

**OPINION UNDER SECTION 74A**

Patent	EP 2801443 B1
Proprietor(s)	Phibo Industries BVBA
Exclusive Licensee	
Requester	Barker Brettell LLP
Observer(s)	Harrison IP, on behalf of the proprietor
Date Opinion issued	29 March 2018

**The request**

1. The comptroller has been requested by Barker Brettell (“the requester”) to issue an opinion as to whether patent EP 2801443 B1 (“the patent”) is valid. The request includes evidence in the form a number of documents, labelled E1-E13, and asks for an opinion on whether the claims of the patent are novel and involve an inventive step over these documents.

**Observations and observations in reply**

2. Observations on the request were filed by Harrison IP on behalf of Phibo Industries BVBA (“the proprietor”). Subsequently, observations in reply were filed by the requester.
3. I note that the requester’s observations in reply include a considerable amount of additional evidence that was not included with the original request. This additional evidence includes replacement pages 132-135, 292 and 293 of document E1. These replacement pages appear to include several lines of text omitted from the copies of those pages filed originally with the request. The additional evidence also includes numerous additional pages of document E1 (pages vii-x, 131, 136-138, 291 and 294-311), a second copy of document E6 obtained from the British Library, and several additional documents labelled E4a, E4b, E4c, E10a, E10b, E10c, E10d and E14.
4. Rule 96(4) stipulates that “A person to whom observations are sent under paragraph (3) may ... file observations confined strictly to matters in reply” (my emphasis). In my opinion, the additional evidence included with the requester’s observations goes beyond the definition of “observations confined strictly to matters in reply”. This is because I believe that the additional evidence is not confined to observations directed at the observations provided by the proprietor. Instead, I believe the additional evidence relates to additional factual information that is aimed at

strengthening the case advanced initially in the request. I note that rule 93(1) requires that a request for an opinion under section 74A “must be accompanied by ... a statement setting out fully– ... (c) any matters of fact which are requested to be taken into account.” (My emphasis.) The reasons for this are explained in the Opinions Manual<sup>1</sup>. The opinions procedure is intended to be a relatively quick and simple one and is, therefore, based on the exchange of written observations on the matter in dispute. This means that the onus is on the requester, as required by rule 93(1), to set out fully any matters of fact that they wish to be considered at the outset of the procedure. In this case, if the requester had included the additional evidence in their original request then the proprietor would have been allowed an opportunity to make observations on it under rule 96(4). The proprietor would, effectively, be denied that opportunity if I were to allow the additional evidence filed with the observations in reply to be introduced. I believe that this would be unfair to the proprietor. Hence, for the purposes of this opinion, I have disregarded all of the pages of document E1, the additional copy of E6, and additional documents E4a, E4b, E4c, E10a, E10b, E10c, E10d and E14 filed with the observations in reply.

## **The patent**

5. The patent is entitled, “Processing medium for processing stainless steel or other metallic surfaces, method for processing stainless steel or other metallic surfaces using such a processing medium and nozzle arranged to be fitted on a process gun” and was filed on 7 May 2013 with no declaration of priority. It follows that the priority date of the present invention is 7 May 2013. The patent was granted on 4 November 2015 and it remains in force.
6. The subject matter of the patent relates to a processing medium for processing stainless steel or other metallic surfaces. The processing medium is adapted to be ejected out of a nozzle of a process gun by compressed air and may be used to clean or degrease stainless steel (or other metallic) surfaces. The invention is particularly concerned with the composition of the processing medium. The processing medium is a suspension that includes a liquid (for example, water) and a mixture of a least two different types of products consisting of chemically-inert abrasive particles. In examples described in the patent, the particles include irregularly-shaped abrasive particles and spherically-shaped abrasive particles. The irregularly-shaped particles only consist of fused alumina particles and the spherically-shaped abrasive particles may be glass beads. The patent explains that when stainless steel is treated, very pure and iron-free fused alumina particles have to be used since otherwise there is a risk of iron-inclusion in the stainless steel surface, risking unwanted oxidation or corrosion of the surface. Soluble chemical additives may also be added to the suspension. Such additives may include a biocide agent for disinfecting the processed surface (especially important in the food, dairy or pharmaceutical industries), a degreasing agent for reconditioning old surfaces, a corrosion inhibitor to protect treated surfaces from rust or a passivation agent for accelerating auto passivation of stainless steel.

