent the closest prior art.

However, even starting from these pieces of prior art, the skilled person would not arrive in an obvious manner at a brazing material falling within the scope of claim 1.

As mentioned above, the general disclosure in D1 of an aluminium alloy having 5 to 12% silicon and one or more of the following: up to 5% copper; up to 5% magnesium;

and up to 10% zinc, with as little as 0.01% of each of these materials being contemplated, merely gives the possible amounts of the constituents copper, magnesium and zinc without teaching how these amounts should be in relation to each other. The sole indication in this respect can be found in the specific disclosure of the AA alloys. These alloys, however, all have relatively (as compared to the alloy according to claim 1 of the patent in suit) low zinc content (less than 0.2% or than 0.1%) and, but for alloy 4145 (copper content of 3.3 to 4.7%), relatively low copper content (less than 0.25% or than 0.3%). Thus D1 rather suggests that both copper and zinc should be provided in amounts inferior to that specified in claim 1 of the patent in suit, or, if a high amount of copper is present (alloy 4145), that an amount of zinc be provided which is lower than that specified in claim 1.

2.2.6 From the above it follows that, even assuming that the technical problem solved should be seen solely in lowering the melting temperature of the brazing alloy as argued by the appellant, the subject-matter of claim 1 involves an inventive step over the prior art considered by the Opposition Division. The subject-matter of the other claims that were opposed then likewise involves an inventive step, claim 2 being dependent on 1 and method claim 12 which requiring a brazing material according to claim 1.

3. *Prior art not considered by the Opposition Division*

3.1 Documents D5 and D7 were disregarded by the Opposition Division pursuant to Article 114(2) EPC for the reasons stated in the minutes of the oral proceedings (page 1

of the minutes and point 7 on page 3 of the decision under appeal).

The Board already mentioned in the communication pursuant to Article 11(1) RPBA annexed to the summons to oral proceedings why it saw no reason to interfere with this discretionary decision of the Opposition Division. During the oral proceedings the appellant did not contest this view.

In fact, these documents were irrelevant for the decision to be taken. D5 lists the chemical composition limits of AA alloys. However, those of relevance are already (correctly) given in Table 2 of the patent in suit. D7 was filed to show that the "usual" amount of iron in aluminium-based brazing alloys is within the range of claim 1 of the patent in suit. Such evidence, even if accepted, is irrelevant, as the decision of the Opposition Division and the above reasoning of the Board are independent of any specific considerations about the iron content.

It follows that correctly exercised its discretionary power in this respect.

3.2 As regards the documents filed in the appeal proceedings, the appellant submitted that the filing of them was justified by the fact that the effect of improved resistance to corrosion was only emphasized in the oral proceedings before the Opposition Division.

The Board cannot accept this argument as supported by the facts, since the mentioned effect was expressly already emphasized in the patent in suit (see, in

particular, para. [0032] and [0035]). Accordingly, these documents count as late-filed.

3.3 It had then to be considered whether these documents should be admitted into the proceedings pursuant to Article 114(1) EPC, because they are prima facie relevant in the sense that they can reasonably be expected to change the eventual result and are thus highly likely to prejudice the maintenance of the European patent (see e.g. T 1002/92), or rather disregarded (Article 114(2) EPC).

3.4 D9 was cited because it discloses to add copper and zinc in order to lower the melting point of aluminium-silicon alloys (page 773, below Fig. 4.41). Similarly, D15 teaches that copper reduces the melting point of aluminium brazing alloys and that zinc, which should be provided in an amount greater than 9.3% (outside the range according to claim 1 of the patent in suit), enhances the effect of copper (col. 2, lines 56 to 65). Accordingly, D9 and D15 are not more relevant than D4, which discloses the effect of copper and zinc on the melting point of aluminium-silicon alloys.

D10 and D11 disclose aluminium-silicon alloys having a content of copper lower than that required by claim 1 of the patent in suit (D10: up to 0,5%, see claims 1 and 10; D11: 0.25%, see col. 2, lines 26 to 32). D12 discloses aluminium-silicon brazing alloys for which copper is not mentioned as an alloying element (see Table 2A). Therefore, these documents would not suggest an increase of the copper content in the alloy constituting the closest prior art.

D13 discloses that (col. 3, lines 50 to 53) "*in general, aluminium base alloys containing 5 to 15% Si, with or without additions of 1 to 10% Zn or 0.2 to 5% Cu or both are very satisfactory*". Analogously to D1, this disclosure is to be regarded as a general disclosure that merely gives the possible amounts of the constituents zinc and copper, without teaching how these amounts should be in relation to each other when both are present. Moreover, D13 does not mention the content of iron.

D14 does not relate to brazing alloys, but to alloys for forming wrought products such as fin or tube stocks for heat exchangers. It discloses an aluminium alloy comprising, generally, 2 to 13% Si, max 4% Zn, max 1% Fe, max 1% Cu, but also further additional elements such as strontium, which is described as an essential element (see page 2, lines 53 to 56 and page 3, lines 16 to 21). It is not apparent why the skilled person, seeking to solve a problem related to a brazing alloy, would turn to D14 which relates to an aluminium alloy not intended for that purpose and having further alloying elements making it suitable for forming wrought products.

Finally, D16 was cited because it discloses that iron is the most common impurity found in aluminium. This undisputed fact, however, has no impact on the above reasoning in respect of inventive step.

3.5 From the above it is evident that none of the late-filed documents D9 to D16 is prima facie sufficiently relevant for being admitted into the proceedings. Hence,

D9 to D16 are disregarded pursuant to Article 114(2) EPC.

4. Therefore, the Opposition Division's decision to reject the opposition must, in effect, be confirmed.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar: The Chairman:

G. Rauh P. Alting van Geusau