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**Datasheet for the decision  
of 24 May 2022**

**Case Number:** T 0791/17 - 3.3.02

**Application Number:** 12161345.9

**Publication Number:** 2607471

**IPC:** C12G1/00, B67C3/02, B65D17/00

**Language of the proceedings:** EN

**Title of invention:**  
Wine packaged in aluminium containers

**Patent Proprietor:**  
Intelligent Packaging Pty Ltd.

**Opponents:**  
Ardagh Metal Beverage Europe GmbH  
Ball Beverage Packing Europe Limited  
Sektellerei Peter Herres GmbH

**Headword:**

**Relevant legal provisions:**  
EPC Art. 56  
RPBA 2020 Art. 13(2)

**Keyword:**

Inventive step  
Amendment after summons

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**

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Case Number: T 0791/17 - 3.3.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.02**  
**of 24 May 2022**

**Appellant:** Ardagh Metal Beverage Europe GmbH  
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**Respondent:** Intelligent Packaging Pty Ltd.  
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**Decision under appeal:**      **Decision of the Opposition Division of the  
European Patent Office posted on 26 January 2017  
rejecting the opposition filed against European  
patent No. 2607471 pursuant to Article 101(2)  
EPC.**

**Composition of the Board:**

**Chairman**                    M. O. Müller  
**Members:**                    P. O'Sullivan  
                                     P. de Heij

## Summary of Facts and Submissions

- I. The appeals of opponents 1 and 2 (hereinafter appellants 1 and 2) lie from the decision of the opposition division to reject the oppositions against European patent 2 607 471.
- II. Three notices of opposition were filed against the patent, invoking Article 100(a) (lack of novelty and inventive step) and (b) EPC.
- III. The following documents *inter alia* were cited in opposition proceedings and invoked by the parties in appeal proceedings:

D1: WO 2006/026801 A1

D22: Stelzer et al., Taming the Screw, Wine Press, 2005

D39: Affidavit - Greg Stokes, dated 6 March 2013

D40: Affidavit - Steve Barics, dated 18 March 2013

According to the contested decision, the subject-matter of the granted claims was novel over D1, and involved an inventive step starting from *inter alia* D1 as closest prior art.

- IV. During written appeal proceedings, the patent proprietor (hereinafter respondent) submitted the following document:

D43: Zoecklein, Enology Notes #97, January 13, 2005

as well as test data in the form of tables, denoted by the board as follows:

Tests 1: tables E and F; pages 13 and 14 of the reply  
Tests 2: tables 1 and 4; pages 21 and 22 of the reply  
Tests 3: tables A, B and C; pages 24 and 25 of the  
reply  
Tests 4: tables Ea and Fa on pages 10-11 of the  
letter dated 24 March 2022

V. Requests relevant to the present decision

Appellants 1 and 2 requested that the decision under appeal be set aside and that the patent be revoked in its entirety. Appellant 2 furthermore requested that Tests 1, 2, 3 and 4 and documents D39 and D40 not be admitted into the proceedings.

The respondent requested that the decision of the opposition division be confirmed and that the patent be maintained as granted, implying dismissal of the appeals and rejection of the oppositions.

VI. With a communication pursuant to Article 15(1) RPBA 2020, the board set out its preliminary opinion. Therein, the board *inter alia* expressed the view that granted claim 1 was novel over D1.

VII. The board summoned the parties to oral proceedings, which were held by videoconference on 24 May 2022 in the presence of appellants 1 and 2 and the respondent.

VIII. Independent claim 1 of the main request (claims as granted) reads as follows:

*"A filled aluminium container containing a wine **characterised in that** the maximum oxygen content of the head space is 1 % v/v and the wine prior to filling is micro filtered and dissolved oxygen levels throughout the aluminium container filling process are maintained up to 0.5 mg/L and final levels of dissolved CO<sub>2</sub> are from 50 ppm for white and sparkling wines and from 50 ppm to 400 ppm for red wines, prior to filling the container, wherein the filled aluminium container of wine has a molecular sulphur dioxide content of between 0.4 and 0.8 mg/L"*

IX. The submissions of the appellants, insofar as relevant to the present decision, may be summarised as follows:

Inventive step - Article 100(a) and 56 EPC

- D1 was a suitable starting point for the skilled person in the assessment of inventive step. The subject-matter of claim 1, if at all novel, was distinguished from the disclosure in D1 only in that the dissolved oxygen levels throughout the aluminium container filling process was maintained up to 0.5 mg/L.
- The allegation of fact that claim 1 was further distinguished from D1 by the molecular sulphur dioxide content represented an amendment of the respondent's case, which was not to be admitted into the proceedings.
- The subject-matter of claim 1 lacked inventive step starting at D1, *inter alia* in combination with D22.

