

Filed on behalf of: Schaeffler Technologies AG & Co. KG

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

EWALD DÖRKEN AG,
Petitioner

v.

SCHAEFFLER TECHNOLOGIES AG & CO. KG,
Patent Owner

Case IPR2024-01365
U.S. Patent No. 11,098,756

PATENT OWNER PRELIMINARY RESPONSE

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As “master of its complaint,” Petitioner Ewald Dörken AG bears the burden of establishing a reasonable likelihood of unpatentability of U.S. Patent No. 11,098,756 (“the ’756 Patent”) on the grounds presented in the Petition (Paper 1, “Pet.”). The Petition falls well short, in both substance and procedure.

To start, the Petition suffers from a serious lack of any particularity in addressing how the applied prior art satisfies the respective claim elements. Instead, and as discussed herein, the Petition merely:

- provides a claim chart that provides snippets of discussions of various references, which fails to clearly map the prior art to the claim elements;
- essentially copies the deficient claim chart from the expert declaration; and
- fails to account for specific claim elements.

Such shortcomings render the Petition wholly deficient. *Adaptics Ltd. v. Perfect Co.*, IPR2018-01596, Paper 20 at 18 (PTAB Mar. 6, 2019) (informative) (“the Petition suffers from a lack of particularity”).

The Petition also fails on procedural grounds. For example, with respect to the discussion of Ground 1’s application to independent claim 1, the Petition cites to only three paragraphs of the Haber Declaration (Ex. 1009), with one of those three paragraphs being the paragraph containing the same deficient claim chart

lacking analysis. The Petition's lack of citations to the remaining paragraphs of the Haber Declaration evinces Petitioner's intent not to rely on such paragraphs, or at the very least, leaves it up to the reader to attempt to decipher how and where Petitioner intends to rely on the declaration. Additionally, despite the '756 Patent claims being allowed over the Yokota reference during prosecution, Petitioner re-uses Yokota as a primary reference in Ground 3 but omits any explanation as to how Ground 3 differs from "the same or substantially the same prior art or arguments previously ... presented to the Office." Thus, discretionary denial is warranted under 35 U.S.C. § 325(d) and *Becton, Dickinson*.

In light of the significant defects in the Petition, institution should be denied.

I. Background

The '756 Patent contains 7 claims, with Claim 1 being independent. Claim 1 recites:

1. A wheel bearing arrangement for a motor vehicle, comprising a wheel hub,
wherein the wheel hub is connected to a wheel flange,
wherein a multi-row anti-friction bearing having an outer ring and
an inner ring is arranged on the wheel hub,
wherein the inner ring comprises two bearing inner rings,
wherein an axially outer bearing inner ring is formed in one piece
on the wheel hub and

wherein an axially inner bearing inner ring is a separate component
which is mounted on the wheel hub and is axially pretensioned
by a collar, that acts on an end surface of the inner bearing inner
ring, of the wheel hub,
wherein at least partially a surface coating for improving corrosion
protection is formed on the wheel bearing arrangement,
wherein the surface coating is formed as a zinc flake coating,
wherein a coating medium used to form the surface coating
comprises zinc powder, aluminum powder, titanium
tetrabutanolate and further constituents,
wherein the surface coating has a layer thickness of at least 10 μm .

During prosecution, following a restriction requirement and an election, the Examiner issued an initial Office Action on January 8, 2021, rejecting certain claims under 35 U.S.C. § 103, and indicating that other claims (including dependent claim 2, as numbered during prosecution) contained allowable subject matter. Ex. 1011, pp. 36-42, 54-63. On April 8, 2021, the Applicant filed an amendment, amending the sole independent claim to include the recitations from claim 2 (as numbered during prosecution). Specifically, claim 1 was amended to recite: “wherein the surface coating has a layer thickness of at least 10 μm .” *Id.* at 27-32.

As a result of these amendments to claim 1, the Examiner issued a Notice of Allowance on April 21, 2021, and the '756 Patent issued on August 24, 2021. *Id.* at 8-14, 1; Ex. 1001.

II. Claim Construction

Petitioner attempts to seek an indefiniteness ruling from the Board. Such request is improper, should be rejected, and weighs against institution. In particular, Petitioner avers that the term “and further constituents” recited in claim 1 “is unclear and indefinite” (Pet. at 8), and therefore “a POSITA cannot determine the metes and bounds of” this term (Pet. at 10). But it is well-settled law that patentability challenges based on indefiniteness are prohibited in an IPR. 35 U.S.C. § 311(b) (“A petitioner in an inter partes review may request to cancel as unpatentable 1 or more claims of a patent **only** on a ground that could be raised under **section 102 or 103** ...” (emphasis added)); *Garmin Int’l, Inc. v. Koninklijke Philips N.V.*, IPR2020-00754, Paper 11 at 17 (PTAB Oct. 27, 2020) (citing *Samsung Elecs. Am., Inc. v. Prisia Eng’g Corp.*, 948 F.3d 1342, 1350 (Fed. Cir. 2020)) (“[I]t is improper for petitioners in an inter partes review to seek indefiniteness rulings from this body”).

In addition to being improper, Petitioner’s assertion of indefiniteness only further muddies its remaining arguments. Despite alleging that this claim term lacks clarity and/or specificity (and listing numerous reasons it believes the term is

unclear), Petitioner also urges that the claims “should be given their plain and ordinary meaning.” Pet. at 11. However, Petitioner never states what it believes to be the plain and ordinary meaning. Such irreconcilable positions by Petitioner are untenable.

Moreover, the lack of any indication as to how Petitioner intends to interpret the term is exacerbated by Petitioner’s failure to identify what it relies upon as the “further constituents” in the unpatentability grounds, as addressed in more detail below. Indeed, in trying to preserve its improper (and incorrect) indefiniteness argument, Petitioner avoids any proper identification of where this claim element can be found in the applied references.

At the very least, the Petition fails to satisfy the provisions of 37 C.F.R. § 42.104(b)(4) requiring an identification of “[h]ow the **construed** claim is unpatentable under the [§§ 102/103] statutory grounds.” Institution should be denied on this basis alone.

III. Person of Ordinary Skill in the Art

For institution purposes, Patent Owner does not dispute Petitioner’s proposed definition of a person of ordinary skill in the art (“POSA”), but reserves the right to challenge such definition should the IPR be instituted.