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<sup>1</sup> See sections 1.1, 2.3 and 4.2.

## Claim 1

7. The patent contains claims 1-17 of which claim 1 is the sole independent claim. I shall begin by considering claim 1. It will only be necessary for me to go on to consider dependent claims 2-17 if I find that claim 1 lacks novelty or an inventive step. Adopting the lettering of features used in the request, claim 1 defines the invention in the following terms:
  - a) A processing medium for processing stainless steel or other metallic surfaces,
  - b) wherein said processing medium is adapted to be ejected out of a nozzle of a process gun by compressed air,
  - c) said processing medium consists out of a suspension
  - d) comprising a liquid and mixture of at least two different types of products
  - e) consisting of chemically inert abrasive particles,
  - f) CHARACTERISED IN THAT said particles at least comprise particles having an irregular shape,
  - g) said particles being dispersible in said liquid,
  - h) said irregular shaped particles consist of fused alumina particles,
  - i) said fused alumina particles are substantially iron-free.

## Claim construction

8. Before proceeding I must construe claim 1. That is to say, I must interpret claim 1 in light of the description and drawings as required by Section 125(1) and take account of the Protocol on the Interpretation of Article 69 of the European Patent Convention (EPC) as required by section 125(3). In doing so, I must give the claim a purposive construction<sup>2</sup> and ask what the person skilled in the art would have understood the patentee to be using the language of the claims to mean.
9. The requester identifies the skilled person as “a process gun designer, particularly one who utilises processing medium for processing stainless steel and other metallic surfaces”. This does not appear to be disputed by the proprietor. I agree with the requester’s identification of the skilled person.
10. Feature a) defines that the “processing medium [is] for processing stainless steel or other metallic surfaces”. I agree with the requester that the skilled person would understand this to mean that the processing medium is *suitable for* processing metallic surfaces.
11. I agree with the requester that feature b) would be clearly understood by the skilled person. It requires that the processing medium is “adapted to be” – i.e. *suitable for* being – ejected out of a nozzle of a process gun by compressed air.
12. Feature c) requires that the “processing medium consists out of a suspension”. I agree with the requester that the skilled person would interpret the words “consists

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<sup>2</sup> In *Generics UK Ltd (t/a Mylan) v Yeda* [2017] EWHC 2629 (Pat), Arnold J confirmed (at 134) the continuing requirement to interpret patent specifications purposively, having considered the earlier judgment of the UK Supreme Court in *Actavis v Eli Lilly* [2017] UKSC 48.

out of" narrowly as meaning that the processing medium *only* consists of a suspension. It would be understood from paragraph [0032] that term "suspension" takes its usual meaning in the art, i.e. a solid substance which is suspended in a liquid. Paragraph [0063] makes it clear that a suspension is also known as a "slurry".