X. The submissions of the respondent, insofar as relevant to the present decision, may be summarised as follows:

Inventive step - Article 100(a) and 56 EPC

- D1 was a suitable starting point in the assessment of inventive step. Claim 1 was distinguished from the disclosure in D1 in that:
  - dissolved oxygen levels throughout the aluminium container filling process were maintained up to 0.5 mg/L, and
  - the molecular sulphur dioxide content was between 0.4 and 0.8 mg/L.
  
- The allegation of fact that the latter feature was a distinguishing feature over D1 was to be admitted into the proceedings, because it was in response to observations of the board addressed in its communication pursuant to Article 15(1) EPC.
  
- The subject-matter of claim 1 involved an inventive step starting from D1, *inter alia* in combination with D22.

### **Reasons for the Decision**

Inventive step - Article 100(a) and 56 EPC

1. The patent

The contested patent relates to aluminium containers filled with wine (patent, paragraph [0001]) and aims to maintain the wine's integrity and shelf life under global transport and storage conditions (patent, paragraph [0009]).



2. Closest prior art

All parties agreed that document D1 was a suitable starting point for the assessment of inventive step.

D1 is a patent document and concerns a process for packaging wine in aluminium containers (page 1, lines 3-5). The board thus sees no reason to differ.

3. Distinguishing features

Contested claim 1 (supra) concerns a filled aluminium container containing a wine characterised in that:

- the maximum O<sub>2</sub> content of the head space is 1% v/v;
- the wine prior to filling is micro filtered,
- the dissolved O<sub>2</sub> levels throughout the aluminium container filling process are maintained up to 0.5 mg/L,
- final levels of dissolved CO<sub>2</sub> are from 50 ppm for white and sparkling wines and from 50 ppm to 400 ppm for red wines, prior to filling the container, and
- the filled aluminium container of wine has a molecular sulphur dioxide content of between 0.4 and 0.8 mg/L.

In the sole example according to D1, a white wine is prepared and canned (i.e. filled into an aluminium container according to contested claim 1). The wine is described according to the example as having *inter alia* the following characteristics (following the order recited in claim 1, above):

- the O<sub>2</sub> content of the head space is 1% v/v (D1, page 9, line 25);
- the wine is micro filtered (page 9, lines 22-23);
- the dissolved O<sub>2</sub> level is 0.7 g/l (page 9, lines 21-22);
- the dissolved CO<sub>2</sub> level is 0.6 g/l (= 600 ppm; page 9, lines 21);
- the "free SO<sub>2</sub>" content is 20 mg/l (page 9, line 14);
- the pH is 3.44 (page 9, line 13).

The wine of the example of D1 thus comprises an oxygen content of the head space and a dissolved CO<sub>2</sub> level as required by contested claim 1, and is micro filtered. The remaining features of contested claim 1, namely the molecular sulphur dioxide content and the dissolved O<sub>2</sub> levels, are addressed separately in the following.

3.1 The molecular sulphur dioxide content - admittance of a new allegation of fact submitted for the first time at oral proceedings

3.1.1 From the pH and the "free SO<sub>2</sub>" content provided for the wine of the example of D1, both appellants calculated (on the basis of common general knowledge) a molecular sulphur dioxide content as required by contested claim 1 using the following equation:

$$\text{Molecular SO}_2 = \text{freeSO}_2 / (1 + 10^{(\text{pH}-1.8)})$$

and arrived at figures of approximately 0.45 mg/l (appellant 1, statement of grounds of appeal, 4.3.6; appellant 2, statement of grounds of appeal, 3.17 - 3.19), thus falling within the range of 0.4 - 0.8 mg/l required by contested claim 1.

- 3.1.2 As noted in the communication of the board pursuant to Article 15(1) RPBA, the respondent's submission in writing that the example of D1 taught all of the features of contested claim 1, with the exception of the dissolved oxygen level, indicated that it accepted the appellants' calculation of the molecular SO<sub>2</sub> content of the wine of the example of D1 (reply to the grounds of appeal, page 8, penultimate full paragraph). In its further letter dated 24 March 2022, the respondent submitted further arguments on the basis that solely the dissolved oxygen feature distinguished granted claim 1 from D1 (e.g. page 8, final paragraph).
- 3.1.3 During oral proceedings however, the respondent submitted that despite the correctness of the above calculation, the claimed sulphur dioxide content was nevertheless an additional distinguishing feature over the example of D1. Specifically, as the board had noted in its communication pursuant to Article 15(1) RPBA (page 16), the dissolved oxygen level of the wine listed in the example of D1 referred to the wine **before** filtering and canning. This observation had led the respondent to reconsider and reinterpret the example of D1, and in particular to realise that the level of free sulphur dioxide disclosed therein referred to the situation before filtering and canning. According to paragraph [0025] of the patent, the free sulphur dioxide depletion rate was approximately 2-3 ppm per days during transport and storage of the wine at the filling facility. Since D1 provided no information regarding the sulphur dioxide level of the filled aluminium container, it did not directly and unambiguously disclose a filled aluminium container containing a wine having a molecular sulphur dioxide content as claimed.