IV. Petitioner Fails to Establish Reasonable Likelihood of Unpatentability as to Ground 1

The Petition fails to establish a reasonable likelihood that claims 1-7 are obvious over Norimatsu and Sepeur-835.

A. Summary of References

1. Norimatsu

U.S. 2005/0254741 (Ex. 1002; “Norimatsu”)¹ discloses a bearing apparatus for a vehicle wheel. Ex. 1002, Abstract. Norimatsu discloses that for corrosion resistance, a preservation film of zinc/nickel alloy may be formed on an outer circumference surface of a ring of the bearing. *Id.*, ¶¶[0043], [0019]. Norimatsu teaches that the thickness of the preservation film “is usually limited to less than 5 μm due to a reason in accuracy.” *Id.*, ¶[0043].

Petitioner does not dispute that Norimatsu lacks any teaching or suggestion of using zinc flakes in forming the preservation film, and even concedes that Norimatsu “**does not provide** a detailed description of the materials and methods for forming and depositing a zinc plating on the disclosed third-generation type vehicle wheel bearing hub.” Pet. at 15 (emphasis added).

¹ Petitioner refers to this reference as “‘741 Publication” or “US‘741.”

2. Sepeur-835

U.S. 2012/0177835 (Ex. 1003; “Sepeur-835”)² discloses a “coating agent that cures at room temperature.” Ex. 1003, Abstract. Sepeur-835 does not disclose any specific environment or component (let alone a wheel bearing) for use with its coating agent, nor does Petitioner dispute otherwise.

B. The Petition Lacks Requisite Specificity and Particularity as to How Norimatsu and/or Sepeur-835 Disclose Elements of Independent Claim 1

Institution should be denied at least because the Petition fails to articulate *how* Norimatsu and/or Sepeur-835 disclose each claim element, and instead merely reproduces quotes from one or both references without any explanation, context, or clarification, leaving it up to the reader to attempt to decipher Petitioner’s theories.

Rule 42.22(a)(2) requires that an IPR petition include “[a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence including material facts, and the governing law, rules, and precedent.” 37 C.F.R. § 42.22(a)(2). An IPR petition must also identify “[h]ow the construed claim is unpatentable under the statutory grounds identified in paragraph (b)(2) of this section” and “specify where each element of the claim is

² Petitioner refers to this reference as “835 Publication” or “US‘835.”

found in the prior art patents or printed publications relied upon.” 37 C.F.R. § 42.104(b)(4).

The Petition fails to satisfy these requirements. In addressing individual claim elements, the Petition presents a claim chart (Pet. at 17-24) and avers that such chart “identifies the claim limitations of the ‘756 Patent and the corresponding elements of US‘741 [Norimatsu] and US‘835 [Sepeur-835]” (*id.* at 17). In actuality, the claim chart fails to identify specific “elements” from these reference(s) that Petitioner seeks to map to an individual claim feature, much less explain how such elements from the reference read on respective claim features. Instead, the claim chart simply quotes, without any accompanying explanation, various passages from one or more references (*i.e.*, Norimatsu and/or Sepeur-835), leaving the reader to attempt to decipher how Petitioner intends to map claim features to elements in the reference.

Such attempt by a reader to untangle Petitioner’s theories is further complicated by, in many instances, the fact that the Petitioner’s cited passages refer to multiple components, which leads to ambiguity in Petitioner’s proposed mapping to a claim element. For example, for the claim element “wherein a multi-row antifriction bearing having an outer ring and an inner ring is arranged on the wheel hub” as recited in claim 1, Petitioner cites to paragraphs of Norimatsu that reference (i) a wheel hub 2, (ii) an inner raceway surface 2a, (iii) a cylindrical

portion 2b, (iv) an outer member 10, (v) a body mounting flange 10b, and (vi) double row outer raceway surfaces 10a and 10a. Pet. at 18. Petitioner provides no explanation as to which of these components are being mapped to the claimed outer ring and the claimed inner ring. Similarly, for the claim element “wherein ... a surface coating for improving corrosion protection is formed on the wheel bearing arrangement” recited in claim 1, Petitioner cites to a discussion of a coating, but provides no discussion of on which elements such coating may be applied. Pet. at 19-20.³

The Petition’s failure to isolate specific structure(s) in the reference(s), its lack of explanation, and its deferral to the reader to decipher which of multiple features in the cited passages is intended to map to a particular claim element, is fatal. Indeed, the Board has previously declined IPR institution under similar circumstances, concluding that such a hollow petition cannot establish a reasonable likelihood of unpatentability required for institution. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 14 (PTAB Aug. 24, 2022) (precedential) (“But

³ While the examples referenced herein focus on claim 1, the Petition’s addressing of claims 2-7 are likewise deficient. Regardless, Petitioner’s failure to establish a reasonable likelihood of unpatentability for independent claim 1 renders fatal its challenge to dependent claims 2-7.

Petitioner does not provide sufficient evidence or persuasive reasoning to support ... [its] assertions.”); *Adaptics*, IPR2018-01596, Paper 20 at 18 (informative) (“the Petition suffers from a lack of particularity”).

In fact, the Petition here mirrors that in *Nearmap US, Inc. v. Pictometry Int’l Corp.*, which the Board found deficient and denied institution as a result. Like the petition here, the petition in *Nearmap* presented a claim chart merely providing “a series of snippets” from the reference. *Nearmap US, Inc. v. Pictometry Int’l Corp.*, IPR2024-00729, Paper 9 at 15-17 (PTAB Oct. 10, 2024). However, the *Nearmap* petition contained “no argument in the claim chart addressing how [the reference] teaches the[] claim limitations, nor [wa]s there any narrative discussion of how [p]etitioner views the disclosures of [the reference].” *Id.* The Board “agree[d] with [the] patent owner that the petition fail[ed] to set forth its contentions with sufficient particularity” and did “not make clear petitioner’s theory of the case,” thus failing the requirements under Rule 42.22(a)(2) and Rule 42.104(b)(4). *Id.* at 20-21 (capitalization changed to lower case for clarity). The Board emphasized that “**Petitioner has the responsibility** to make plain its challenges to the disputed claims,” that “[i]t is **not the Board’s responsibility** to weave together [p]etitioner’s evidence into a cohesive case,” and that a petitioner’s “**burden ‘cannot be met** simply by throwing mountains of evidence at the Board without explanation or identification of the relevant portions of that evidence.”” *Id.* at 20-21 (emphasis

added) (citing *Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1371 (Fed. Cir. 2023)).