13. Feature d) goes on, straightforwardly, to define that the suspension of feature c) includes a liquid and a mixture of at least two different types of products, i.e. two types of products that are *not* the same, as explained in paragraph [0063]. Paragraph [0064] gives examples of types of products that may be used, e.g. fused alumina particles having an Al<sub>2</sub>O<sub>3</sub>-content of 95 % - 99.8 % by weight or glass beads having a SiO<sub>2</sub>-content of 50% to 80% by weight. From this the skilled person would understand that a "product" does not necessarily comprise, or consist of, a single compound.
14. Feature e) qualifies feature d) by defining the at least two different types of products as "consisting of chemically inert abrasive particles". I agree with the requester that the words "consisting of" would be interpreted narrowly to mean that each of the at least two different types of products *only* consist of chemically inert abrasive particles. I also agree that, in light of paragraph [0033], the term "chemically inert abrasive particles" would be understood as meaning that the abrasive particles are particles which will chemically not interact with other products and which will not resolve in a liquid.
15. Feature f) defines that the chemically inert abrasive particles (of feature e)) "at least comprise particles having an irregular shape". I agree with the requester that the term "irregular shape" would be understood to take a particular meaning in light of paragraph [0033]. Paragraph [0033] explains that an "irregular shaped particle" means "any form of particle which is not spherical, said particle more specifically having round or sharp angles".
16. I agree with the requester that feature g) would be understood to have its usual meaning of the particles being spread within the liquid to form the suspension and that this is inherent from the term "suspension" (defined earlier in feature c)).
17. Feature h) defines that the "irregular shaped particles consist of fused alumina particles". Once again, I agree with the requester that the words "consist of" would be interpreted narrowly by the skilled person to mean that the irregular shaped particles *only* consist of fused alumina particles. I also accept, as the requester says, that the term "fused alumina" is a term in the art that would be readily understood as meaning substances containing aluminium obtained from the fusion of alumina and that it is typically used to refer to aluminium oxide (Al<sub>2</sub>O<sub>3</sub>).
18. Feature i) further qualifies feature h) by specifying that the "fused alumina particles are substantially iron-free". The requester notes in their observations in reply that the patent does not substantiate the meaning for the term "substantially iron-free". I agree. However, I note that paragraph [0035] describes that for processing stainless steel "it is necessary to use very pure and iron-free Al<sub>2</sub>O<sub>3</sub> particles", or as paragraph [0064] puts it, "very pure and iron-free fused alumina particles have to be used". I therefore believe that the skilled person would understand the term "substantially iron-free" to have its normal or ordinary meaning in the art. For example, I agree with the requester, as they argue in the request, that this term would be understood to

mean, or at least to cover, particles of pure fused alumina, also known as virgin alumina.

19. The requester argues (correctly, in my opinion) that the combined effect of features f) and h) means that *at least one* of the “at least two different types of products” (defined in feature d)) are solely irregularly shaped fused-alumina particles. I believe it therefore follows that the combined effect of features d), e), f), h) and i) is that *at least one product* of the “at least two different types of product” must solely consist of irregular-shaped, fused alumina particles that are substantially iron-free. This in turn means that *the other product* of “the mixture of at least two different types of product” must include chemically-inert particles of a product type that is *different* to the first product.

## Document E1

20. According to the requester, E1 consists of extracts from the following book: *Plaster, H. (1972). Blast cleaning and allied processes. 1<sup>st</sup> ed. London: Industrial Newspapers*. The extracts provided by the requester are a copy of pages 132-135 and pages 292-293 of this book. The proprietor observes that these are limited extracts in the form of bad copy. They say that certain passages are illegible and that some sentences at the bottom of certain pages are broken off or not entirely present. I have to say that I agree. In my opinion, poor reproduction at the foot of most of the pages supplied means that there are incomplete, missing or illegible sentences at the foot of each of pages 132, 133, 135, 292 and 293. I would also note that, as a consequence of poor reproduction at the foot of pages 132 and 292, the sentences at the top of each of pages 133 and 293 are necessarily incomplete. Whilst I accept that there are some problems with the reproduction of pages 132, 133, 135, 292 and 293, I believe that the vast majority of these pages have nevertheless been reproduced clearly and legibly. As a result, I believe it is appropriate for me to proceed by considering the information contained in the reproductions of pages 132-135, 292 and 293 at face value. That is to say, I shall proceed by considering what I believe the skilled person would understand to be disclosed by these pages in the form that they were supplied by the requester in their request.
21. I would also note that none of the pages provided by the requester include an explicit publication date for E1; the requester simply asserts in their request that the publication date is 1972. While the proprietor argues that there is no possibility to “verify authenticity” of the limited extracts from E1, I do not believe that the proprietor has explicitly disputed the publication date of E1. Indeed, the proprietor appears to acknowledge the existence of E1 by observing that copies of the book are available for sale online. Based on the information that I have been given, I am satisfied that, on the balance of probabilities, E1 was published in 1972. My opinion is that E1 forms part of the state of the art under section 2(2) of the act.