3.1.4 Submitted for the first time at oral proceedings, the admittance into the proceedings of this new allegation of fact was assessed pursuant to Article 13(2) RPBA 2020. This provision applies to the present proceedings in view of Article 25(1) RPBA 2020.

According to Article 13(2) RPBA 2020, any amendment to a party's case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.

3.1.5 The board's view is as follows. The respondent's submission constitutes an amendment of its case. Firstly, as set out above, up until the oral proceedings, the respondent has relied on one distinguishing feature only, namely the dissolved oxygen content. The allegation that the claimed molecular sulphur dioxide content does not fall within the range of contested claim 1, and hence represents an additional distinguishing feature, is entirely new and possibly leads to a very different assessment of inventive step. For this reason, the allegation constitutes an amendment of the respondent's case.

3.1.6 The respondent submitted that in its written submissions concerning inventive step, it had addressed the influence of the oxygen level on the molecular sulphur dioxide content, and thus indirectly, as the board understands it, that the molecular sulphur dioxide content was an important feature of the invention. However, attributing particular importance to a specific combination of features is not equivalent to singling out one of those features as a distinguishing feature over the prior art, and

therefore this argument must fail. Hence, the board's conclusion that the respondent's new submission corresponds to an amendment of its case remains valid.

- 3.1.7 There are furthermore no exceptional circumstances justifying the amendment of the respondent's case only during the oral proceedings before the board.

The respondent submitted that the new allegation of fact had been submitted in response to the board's communication. However, although the board in its communication pursuant to Article 15(1) RPBA understood the example of D1 in a certain way, it is for the respondent to make its own case and not rely on an interpretation by the board to provide it with second thoughts regarding the disclosure of a document. Admitting said allegation of fact at the very final stage of appeal proceedings, namely during oral proceedings, would have been unfair to the appellants, who could not have been prepared in this regard.

- 3.1.8 The respondent also submitted that the burden of proof lay with the appellants to show that the molecular sulphur dioxide feature disclosed in D1 was according to contested claim 1. The board notes however that in written proceedings, said burden had been discharged by the appellants by virtue of the above calculation regarding the molecular sulphur dioxide content in the example of D1, and the respondent's apparent acceptance thereof as set out above.

- 3.1.9 Pursuant to Article 13(2) RPBA 2020, the board thus decided not to admit into the proceedings the new allegation of fact that the claimed molecular sulphur dioxide content constituted an additional distinguishing feature over D1.

3.1.10 In consequence, it must be assumed that the example of D1 discloses a molecular SO<sub>2</sub> content of approximately 0.45 mg/l as calculated by the appellants (supra), as required by contested claim 1.

### 3.2 Dissolved oxygen levels

Contested claim 1 requires that the dissolved oxygen levels throughout the aluminium container filling process are maintained up to 0.5 mg/L. As set out above, the example of D1 discloses a dissolved O<sub>2</sub> level of 0.7g/l, and is silent with regard to the oxygen level during the container filling process.

In this context, all parties agreed that the dissolved O<sub>2</sub> level of 0.7 g/l recited in the example of D1 was an error, and that the correct figure (which would be understood by the skilled person) was 0.7 mg/l. It was therefore accepted that the example disclosed a wine having a dissolved oxygen level of 0.7 mg/l, which was above the upper level of 0.5 mg/l at which oxygen levels are maintained throughout the aluminium container filling process recited in contested claim 1.

The appellants, in the context of their objections concerning novelty, submitted that this feature was nevertheless disclosed in D1. Specifically, the description of D1 disclosed that "[p]referably the dissolved level of oxygen in the wine is less than 1 ppm and more preferably less than 0.5 ppm" (corresponding to 1 mg/l and 0.5 mg/l respectively; D1, page 7, lines 26-28). The skilled person therefore would have read the value of 0.5 mg/l into the example of D1.

During oral proceedings however, to the respondent's advantage, it was assumed that feature "the dissolved oxygen levels throughout the aluminium container filling process are maintained up to 0.5 mg/L" distinguishes the subject-matter of contested claim 1 from the disclosure in D1.