As a result of the petition's failure to present such explanation, the *Nearmap* Board denied institution, concluding that the petitioner had failed to show a reasonable likelihood of unpatentability. *Id.* at 22 ("The question before us is not whether we could come up with a way to understand how the asserted prior art could render the challenged claims unpatentable, but rather did Petitioner provide the arguments and evidence to show that the challenged claims are unpatentable. Here, Petitioner has not met that burden and as such, Petitioner has not shown by a reasonable likelihood that any of the challenged claims are unpatentable.").

The Petition here is at least as deficient as that in *Nearmap*, and therefore likewise fails Rules 42.22(a)(2) and 42.104(b)(4). As in *Nearmap*, institution should be denied on this basis alone.

C. The Haber Declaration is Likewise Deficient and Fails to Cure the Petition’s Shortcomings

The Haber Declaration (Ex. 1009) generally mirrors the language in the Petition, and likewise fails to salvage the Petition’s failures to include the required specificity and particularity.⁴

1. The Haber Declaration, Which Parrots the Petition Effectively Verbatim, Should be Accorded Little to No Weight

The Haber Declaration is generally identical to the Petition, even in wording. *E.g., compare* Pet. at 17-25 with Ex. 1009, ¶¶34-36. Petitioner openly admits that certain portions are copies of one another. Pet. at 17 (“As set forth in Dr. Haber’s Declaration accompanying this Petition, ***and copied here***, the following chart ...”

⁴ Even to the extent the Board does discover the Haber Declaration to be relevant towards curing the Petition’s shortcomings, such content in the declaration is entitled to no consideration—the “practice of citing the [d]eclaration to support conclusory statements that are not otherwise supported in the [p]etition also amounts to [improper] incorporation by reference” prohibited under 37 C.F.R. § 42.6(a)(3). *Cisco Systems, Inc. v. C-Cation Techs., LLC*, IPR2014-00454, Paper 12 at 9-10 (PTAB Aug. 29, 2014) (informative); PTAB Consolidated Trial Practice Guide (Nov. 2019) at 35-36.

(emphasis added)). Indeed, the deficient claim chart discussed above is essentially copied from one paragraph of the Haber Declaration.

In such circumstances where the expert declaration largely parrots the petition, the Board has generally accorded such expert testimony little to no weight. *Markforged Inc. v. Continuous Composites, Inc.*, IPR2022-01431, Paper 7 at 14 (PTAB Jan. 18, 2023) (finding expert testimony on an issue “is entitled to little to no weight as it merely parrots the Petition”); *LG Elecs. Inc. v. Jawbone Innovations, LLC*, IPR2023-01111, Paper 10 at 15 (PTAB Jan. 9, 2024) (finding “Petitioner’s conclusory assertion is unpersuasive” where “Petitioner’s expert merely parrots the Petition”); *Content Square SAS v. Medallia Inc.*, IPR2022-00316, Paper 13 at 38 (PTAB Jul. 14, 2022) (according expert testimony “little probative weight,” as “[m]erely repeating an argument from the Petition in the declaration of a proposed expert, does not give that argument enhanced probative value”); *Man Wah Holdings Ltd. v. Rafeel Sys., LLC*, IPR2019-00616, Paper 7 at 15-16 (PTAB Aug. 21, 2019) (repeating the same holding from *Content Square*).

Likewise here, the Board should accord the Haber Declaration little to no weight.

2. The Haber Declaration Lacks Facts and Data Supporting the Conclusory Opinions

As the Haber Declaration largely mirrors the Petition as to its bald claim charts and conclusory statements, it suffers the same shortcomings as the Petition

and is likewise devoid of citations to additional supporting evidence or any additional technical reasoning. The Board has repeatedly rejected any weight accorded to expert testimony in this circumstance.

Indeed, the Federal Circuit has warned that “[c]onclusory expert testimony does not qualify as substantial evidence.” *TQ Delta, LLC v. Cisco Sys.*, 942 F.3d 1352, 1358 (Fed. Cir. 2019); *see also Xerox*, IPR2022-00624, Paper 9 at 15 (precedential) (expert testimony is “entitled to little weight” when it fails to “cite to any additional supporting evidence or provide any technical reasoning to support [the expert’s statement] and is therefore “conclusory and unsupported” and “adds little to the conclusory assertion for which it is offered to support”); 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”);

Indeed, the expert declaration in *Man Wah* was similar to the Haber Declaration in “not identify[ing] any structure for” the claim recitation nor presenting any “objective support for his conclusory opinions” as to “why or how a POSITA would understand” the claim element to be disclosed. *Man Wah*, IPR2019-00616, Paper 7 at 15-16. The Board in *Man Wah* rejected such expert testimony, cautioning that “[a]n expert merely repeating conclusory arguments does not help the Board, the trier of fact in this proceeding, understand the evidence or to determine a fact in issue.” *Id.*

Likewise here, the Haber Declaration is similarly conclusory and similarly fails to demonstrate “why or how a POSITA would understand” the claim element to be disclosed. The Board should thus accord the Haber Declaration little to no weight.

3. The Petition Fails to Cite to Many Paragraphs of the Haber Declaration

The Petition lacks citations to many paragraphs of the Haber Declaration. For example, with respect to claim 1, the Petition only cites to ¶¶35, 36, and 38 of the Haber Declaration, despite the Haber Declaration providing additional paragraphs concerning claim 1. Pet. at 17, 25, and 26; Ex. 1009, ¶¶33-39.

Any paragraph of the Haber Declaration not specifically cited in the Petition should be disregarded and given no weight. 37 C.F.R. § 104(b)(5) (requiring the petition to “identify[] specific portions of the evidence that support the challenge” and warning that “[t]he Board may exclude or give no weight to the evidence where a party has failed to ... identify specific portions of the evidence that support the challenge”); *Unified Patents, LLC v. Engle Grange, LLC*, IPR2020-01334, Paper 7 at 45 (PTAB Jan. 21, 2021) (where “Petitioner fails to cite to either the claim chart or to any paragraphs of [Petitioner expert’s] declaration discussing the claim chart anywhere in its Petition and additionally fails to cite to “numerous paragraphs in [the Petitioner expert’s] 109-paragraph declaration,” the Board “typically do[es] not rely upon” those uncited paragraphs).