## Novelty

22. The requester’s primary case is that claim 1 lacks novelty over document E1. They argue that all of the features of claim 1 are disclosed by E1. The proprietor says that, on the contrary, E1 does not disclose the combination of features c), d), e), f), h) and

i). Since there does not appear to be any dispute over features a), b) and g), I shall proceed by concentrating on whether features c), d), e), f), h) and i) are disclosed by E1.

*Feature c)*

23. For feature c), the requester relies on the beginning of page 293 which discloses:

*stream of abrasive suspended in a liquid accelerated with or without the aid of compressed air. The actual method of projecting the abrasive/water mixture, often referred to as a slurry...*

I have exercised some caution when assessing this passage because poor reproduction of the preceding page (page 292) means that the first sentence is necessarily incomplete. However, I believe the skilled person would at least understand from the second sentence of this passage that E1 discloses “a slurry”, i.e. a suspension, as required by feature c). I would add that I believe that this is reinforced by page 134 which teaches that:

*Aluminous-oxide is used wet as a slurry in the vapour basting or liquid honing process (see separate section).*

I also accept, as the requester says, that there is no suggestion in E1 that additional products are used alongside the slurry. In my opinion, feature c) is disclosed by E1.

*Features d) and e)*

24. I shall deal with features d) and e) together because the requester relies on a single passage from page 135 as a disclosure of both features:

*A typical mixture of reclaimed abrasives produced from old grinding wheels would contain material other than aluminous-oxide, as for example:*

*White alumina  
Brown alumina  
Ruby grain  
Black silicon carbide  
Green silicon carbide.*

I believe that the skilled person would understand that this passage refers to the sort of abrasive mixture that might be expected to be achieved if one were to recycle old grinding wheels. This sort of abrasive mixture would be understood to comprise abrasive particles of two different products. However, as I have construed feature (d) at paragraph 14 above, it requires that *the suspension* (or slurry) includes a liquid and a mixture of at least two different types of products, i.e. two types of products that are not the same. I believe the skilled person would understand that this passage is silent upon whether or not such a mixture should be used in the form of a suspension or slurry. Hence, in my opinion, E1 does not disclose a clear and unmistakable direction to the skilled person that such a mixture of two or more different products could or should be used in the form of a slurry as required by feature (d). I would add that the passage from page 134, discussed in the previous

paragraph, clearly discloses that “aluminous oxide is used wet in a slurry”. However, I agree with the proprietor that, at best, the skilled person would understand this to be a disclosure of a slurry only comprising a *single* product so it does not disclose the “at least two types of products” required by feature d). In my opinion, feature d) is not disclosed by E1.

25. Turning now to feature e), I accept the requester’s argument that the skilled person would understand from the passage on page 135 that the listed abrasives are chemically inert. My opinion is that feature e) is disclosed by E1.

*Features f) and h)*

26. It is convenient to deal with features f) and h) together. For a disclosure of features f) and h), the requester relies upon a passage at the top of page 133:

*The material is produced from a natural clay, known as bauxite which is found selectively within the Earth’s crust... The clay is fused by means of an electric furnace to produce an artificial complex of immense hardness. At this stage, the material is second to the diamond in hardness, and is known as aluminous-oxide (Al<sub>2</sub>O<sub>3</sub>)... The fused bauxite is crushed, screened, washed and in some cases, cured*

and a passage from page 135:

*Aluminous oxide contains no free silica, and because of the high hardness, fractures readily and produces fine dust.*

I believe that these passages explain to the skilled person how fused alumina may be prepared for use as an abrasive. For example, I believe that the skilled person would understand that the first of these passages relates to a (well-known) method of producing fused alumina (Al<sub>2</sub>O<sub>3</sub>) by using an electric furnace and that fused alumina can be processed by crushing. The second passage says that aluminous oxide fractures readily and produces a fine dust. I believe that the skilled person would understand that fused alumina prepared and processed in this way would, necessarily, comprise irregular shaped fine dust (i.e. abrasive particles). In my opinion, features f) and h) are disclosed by E1.