### 3.3 The objective technical problem

The parties agreed that the technical effect of the distinguishing feature was an improved shelf life of the wine in an aluminium container.

The respondent formulated the objective technical problem as how to achieve an extended shelf life of a packaged wine when prepared by the process as defined by claims 1 to 9 in document D1.

In the respondent's favour, the board considers this problem to be the objective technical problem underlying the subject-matter of contested claim 1.

### 3.4 Obviousness

3.4.1 The appellants submitted that the solution to the objective technical problem proposed in contested claim 1 was obvious in view of document D1 taken alone, or document D1 in combination with *inter alia* document D22. It was argued that the skilled person would have known that oxidation of wine was detrimental to quality over time and that to improve shelf life, it was mandatory to minimise oxygen pick up during the aluminium container filling process, specifically to a level lower than 0.5 mg/L.

3.4.2 The board agrees with the appellants' position. The example of D1 teaches the canning of a wine having a dissolved oxygen level of 0.7 mg/L. As noted by the respondent, this means that the final canned wine had a dissolved oxygen level of above 0.7 mg/L, since some oxygen ingress is to be expected during the bottling process. However, the description of D1 provides further information regarding the wine when stored in the can, i.e. after canning. In the context of the reduction in the amount of carbon dioxide present (the focus of D1), it is taught that in addition to ensuring very low levels of oxygen in the head space, preferably the dissolved oxygen level in the wine is less than 1 ppm and more preferably less than 0.5 ppm (D1, page 7, lines 24-27; corresponding to 1 mg/L and 0.5 mg/L respectively). Therefore, D1 already indicates that, in a preferred aspect, the oxygen level in the canned wine is less than 0.5 mg/L. If the level of oxygen in the canned wine is less than 0.5 mg/L, it follows that the level of oxygen during filling thereof must be the same, or lower.

3.4.3 As submitted by the appellants, the skilled person also knew from document D22 that in order to prevent premature wine deterioration (and thus poor shelf life), dissolved oxygen was to be maintained as low as possible, including during the filling process. D22, a manual for winemaking with screw caps, addresses reducing oxygen uptake during bottling, and states that minimising the amount of oxygen which enters the wine is a key priority throughout the bottling process, and that this aspect was more crucial immediately before and during bottling than at any other stage of winemaking (page 125, third paragraph). Various methods for reducing oxygen uptake are then addressed, including adjustments to the wine flow during filling



(page 126), the use of inert gases (pages 127-128), and "snow-dropping", the use of dry ice, which introduces carbon dioxide by sublimation (page 128-129). Using the latter method, D22 states that a particular Australian winery (Yalumba) was able to guarantee levels of dissolved oxygen below 0.5 mg/L, and most often at less than 0.2 mg/L after bottling (page 129, first full paragraph). This demonstrates that the skilled person knew that oxygen levels were to be minimised during the bottling process, in particular with a view to increasing the shelf life of the bottled wine.

Hence, wishing to solve the above-mentioned problem, the skilled person, in view of D22, would have sought to prepare a wine according to the example of D1, but having the preferred level of dissolved oxygen disclosed in the description of less than 0.5 mg/L, and thereby would have arrived at the subject-matter of contested claim 1.

3.4.4 The respondent's arguments to the contrary failed to convince the board.

First, it was argued that the prior art knowledge in relation to the level of dissolved oxygen (represented by *inter alia* D22) related to bottled wines and did not apply to wines in aluminium containers. The practice and methods of packaging and storage of canned wines and bottled wines were distinct from one another. In particular, in a bottled wine, a certain amount of maturation of the wine (induced by oxygen) was desirable, while a canned wine was not intended to age on storage. Document D43, for example, taught that the level of oxygen desirable in the wine may be dependent on the closure selected (D43, first page, final paragraph).

However, the shelf life of a wine is affected by the level of dissolved oxygen in the wine itself, which causes oxidation of the wine. Hence, oxidation of wine is a problem which is solved by a low level of dissolved oxygen, independently of the type of container employed. Furthermore, D1 itself recites a preferred dissolved oxygen level of below 0.5 mg/L, which is thus in line with the levels taught in the bottling art represented by D22. It would be a different situation had the teaching of the prior art in relation to bottling been attempted, and failed, and another solution had been proposed. Rather, in the present situation, contested claim 1 results from the application of a known teaching in a similar context (the packaging of wine in bottles), to achieve the same outcome in the same way.