D. Ground 1 Fails on the Merits

Not only does the Petition's Ground 1 fail to satisfy the requirements under Rules 42.22 and 42.104, Petitioner's Ground 1 theory also fail on the merits. Institution should be denied on this basis as well.

1. Claim 1

a. Petitioner Fails to Show Either Reference Discloses the Claimed Zinc Flake Coating

Claim 1 recites that “the surface coating is formed as a zinc *flake* coating” (emphasis added). For this claim element, the Petition does not cite to Norimatsu, but instead cites solely to Sepeur-835 ¶¶[0018] and [0019]. Pet. at 20.

However, neither of these paragraphs in Sepeur-835 discloses a zinc *flake* coating. Sepeur-835 ¶[0018] merely discloses that a metal pigment may include zinc, but provides no disclosure of zinc *flakes*. Sepeur-835 ¶[0019] merely

discloses zinc, but likewise provides no disclosure of zinc **flakes**.⁵ Petitioner offers no reasoning or explanation as to how these disclosures within Sepeur-835 amount to a disclosure of zinc flakes. As noted above, “[i]t is not the Board’s responsibility to weave together [p]etitioner’s evidence into a cohesive case.” *Nearmap*, IPR2024-00729, Paper 9 at 20-21 (citing *Parus*, 70 F.4th at 1371).

Therefore, Petitioner has failed to establish that either Norimatsu or Sepeur-835 discloses the claimed “zinc flakes.” As such, **even if** there existed a reason to combine Sepeur-835 with Norimatsu (which Patent Owner disagrees with, as explained below), Petitioner provides no evidence that the resulting combination still include a coating formed as a “zinc **flake** coating.”

Denial of institution is therefore appropriate.

⁵ Of note, Sepeur-835 mentions “flake coatings” once (elsewhere in the disclosure) and does so to make clear that such coatings are “**unsuitable** for spray application,” which is the subject of Sepeur-835’s invention. Ex. 1003, ¶¶[0005] (emphasis added), [0014] (“the coating agent of the invention may be applied by spraying, in particular from an aerosol can or spray gun.”). Petitioner fails to cite to this paragraph at all, let alone address Sepeur-835’s criticism of flake coatings. In any event, ¶[0005] of Sepeur-835 makes clear that the later paragraphs cited by Petitioner are **not** describing flake coatings.

b. Petitioner Fails to Show Either Reference Discloses the Claimed “Further Constituents”

Claim 1 recites “wherein a coating medium used to form the surface coating comprises zinc powder, aluminum powder, titanium tetrabutanolate **and further constituents**” (emphasis added). For this claim element, the Petition simply refers to various paragraphs in Sepeur-835 (Pet. at 20-21), but provides no mapping or any other explanation as to what disclosures within these paragraphs allegedly map to the claimed “further constituents,” leaving it up to the reader to speculate and attempt to unravel Petitioner’s intended theory.

Once again, “[i]t is not the Board’s responsibility to weave together [p]etitioner’s evidence into a cohesive case.” *Nearmap*, IPR2024-00729, Paper 9 at 20-21 (citing *Parus*, 70 F.4th at 1371); *see also* 37 C.F.R. § 42.104(b)(4) (“The statement must identify ... **[h]ow** the construed claim is unpatentable under [§§ 102 and/or 103] ... [and] must specify **where** each element of the claim is found in the prior art patents or printed publications relied upon” (emphasis added)).

Petitioner has failed to establish that either Norimatsu or Sepeur-835 disclose the claimed “further constituents.” As such, **even if** there existed a reason to combine Sepeur-835 with Norimatsu (which Patent Owner disagrees with, as explained below), Petitioner provides no evidence that the resulting combination still include a coating formed using a coating medium that comprises “further constituents.” Also, as discussed above, Petitioner’s assertion that this term is

indefinite make discerning Petitioner's intent as to applying these references to the claim element even more inscrutable.

Denial of institution is therefore appropriate.

c. Petitioner's Motivation to Combine is Deficient on its Face

Petitioner avers, citing *United States v. Adams*, that “it would have been obvious to a POSITA to substitute the zinc/nickel alloy plating ‘preservation film’ on the vehicle wheel bearing apparatus of US‘741 [Norimatsu] with the zinc and aluminum coatings disclosed in US‘835 [Sepeur-835] because the mere substitution of one element for another known in the field would have been obvious.” Pet. at 25 (citing *United States v. Adams*, 383 U.S. 39, 50-51 (1966)). But Petitioner ignores a critical requirement from *Adams*—that the substitution ***must yield a predictable result***. Indeed, as noted in *KSR*, *Adams* stands for the proposition that “when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, ***the combination must do more than yield a predictable result***.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) (emphasis added) (citing *Adams*, 383 U.S. at 50-51).

Petitioner ignores this requirement. Neither the Petition nor the Haber Declaration assert that the proposed combination of Norimatsu and Sepeur-835 would yield a predictable result. The Petition only uses the word “predictable”

once, when describing the prosecution history. Pet. at 4. The Haber Declaration uses the word “predictable” only to note this requirement under Dr. Haber’s general understanding of the law on obviousness (Ex. 1009, ¶¶17, 20) and in the conclusion, where Dr. Haber concludes (incorrectly) that he “ha[s] provided several rationales” relating to predictability (*id.*, ¶95).

Petitioner’s reliance on *Adams*, without establishing how its “predictable result” requirement is satisfied, renders the Petition deficient. Institution should be denied on this basis.

d. A POSA Would Not Have Been Motivated to Combine Sepeur-835 with Norimatsu

Norimatsu teaches that for its applied preservation film, although “it is desirable to have the film thickness of more than 6-10 μm ,”⁶ such film layer “is usually limited to less than 5 μm due to a reason in accuracy.” Ex. 1002, ¶[0043].

As such, a POSA would have been dissuaded from providing a preservation film with a “layer thickness of at least 10 μm ” (as recited in claim 1), as Norimatsu urges against such thickness to preserve accuracy. Petitioner offers no justification as to why a POSITA would ignore this warning in Norimatsu when incorporating

⁶ The awkward structure of the sentence, perhaps due to a translation issue, leaves open a significant question as to what is meant by Norimatsu’s statement, which issue Petitioner avoids.

purported features from Sepeur-835 with Norimatsu. The failure to even acknowledge the issue, or have the expert address the same, renders the Petition lacking.