*Feature i)*

27. Regarding feature i), the requester relies upon page 133 which says:

*Whilst some aluminous-oxide may be reclaimed material, for special purposes virgin grain is available, which is iron free and specially refined material may be produced lead free*

and page 134 which says:

*Aluminous-oxide is generally used when fine finishes are required, particularly when no ferrous residue can be tolerated upon a surface finish. An example of this might be the treatment of magnesium alloy when traces of iron dust remaining of the surface could promote electrolytic action.*

I believe that the skilled person would understand these passages to be a clear disclosure that virgin aluminous-oxide is iron free and that virgin aluminous-oxide may be used for special purposes. I believe that this is further emphasised by page 135 which states that:

*Whilst for special applications virgin grain may be used, by far the bulk of aluminous-oxide used in Britain is secondary material. Most of this is produced from old and faulty grinding wheels and worn down stubs.*

In my opinion, E1 discloses feature i) because it discloses that iron-free fused alumina may be used.

28. It is convenient for me to add two further points in respect of feature i) now because they will become relevant for the discussion of inventive step that I will come to later. Firstly, I accept, as the proprietor says, that the skilled person would understand E1 to be making a distinction between “virgin” aluminous oxide (that is considered iron-free) and “reclaimed” aluminous oxide (that, by implication, is not considered iron-free). Secondly, I also agree with the proprietor that the disclosure of feature i) is made in a context that *omits to disclose feature d)*. That is to say, the skilled person would understand that the disclosure of feature i) in E1 is made in relation to “special purposes” or “special applications” that rely simply upon the use of a *single* abrasive product (i.e. virgin aluminous-oxide). Thus, in my opinion, there is no clear and unambiguous disclosure in E1 of a mixture of substantially iron-free fused alumina particles *and* another product for use in a suspension.

#### *Conclusion on novelty over E1*

29. Although I consider that features c), e), f), h) and i) are disclosed by E1, I consider that feature d) is not disclosed by E1. Thus, in my opinion, claim 1 is novel over E1.
30. I would add that the proprietor has questioned whether the two isolated extracts taken from E1 (i.e. pages 132-135 on one hand, and pages 292-293 on the other) can be read together as a single disclosure. In response, the requester argues that page 134 refers the reader to the later vapour blast section that includes pages 292-293: “Aluminous-oxide is used wet as a slurry in the vapour blasting or liquid honing process (see separate section)” (my emphasis). I have to say that I am inclined to agree with the requester here, because the words “VAPOUR-BLASTING AND LIQUID HONING” appear at the very top of page 293. This tends to suggest that pages 292 and 293 belong to the “separate section” referenced on page 134. However, in light of my conclusion on novelty, I do not believe that anything turns on this point because, whether or not these extracts should be read as a single disclosure or as two separate disclosures, they do not disclose feature d).

#### **Inventive step**

31. The requester’s secondary case is that claim 1 lacks an inventive step over E1 when combined with the disclosure of either E2 or E3. In their observations in reply, the requester argues that claim 1 lacks an inventive step over E1 when combined with the disclosures of any of E4, E6a or E10.