This conclusion does not imply that the respondent's contention that the packaging and storage of canned wines and bottled wines are distinct from one another is incorrect. Rather, there is no evidence that the specific relationship between dissolved oxygen levels and shelf life would not apply to both packaged products. Furthermore, the respondent's argument that in contrast to bottled wine, wine in cans should not age, would only serve to incentivise the skilled person to lower the dissolved oxygen to a level as low as possible in the canning process. In this context, the respondent argued that D43 teaches that there are differences in closure systems. However, while this is not to be denied, it also teaches that desirable reactions taking place in a bottle require little or no oxygen (page 1, paragraph 3), and teaches upper limits for oxygen content: for example, 0.2 mg/L for Riesling, and the ability of certain wines, such as red wines to

"withstand higher oxygen concentrations at bottling, up to about 0.7 mg/L" (D43, page 2, first and second paragraphs). D43 does not indicate any lower limit to oxygen content, and there is therefore nothing in D43 which would prevent the skilled person starting at the example of D1 from working within the preferred lower limit of less than 0.5 mg/L dissolved oxygen disclosed elsewhere in D1. Hence, inventive step cannot be acknowledged on this basis.

- 3.4.5 Second, the respondent argued that the skilled person would not have adapted the example of D1 to maintain dissolved oxygen levels below 0.5 mg/L throughout the filling process and thereby prepare a wine with a lower dissolved oxygen level. Specifically, in doing so, the delicate equilibrium between the level of sulphur dioxide and dissolved oxygen would have been impaired. This equilibrium was derivable from D1, in which, directly following the teaching that the dissolved oxygen level in the wine was more preferably below 0.5 mg/L, it was taught that for canning wine, it was required to use relatively low levels of sulphur dioxide (D1, page 8, lines 26-29). The skilled person would have expected that impairing said equilibrium would lead to the generation of sulphur anions which in turn would provide for corrosion in the aluminum can. The respondent also pointed to figure 1 of the patent.

For the sake of clarity, this argument cannot concern the sulphur dioxide content in the example of D1, since, as set out above, this is not a distinguishing feature over contested claim 1. Therefore, any problem with corrosion in the aluminium can related to the level of sulphur dioxide *per se* had already been solved in D1. Rather, the argument concerns the effect of a

combination of the sulphur dioxide content and the dissolved oxygen level. The board notes that despite teaching a preferred dissolved oxygen level of below 0.5 mg/L (D1, page 7, lines 26-28), which is below the level achieved in the sole example thereof, D1 neither mentions nor hints at the existence of any such equilibrium. It therefore does not teach the skilled person away from reducing the dissolved oxygen level in the example thereof. Such an equilibrium also cannot be read into the statement in D1 that low levels of sulphur dioxide were required, solely by virtue of the fact that it follows a statement therein concerning the preferred dissolved oxygen level.

Furthermore, the patent itself also fails to provide any evidence that the postulated equilibrium was part of the common general knowledge before the priority date of the patent. Specifically, figure 1 demonstrates a relationship between sulphur dioxide levels and microbial deterioration of the wine, and indicates an optimum sulfur dioxide level of 35 ppm. It is however silent on any effect thereon related to dissolved oxygen levels.

Additionally, even if such a delicate equilibrium were to exist, it is not apparent, and no explanation was provided by the respondent, why its impairment would lead to a higher level of sulfur anions (and thus higher corrosion), given that the sulfur dioxide level in the example of D1 does not differ from the claimed level, as set out above. Hence, there is no evidence of a delicate equilibrium between sulphur dioxide and dissolved oxygen levels, and thus nothing which would prevent the skilled person, in order to solve the above-mentioned problem, from preparing a filled

aluminium container containing a wine according to contested claim 1.

3.5 Further evidence

Tests 1, 2, 3 and 4 were submitted by the respondent to demonstrate that the effect of the distinguishing feature of contested claim 1 as set out above was one of improved shelf life of the wine in an aluminium container. Since at oral proceedings the appellants confirmed that this effect was not contested, there was no need for the board to address said tests.

Documents D39 and D40 were submitted by the respondent in opposition proceedings. Appellant 2 requested that they not be admitted into appeal proceedings. However, these documents were only addressed briefly in the respondent's arguments in the context of disadvantages associated with sparging with nitrogen gas (respondent's letter dated 24 March 2022, page 20, fifth paragraph) and were therefore of no relevance to the present decision. There was therefore no need for the board to address their admittance into the proceedings.

3.6 For the foregoing reasons, the ground for opposition under Article 100(a) EPC in combination with Article 56 EPC prejudices the maintenance of the patent as granted.

4. Since there were no further claim requests on file, the patent was revoked.

**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:



N. Maslin

M. O. Müller

Decision electronically authenticated