2. Claim 2

Claim 2 depends from independent claim 1. The Petition's deficiencies regarding claim 1 therefore likewise render fatal Petitioner's theory regarding claim 2.

Additionally, claim 2 recites that "the surface coating has a layer thickness of at most 20 μm ." For this claim, Petitioner relies on the secondary reference—Sepeur-835—as allegedly teaching this feature. Petitioner also relies on ¶4 of the Haber Declaration as allegedly supporting a motivation to apply this purported teaching in Sepeur-835 towards Norimatsu. Pet. at 26 (citing Ex. 1009, ¶4).

However, ¶4 of the Haber Declaration relates solely to Dr. Haber's background experience. Ex. 1009, ¶4. And even to the extent Petitioner intended to cite ¶41 of the Haber Declaration, such paragraph is conclusory and provides no facts or evidence supporting such conclusion. To the extent the Board even relies on this uncited paragraph, it should be given no weight. 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Significantly, neither the Petition nor Dr. Haber offers any articulated reasoning as to **why** a POSA would have applied Sepeur-835's specific thickness ranges to Norimatsu. Sepeur-835 provides no teaching of any specific component to which its coating is applicable, let alone Norimatsu's wheel bearing apparatus as the component. Petitioner offers no explanation as why a POSA would have applied generic thickness values towards Norimatsu.

3. Claims 3-7

Claims 3-7 depend from independent claim 1. The Petition's deficiencies regarding claim 1 therefore likewise render fatal Petitioner's theories regarding claims 3-7.

V. Petitioner Fails to Establish Reasonable Likelihood of Unpatentability as to Ground 2

The Petition fails to establish a reasonable likelihood that claims 1-7 are obvious over Kametaka and Sepeur-340.

A. Summary of References

1. Kametaka

U.S. 2009/0148091 (Ex. 1006; "Kametaka")⁷ discloses a wheel bearing apparatus. Ex. 1006, Abstract. Kametaka discloses the apparatus including an outer member 29 made of carbon steel (*id.*, ¶[0085]) and mounted on a knuckle N

⁷ Petitioner refers to this reference as "'091 Publication" or "US'091."

made of aluminum alloy (*id.*, ¶¶[0085]-[0086]). Kametaka discloses that the two different kinds of metal (*i.e.*, steel and aluminum alloy) contacting each other may cause galvanic corrosion—therefore, an insulating coating 30 made of nickel or zinc plating is provided between the outer member 29 and the knuckle N to inhibit the corrosive effects. *Id.*, ¶¶[0086]-[0087].

2. Sepeur-340

U.S. 2012/0009340 (Ex. 1004; “Sepeur-340”)⁸ discloses a deformable corrosion protection layer. Ex. 1004, Abstract. Sepeur-340 discloses that the layer is formed by “[m]ixing 5 to 95 wt. % metallic magnesium, zinc, aluminium *or* titanium particles, or mixtures or alloys containing at least one of these metals.” *Id.*, ¶[0010] (emphasis added).

Sepeur-340 does not disclose any specific environment or component (let alone a wheel bearing) for use with its protection layer, nor does Petitioner dispute otherwise.

B. The Petition Lacks Requisite Specificity and Particularity as to How Kametaka and/or Sepeur-340 Disclose Elements of Independent Claim 1

The Petition’s Ground 2 suffers from the same critical deficiency as discussed *supra* for Ground 1, *i.e.*, it fails to articulate *how* Kametaka and/or

⁸ Petitioner refers to this reference as “‘340 Publication” or “US‘340.”

Sepeur-340 disclose each claim element, and instead merely reproduces quotes from one or both references without any explanation, context, or clarification, leaving it up to the reader to attempt to decipher Petitioner's theories. Institution should be denied on this basis alone.

For example, for the claim element "wherein the inner ring comprises two bearing inner rings" as recited in claim 1, Petitioner cites to passages that refer to multiple features of an inner member 1 and to an inner raceway surface 4a, but provides no explanation of which of these features corresponds to one of the claimed "two bearing inner rings." Pet. at 32. For the claim element "wherein an axially outer bearing inner ring is formed in one piece on the wheel hub" as recited in claim 1, Petitioner simply quotes a passage containing multiple components, without any explanation of which feature corresponds to the claimed "axially outer bearing inner ring." Pet. at 33. For the claim element "wherein an axially inner bearing inner ring is a separate component which is mounted on the wheel hub and is axially pretensioned by a collar" as recited in claim 1, Petitioner provides no explanation on features correspond to the claimed "collar." Pet. at 33.

As discussed *supra* in Section IV.B, "***Petitioner has the responsibility*** to make plain its challenges to the disputed claims... It is ***not the Board's responsibility*** to weave together [p]etitioner's evidence into a cohesive case." *Nearmap*, IPR2024-00729, Paper 9 at 21-22 (emphasis added). The question in

deciding institution “is [whether] Petitioner provide[d] the arguments and evidence to show that the challenged claims are unpatentable,” “not whether [the Board] could come up with a way to understand how the asserted prior art could render the challenged claims unpatentable.” *Id.* As the answer here is in the negative, the Petition fails Rules 42.22(a)(2) and 42.104(b)(4) and should be denied institution.

C. The Haber Declaration is Likewise Deficient and Fails to Cure the Petition’s Shortcomings

Similar to Ground 1, the Haber Declaration (Ex. 1009) generally mirrors the language in the Petition, and likewise fails to salvage the Petition’s failures to include the required specificity and particularity.

1. The Haber Declaration, Which Parrots the Petition Effectively Verbatim, Should be Accorded Little to No Weight

Similar to Ground 1, the Haber Declaration is generally identical to the Petition for Ground 2, including even in wording (*e.g.*, compare Pet. at 31-39 with Ex. 1009, ¶¶57-60), and repeats the same conclusory assertions in the Petition.

As discussed *supra* in Section IV.C.1, an expert testimony that parrots the petition is not accorded any meaningful weight. *See Markforged*, IPR2022-01431, Paper 7 at 14; *LG Elecs.*, IPR2023-01111, Paper 10 at 15; *Content Square*, IPR2022-00316, Paper 13 at 38; *Man Wah*, IPR2019-00616, Paper 7 at 15-16.

Likewise here, the Board should accord the Haber Declaration little to no weight.