### *E1 and E2 or E3*

32. Document E2 is a copy of a web page obtained from the internet archive *The Wayback Machine*<sup>3</sup>. The page is entitled “Fused alumina” and is attributed to “SCANGRIT”. It bears an archive date of 20 August 2011 (i.e. before the priority date of the present invention). This page describes some of the material properties of fused alumina. Amongst other things, it describes that fused alumina is a “synthetic mineral blasting abrasive manufactured by melting bauxite in an electric furnace”, that it has “irregular, angular particle shape” and that it is “suitable for use on stainless steel”.
33. Document E3 is also a web page obtained from *The Wayback Machine*. It is entitled, “Brown Fused Alumina – Duralum Properties and Applications by Washington Mills” and bears an archive date of 6 July 2011. This page gives a description and applications of a product called “DURULUM®”. Amongst other things, it describes the product as being a “virgin, fused brown aluminium oxide (alumina) abrasive” whose shape is “Blocky, with sharp edges”. I accept, as the requester says, that the reference to “virgin” brown alumina in E3 would be understood by the skilled person to mean that the product is substantially iron-free.
34. The proprietor argues that neither E2 nor E3 discloses a mixture comprising of at least *two* different types of products, i.e. as required by feature (d) of claim 1 (that in my opinion is not disclosed by E1). They say that, as a result, none of the combinations of E2 or E3 with E1 can disclose all of the features of claim 1 and that claim 1 is thus inventive. I agree with the proprietor for the reasons they give. I believe the skilled person would understand that each of E2 and E3 gives a disclosure of the properties of a *single* product (i.e. fused alumina in the case of E2 and brown fused alumina in E3). As a result I agree that no combination of these documents could disclosure feature d) of claim 1. In my opinion, claim 1 involves an inventive step over E1 when combined with the teachings of either E2 or E3.

### *E1 and E4*

35. E4 is entitled “SAFETY DATA SHEET; AWA WHITE ALUMINOUS OXIDE” and it is clear that it was produced by a company called Vapormatt Ltd. The parties are in dispute over whether this document was publically available at the filing date of the patent. In this respect I note that the document itself declares that “Details given below are provided for compliance with “The Chemicals (Hazard Information and packaging for supply) Regulations 1994””. The document goes on to state that “Issue date and revision are shown at the bottom of the page” and, correspondingly, the bottom of each page of E4 bears a statement, “Issued July 1996”. I also note that page 3 of E4 states that, “If you have purchased the product for supply to a third party for use at work, it is your duty to take all necessary steps to secure that any person handling or using the product is provided with the information in this sheet.” Given this statement and the apparent purpose of this document – it is a safety sheet for a substance/preparation, issued in compliance with a regulatory framework – I believe it was clearly intended for public use with customers or prospective customers. I am quite satisfied that, on balance of probabilities, this document was made available to the public in July 1996. In my opinion, E4 forms part of the state of

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<sup>3</sup> [www.archive.org](http://www.archive.org)

the art under section 2(2).

36. Amongst other things, E4 discloses information regarding the typical composition of the AWA white aluminous oxide product. In particular, E4 states that while the product contains 99.70% Al<sub>2</sub>O<sub>3</sub>, at least two other compounds are also present, i.e. 0.02% Fe<sub>2</sub>O<sub>3</sub> and 0.20% Na<sub>2</sub>O. I agree with the requester that the skilled person would understand that the product of E4 is an example of virgin fused alumina that is substantially iron free. The requester goes on to argue that E4 shows that “virgin aluminous oxide, such as white aluminium oxide is actually a mixture of two more different types of products such as Al<sub>2</sub>O<sub>3</sub> and TiO<sub>2</sub> or Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> plus other trace compounds.” By this, I understand the requester to be arguing that E4 discloses that white aluminous oxide is a mixture of “at least two different products” as required by feature (d) of claim 1 (which is not disclosed by E1). I am unable to accept the requester’s argument. In my opinion, the skilled person would understand E4 to be a disclosure of the typical composition of just a *single* product, namely AWA white aluminous oxide. In my opinion, a combination of E1 and E4 cannot disclose feature d) of claim 1 so claim 1 involves an inventive step over the disclosures of E1 and E4.

*E1 and E6a or E10*

37. E6a is another archived web page retrieved from *The Wayback Machine* and it bears an archive date of 1 May 2013 (i.e. before the priority date of the invention). It appears to relate to a product catalogue of minerals and abrasives from a company called “AGSCO Corporation”. Page 5/8 lists a product called “Glass Beads/Aluminium Oxide Mix”. It is described as having “Rounded and Angular” grain shape, as being “Light Brownish Gray” in colour, with typical applications being listed as “Cleaning and Texturing”.
38. E10 is, according to the requester, a copy of page 67 from the April 2010 issue of a publication called “Light Metal Age”. I note that the top of the page bears the statement “Reprinted with permission, ©2010 Light Metal Age” and the bottom left of the page bears the statement “LIGHT METAL AGE, APRIL 2010”. I believe it is also reasonable to say that E10 has the overall look and feel of a page that has been photocopied from a periodical or a magazine. The proprietor expresses “serious doubts about the authenticity and the publication date of this article and its contents”. In support, the proprietor refers me to what appears to be the web site for this issue of the publication<sup>4</sup> and observes that it shows that “the last article of this issue starts at page 38 and none of the articles is longer than 10 pages, while the copy provided by the requester shows page 67 as its page number.” Having inspected the web site<sup>5</sup>, I accept that it discloses a description of “Articles” and that the final article it lists begins on page 38. I also accept the web site makes no explicit mention of page 67 that is said to be reproduced in E10. Whilst I believe it is fair to say that omission of a reference to page 67 on the web site does raise some doubt as the authenticity and the publication date of E10, I have weighed this against the clear publication date (April 2010) contained within E10 and reached the conclusion that, on balance of probabilities, E10 was made available to the public in April 2010. In my opinion, E10 is part of the state of the art under section 2(2).

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<sup>4</sup> [www.lightmetalage.com/magazine/2010-issues/april-2010/](http://www.lightmetalage.com/magazine/2010-issues/april-2010/)

<sup>5</sup> Accessed 23 March 2018

39. Turning now to the disclosure of E10, it is entitled “Wet Blast Aluminium Extrusion Die Cleaning” and it gives a summary of Vapormatt’s wet blast process for extrusion die cleaning. The requester relies on a sentence from E10 which states, “The EX blend for die cleaning consists of aluminium oxide and glass beads.” The requester says that this is the same combination of aluminium oxide and glass beads as that disclosed in E6a. On this basis, the requester submits that “it would have been routine for the skilled person to select this mix, rendering claim 1 as lacking inventiveness over E1 and the common general knowledge of the skilled person.”
40. I agree that each of E6a and E10 discloses a commercially-available abrasive mixture comprising *two* different products, i.e. aluminium oxide and glass beads, as required by feature d) of claim 1. Based on the disclosures of E6a and E10, I believe it is reasonable to conclude that the existence of such abrasive mixtures would have been part of the skilled person’s common general knowledge at the priority date. However, I do not accept the requester’s argument that it necessarily follows that routine selection of such a mix (for use in the slurry disclosed in E1) would demonstrate that claim 1 is obvious. For example, the proprietor observes (correctly, in my opinion) that neither E6a nor E10 discloses an abrasive mixture that includes *iron-free* fused alumina particles, i.e. as required by feature i) of claim 1. Therefore, even if I were to accept that it would be obvious to use the abrasive mixture of E6a or E10 as the slurry disclosed in E1 (see discussion in paragraph 23 above of feature c)) then, in my opinion, such a slurry would not consist of *iron-free* fused alumina particles as required by feature i) of claim 1. Furthermore, as I have already said in paragraph 28 above, the skilled person would understand that the only disclosure of E1 in respect of “virgin” (i.e. iron-free) fused alumina is in the context of “special purposes” or “special applications” that are limited to the use of *a single abrasive product* (virgin aluminous oxide). In my opinion, the absence of any clear and unambiguous teaching of an abrasive mix comprising iron-free fused alumina *and* another abrasive product in any of E1, E6a and E10 means that no combination of these documents could arrive at the combination of features d) and i) defined by claim 1. In my opinion, claim 1 involves an inventive step over any combination of E6a or E10 with E1.