2. The Haber Declaration Lacks Facts and Data Supporting the Conclusory Opinions

Similar to Ground 1, as the Haber Declaration largely mirrors the Petition for Ground 2 as to its bald claim charts and conclusory statements, it likewise lacks citations to additional supporting evidence or any additional technical reasoning.

As discussed *supra* in Section IV.C.2, conclusory expert testimony does not carry meaningful weight. *See* 37 C.F.R. § 42.65(a); *TQ Delta*, 942 F.3d at 1358; *Xerox*, IPR2022-00624, Paper 9 at 15 (precedential); *Man Wah*, IPR2019-00616, Paper 7 at 15-16.

Likewise here, the Board should accord the Haber Declaration little to no weight.

3. The Petition Fails to Cite to Many Paragraphs of the Haber Declaration

Similar to Ground 1, the Petition lacks citations to many paragraphs of the Haber Declaration for Ground 2. For example, with respect to claim 1, the Petition only cites to ¶¶45-47, 50, and 58-60 of the Haber Declaration, despite the Haber Declaration providing additional paragraphs concerning claim 1. Pet. at 29, 32, 39; Ex. 1009, ¶¶51-63.

As discussed *supra* in Section IV.C.3, any paragraph of the Haber Declaration not specifically cited in the Petition should be disregarded and given no weight. *See* 37 C.F.R. § 104(b)(5); *Unified Patents*, IPR2020-01334, Paper 7 at

45 (the Board “typically do[es] not rely upon” expert declaration paragraphs not cited in the petition).

D. Ground 2 Fails on the Merits

Not only does the Petition’s Ground 2 fail to satisfy the requirements under Rules 42.22 and 42.104, Petitioner’s Ground 2 theory also fail on the merits.

Institution should be denied on this basis as well.

1. Claim 1

a. The Combination of Kametaka and Sepeur-340 Does Not Disclose a Surface Coating Comprising Zinc, Aluminum, and Titanium

Claim 1 recites “a coating medium used to form the surface coating comprises zinc powder, aluminum powder, titanium tetrabutanolate, **and** further constituents.” For this claim element, the Petition does not cite to Kametaka, but instead cites solely to Sepeur-340 ¶¶[0010], [0022]-[0023], and [0049]-[0051]. Pet. at 34-35.

However, none of these paragraphs in Sepeur-340 discloses the claimed combination of constituents. For example, Sepeur-340 ¶[0010] refers to “5 to 95 wt. % metallic magnesium, zinc, aluminum or titanium particles, or mixtures or alloys containing at least one of these metals.” Ex. 1004, ¶[0010] (emphasis added). Thus, ¶[0010], at best, teaches using **one** of these metals but not the

specific combination of zinc, aluminum, **and** titanium particles (let alone additionally “further constituents”).

Additionally, the Petition fails to offer any substantive reasoning as to why a POSA would combine zinc, aluminum, **and** titanium particles based on Sepeur-340’s teachings, let alone combining such specific arrangement of particles with Kametaka. While the Petition’s claim chart also cites to ¶¶[0022]-[0023] and [0049]-[0051] of Sepeur-340 (for a particular titanium compound), the Petition does not suggest that the example discussed in these paragraphs involves a mixture of all three constituents.

Therefore, Petitioner has failed to establish that Kametaka, Sepeur-340, or the combination of both disclose the claimed surface coating comprises zinc powder, aluminum powder, **and** titanium tetrabutanolate. Denial of institution is therefore appropriate.

b. Petitioner Fails to Show Either Reference Discloses the Claimed “Further Constituents”

Claim 1 recites “wherein a coating medium used to form the surface coating comprises zinc powder, aluminum powder, titanium tetrabutanolate **and further constituents**” (emphasis added). For this claim element, the Petition simply refers to various paragraphs in Sepeur-340 (Pet. at 34-35), but provides no mapping or any other explanation as to what disclosures within these paragraphs allegedly map

to the claimed “further constituents,” leaving it up to the reader to speculate and attempt to unravel Petitioner’s intended theory.

Once again, “[i]t is not the Board’s responsibility to weave together [p]etitioner’s evidence into a cohesive case.” *Nearmap*, IPR2024-00729, Paper 9 at 20-21 (citing *Parus*, 70 F.4th at 1371); *see also* 37 C.F.R. § 42.104(b)(4) (“The statement must identify ... **[h]ow** the construed claim is unpatentable under [§§ 102 and/or 103] ... [and] must specify **where** each element of the claim is found in the prior art patents or printed publications relied upon” (emphasis added)).

Petitioner has failed to establish that either Kametaka or Sepeur-340 discloses the claimed “further constituents.” As such, **even if** there existed a reason to combine Sepeur-835 with Norimatsu (which Patent Owner disagrees with, as explained below), Petitioner provides no evidence that the resulting combination still include a coating formed using a coating medium that comprises “further constituents.” Also, as discussed above, Petitioner’s assertion that this term is indefinite make discerning Petitioner’s intent as to applying these references to the claim element even more inscrutable.

Denial of institution is therefore appropriate.

c. Petitioner’s Motivation to Combine is Deficient on its Face

Petitioner avers, citing *Adams*, that “it would have been obvious to substitute the zinc plating insulating coating on the third-generation type vehicle wheel

bearing apparatus of US‘091 [Kametaka] with the zinc and aluminum coatings disclosed in US‘340 [Sepeur-340] because the mere substitution of one element for another known in the field would have been obvious.” Pet. at 38 (citing *Adams*, 383 U.S. at 50-51; see also Pet. at 25 (similarly relying on *Adams*)).

As discussed *supra* in Section IV.D.1.c, the holding in *Adams* requires that any proposed substitution ***must yield a predictable result***. *KSR*, 550 U.S. at 416 (citing *Adams*, 383 U.S. at 50-51).

Petitioner ignores this critical requirement. Neither the Petition nor the Haber Declaration assert that the proposed combination of Kametaka and Sepeur-340 would yield a predictable result. As discussed *supra* in Section IV.D.1.c, all references in the Petition and the Haber Declaration to “predictable” are inapposite other than Dr. Haber’s acknowledgement in ¶¶17 and 20 that this requirement is necessary for an obviousness finding (but not actually presenting any such analysis).