#### *Remaining documents*

41. The requester also makes a several other inventive-step arguments, directed at various ones of the dependent claims 2-17, based on combinations of E1 with documents that I have not yet considered, i.e. E5, E6, E7, E8, E9, E11, E12 and E13. For completeness, I shall now deal with these documents briefly.
42. E5 is an article published in *Industrial Minerals* in December 2007. The requester relies on E5 as a disclosure of the typical composition of brown fused alumina. I believe it follows that E5 only relates to a disclosure of a *single* product so, in my opinion, no combination of E5 and E1 could disclose feature d) of claim 1. In my opinion, claim 1 has an inventive step over the disclosures of E5 and E1.
43. E6 is an article that states it is “Reprinted from ‘Stainless Steel Industry’ Vol.17, No.97 May 1989”. Although the proprietor disputes the publication date provided by the requester, I do not believe I have been given any reason to doubt it. In my opinion, E6 forms part of the state of the art under section 2(2). E6 discloses a variety of choices of blast media that may be used for wet blast finishing of stainless

steel, including “Glass beads” or “Alumina”. There is no disclosure, nor any suggestion, that a combination of two different types of products may be used as required by feature d) of claim 1. Thus, no combination of E6 with E1 could disclose all of the features of claim 1. In my opinion, claim 1 has an inventive step over the disclosures of E6 and E1.

44. The proprietor also disputes the publication date of E7 (“Issued Oct 2011”) but, again, I do not believe I have been given any reason to doubt it. In my opinion, E7 forms part of the state of the art under section 2(2). In any case, E7 only appears to disclose the settings that may be used with a blast gun. There is no disclosure relating to the composition of a processing medium that is relevant to the invention defined in claim 1 so E7 does not assist the requester. In my opinion, claim 1 has an inventive step over the disclosures of E7 and E1.
45. In my opinion, none of documents E8, E12 and E13 form part of the state of the art under section 2(2). E8 is a copy of a hand-written document, described by the requester as a “Vapormatt internal test report”. While E8 bears a (hand-written) date of “Spring 2007”, I agree with the proprietor that E8 is clearly an internal document and that there is no evidence to suggest that E8 was made available (or was intended to be made available) to the public. In my opinion, there is no evidence to say that E8 was made available to the public before the priority date of the invention. E12 is said to be a “stock card for “Expo Blend”, a processing medium sold by Vapormatt Ltd since before the filing date of the patent.” The requester offers no specific publication date for E12 and no date information of any kind is shown in E12. In my opinion, there is no evidence that E12 was available to the public before the priority date of the invention. E13 is an article reproduced from “BLAST JOURNAL by GRACO” and it bears a publication date of “12/09/2017” which is, plainly, well after the priority date of the invention. I have, therefore, disregarded E8, E12 and E13 for the purposes of this opinion.
46. E9 relates only to the constructional features of a nozzle and I believe it is not relevant to the subject matter of claim 1. In my opinion, claim 1 involves an inventive step over the disclosures of E1 and E9.
47. Finally, although the apparent publication date (26 September 2005) of E11 is contested by the proprietor, I am satisfied by the evidence provided to me that, on balance of probabilities, E11 was made available to the public before the priority date of the invention. In my opinion, E11 forms part of the state of the art under section 2(2). However, E11 is only concerned with a specification of a *single* product (glass beads) for cleaning and peening. It follows that no combination of E11 with E1 could disclose all of the features of claim 1 because no combination could disclose feature d). In my opinion, claim 1 involves an inventive step over the disclosures of E1 and E11.

### **Dependent claims**

48. Having reached the opinion that claim 1 is novel and has an inventive step over E1-E13, it is also my opinion that all of the dependent claims 2-17 are necessarily new and non-obvious over E1-E13.

## **Opinion**

49. It is my opinion that claims 1-17 is novel over documents E1-E13 filed with the request.
50. It is also my opinion that claims 1-17 involve an inventive step over documents E1-E13 filed with the request.

Stephen Richardson  
Examiner

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## **NOTE**

*This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.*