Petitioner’s reliance on *Adams*, without establishing how its “predictable result” requirement is satisfied, renders the Petition deficient. Institution should be denied on this basis.

d. Kametaka Dissuades from the Proposed Combination With Sepeur-340

Petitioner proposes to “***substitute the zinc plating*** insulating coating on the third-generation type vehicle wheel bearing apparatus of US‘091 [Kametaka] ***with***

the **zinc and aluminum** coatings disclosed in US‘340 [Sepeur-340].” Pet. at 38 (emphasis added). But Petitioner ignores that the objective of Kametaka’s coating is to offset the existing presence of aluminum, which causes electric corrosion.

Kametaka describes that the zinc insulating coating 30 is used to “prevent[] the premature electric corrosion of the knuckle N caused by combination of different kinds of metals, the galvanic corrosion” (Ex. 1006, ¶[0086]), as the knuckle is made of aluminum alloy while the outer member is made of carbon steel (*id.*, ¶¶[0085]-[0086]). Kametaka advocates “prevent[ing] the generation of electric **corrosion** on the knuckle that would be caused by a combination of the steel outer member and the **light alloy** knuckle and thus to provide a wheel bearing having improved reliability.” *Id.*, ¶[0030] (emphasis added), *see also* ¶[0086] (“This prevents the generation of electric corrosion on the knuckle N. That is, when **two kinds of metals** such as steel of the outer member 29 and **light alloy** of the knuckle N are exposed to a corrosion circumstances, metal of lower potential difference (in this case **aluminum alloy** of the knuckle) becomes an anode and causes the premature corrosion. The insulating coating 30 prevents the premature electric corrosion of the knuckle N caused by combination of different kinds of metals, the galvanic corrosion.” (emphasis added)).

Petitioner offers no explanation for why a POSITA would have **added** aluminum to Kametaka’s device, particularly where Kametaka specifically focuses

on preventing corrosion caused by aluminum. At the very least, Petitioner fails to demonstrate that substituting Kametaka's zinc coating with a zinc-and-aluminum coating would have produced predictable results, as required (*see supra* Section V.D.1.c). The failure to even acknowledge the issue, or have the expert address the same, renders the Petition lacking.

2. Claims 2-7

Claims 2-7 depend from independent claim 1. The Petition's deficiencies regarding claim 1 therefore likewise render fatal Petitioner's theories regarding claims 2-7.

VI. Petitioner Fails to Establish Reasonable Likelihood of Unpatentability as to Ground 3

The Petition fails to establish a reasonable likelihood that claims 1-7 are obvious over Yokota and Sepeur-794.

A. Summary of References

1. Yokota

U.S. 2017/0219013 (Ex. 1007; "Yokota")⁹ was considered during prosecution and was even used by the Examiner as a primary reference in rejecting certain claims.

⁹ Petitioner refers to this reference as "'013 Publication" or "US'013."

Yokota discloses a wheel bearing apparatus. Ex. 1007, Abstract. Yokota discloses the application of a nickel or zinc plating coating to improve corrosion resistance and quality of appearance. *Id.*, ¶[0025].

2. Sepeur-794

U.S. 2010/0175794 (Ex. 1005; “Sepeur-794”)¹⁰ discloses an active anti-corrosion coating on steel components. Ex. 1005, Abstract. Sepeur-794 specifically states that its invention “is intended for hot-formed and, in particular, press-hardened steel parts provided with antiscaling means.” *Id.*, ¶[0009].

Sepeur-794 does not disclose any specific environment or component (let alone a wheel bearing) for use with its coating, nor does Petitioner dispute otherwise.

B. The Petition Lacks Requisite Specificity and Particularity as to How Yokota and/or Sepeur-794 Disclose Elements of Independent Claim 1

The Petition’s Ground 3 suffers from the same critical deficiency as discussed *supra* for Grounds 1 and 2, *i.e.*, it fails to articulate **how** Yokota and/or Sepeur-794 disclose each claim element, and instead merely reproduces quotes from one or both references without any explanation, context, or clarification,

¹⁰ Petitioner refers to this reference as “‘794 Publication” or “US‘794.”

leaving it up to the reader to attempt to decipher Petitioner's theories. Institution should be denied on this basis alone.

For example, for the claim element "a wheel hub, wherein the wheel hub is connected to a wheel flange" as recited in claim 1, Petitioner merely quotes a passage from Yokota that refers to at least a wheel bearing apparatus 1, a hub spindle 3, an annular flange portion 5. Pet. at 46-47. But the Petition is wholly unclear as to whether Petitioner is mapping the claimed wheel hub to Yokota's wheel bearing apparatus 1 or to hub spindle 3.

For the claim element "wherein the inner ring comprises two bearing inner rings" as recited in claim 1, Petitioner cites a passage that refers to multiple features of an inner ring member 12, but provides no explanation of which of these features corresponds to one of the claimed "two bearing inner rings." Pet. at 47.

And for the claim element "wherein an axially outer bearing inner ring is formed in one piece on the wheel hub" as recited in claim 1, Petitioner simply quotes a passage containing multiple components, without any explanation of which feature corresponds to the claimed "axially outer bearing inner ring." Pet. at 47-48.

As discussed *supra* in Section IV.B, "***Petitioner has the responsibility*** to make plain its challenges to the disputed claims... It is ***not the Board's responsibility*** to weave together [p]etitioner's evidence into a cohesive case."

Nearmap, IPR2024-00729, Paper 9 at 21-22 (emphasis added). The question in deciding institution “is [whether] Petitioner provide[d] the arguments and evidence to show that the challenged claims are unpatentable,” “not whether [the Board] could come up with a way to understand how the asserted prior art could render the challenged claims unpatentable.” *Id.* As the answer here is in the negative, the Petition fails Rules 42.22(a)(2) and 42.104(b)(4) and should be denied institution.

C. The Haber Declaration is Likewise Deficient and Fails to Cure the Petition’s Shortcomings

Similar to Grounds 1 and 2, the Haber Declaration (Ex. 1009) generally mirrors the language in the Petition, and likewise fails to salvage the Petition’s failures to include the required specificity and particularity.

1. The Haber Declaration, Which Parrots the Petition Effectively Verbatim, Should be Accorded Little to No Weight

Similar to Grounds 1 and 2, the Haber Declaration is generally identical to the Petition for Ground 2, including even in wording (*e.g.*, compare Pet. at 45-54 with Ex. 1009, ¶¶77-81), and repeats the same conclusory assertions in the Petition.

As discussed *supra* in Section IV.C.1, an expert testimony that parrots the petition is not accorded any meaningful weight. See *Markforged*, IPR2022-01431, Paper 7 at 14; *LG Elecs.*, IPR2023-01111, Paper 10 at 15; *Content Square*, IPR2022-00316, Paper 13 at 38; *Man Wah*, IPR2019-00616, Paper 7 at 15-16.

Likewise here, the Board should accord the Haber Declaration little to no weight.

2. The Haber Declaration Lacks Facts and Data Supporting the Conclusory Opinions

Similar to Grounds 1 and 2, as the Haber Declaration largely mirrors the Petition for Ground 3 as to its bald claim charts and conclusory statements, it likewise lacks citations to additional supporting evidence or any additional technical reasoning.

As discussed *supra* in Section IV.C.2, conclusory expert testimony does not carry meaningful weight. *See* 37 C.F.R. § 42.65(a); *TQ Delta*, 942 F.3d at 1358; *Xerox*, IPR2022-00624, Paper 9 at 15 (precedential); *Man Wah*, IPR2019-00616, Paper 7 at 15-16.

Likewise here, the Board should accord the Haber Declaration little to no weight.

3. The Petition Fails to Cite to Many Paragraphs of the Haber Declaration

Similar to Grounds 1 and 2, the Petition lacks citations to many paragraphs of the Haber Declaration for Ground 3. For example, with respect to claim 1, the Petition only cites to ¶¶78-83 of the Haber Declaration, despite the Haber Declaration providing additional paragraphs concerning claim 1. *Pet.* at 46, 54-55; *Ex.* 1009, ¶¶75-83.

As discussed *supra* in Section IV.C.3, any paragraph of the Haber Declaration not specifically cited in the Petition should be disregarded and given no weight. *See* 37 C.F.R. § 104(b)(5); *Unified Patents*, IPR2020-01334, Paper 7 at 45 (the Board “typically do[es] not rely upon” expert declaration paragraphs not cited in the petition).

D. Institution Should Be Denied Under 35 U.S.C. § 325(d) and *Becton, Dickinson & Co.*

Petitioner acknowledges that Yokota was relied on by the Examiner as a primary reference to reject various claims during prosecution. Pet. at 3-4. Notably, the Examiner cited to Yokota’s discussion of a zinc coating, and cited a secondary reference with respect to substituting a zinc and aluminum coating. *Id.*; Ex. 1011, pp. 39-40.

Petitioner’s Ground 3 presents a similar argument—asserting that combining a coating formed of zinc and aluminum (as purportedly taught by Sepeur-794) with Yokota would have been obvious. Pet. at 53 (“substitute the insulating **zinc** plating on the third-generation type vehicle wheel bearing apparatus of US‘013 [Yokota] **with the zinc and aluminum** metal coating compositions of US‘794 [Sepeur-794] ...” (emphasis added)), 54 (“apply the **zinc and aluminum** metal coating compositions of US‘794 [Sepeur-794] to the vehicle wheel bearing hubs of US‘013 [Yokota] ...” (emphasis added)).

As Ground 3 relies on the same or substantially the same art and the same arguments presented by the Examiner during prosecution, and overcome, it was incumbent on Petitioner to demonstrate that the Office made an error during prosecution, or at the very least present arguments that demonstrate the ground somehow addresses the issues overcome during prosecution. 35 U.S.C. § 325(d); *Becton, Dickinson, and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17-28 (PTAB Dec. 15, 2017) (precedential)”; *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential) (citing *Becton, Dickinson*, IPR2017-01586, Paper 8 at 24) (“If the same or substantially the same prior art or arguments previously were presented to the Office, then the Board’s decisions generally have required a showing that the Office erred in evaluating the art or arguments. ... If the petitioner fails to show that the Office erred, the Director may exercise his discretion not to institute *inter partes* review.” (internal quotations omitted)).

The Petition wholly fails to meet this well-established requirement. Institution should therefore be denied under 35 U.S.C. § 325(d). *Advanced Bionics*, IPR2019-01469, Paper 6 at 8-9 (where “the petitioner fails to make a showing of material error, the Director generally **will exercise discretion not to institute** *inter partes* review” (emphasis added)).

E. Ground 3 Fails on the Merits

Not only does the Petition's Ground 3 fail to satisfy the requirements under Rules 42.22 and 42.104, Petitioner's Ground 3 theory also fail on the merits. Institution should be denied on this basis as well.

1. Claim 1

a. Petitioner Fails to Show Either Reference Discloses the Claimed Zinc Flake Coating

Claim 1 recites that “the surface coating is formed as a zinc *flake* coating.” For this claim element, the Petition does not cite to Yokota, but instead cites solely to Sepeur-794 ¶¶[0032], [0033], 0[0050], and [0051]. Pet. at 48-49. However, none of these paragraphs in Sepeur-794 discloses a zinc *flake* coating. These paragraphs merely refer to a zinc “pigment paste,” and Petitioner offers no explanation as to how a zinc pigment paste would (or even could) read on the claimed “zinc flake coating.”

Furthermore, claim 1 also recites “a coating medium used to form the surface coating comprises zinc *powder*, aluminum *powder*, titanium tetrabutanolate and further constituents.” For this claim element, the Petition does not cite to Yokota, but instead cites solely to Sepeur-794 ¶¶[0034], [0050], and [0051]. Pet. at 49. However, none of these paragraphs of Sepeur-794 disclose zinc *powder* or aluminum *powder*. These paragraphs merely refer to “Al pigment paste and Zn pigment paste,” and Petitioner provides no explanation as to how zinc or aluminum

pigment pastes would (or even could) read on the claimed “zinc powder” and “aluminum powder.”

As noted above, “[i]t is not the Board’s responsibility to weave together [p]etitioner’s evidence into a cohesive case.” *Nearmap*, IPR2024-00729, Paper 9 at 20-21 (citing *Parus*, 70 F.4th at 1371).

Therefore, Petitioner has failed to establish that either Yokota or Sepeur-794 disclose the claimed “zinc flakes” or the claimed “zinc powder” and “aluminum powder.” As such, ***even if*** there existed a reason to combine Sepeur-794 with Yokota (which Patent Owner disagrees with, as explained below), Petitioner provides no evidence that the resulting combination still include a coating formed as a “zinc ***flake*** coating” or formed using “zinc ***powder***” and “aluminum ***powder***.”

Denial of institution is therefore appropriate.

b. Petitioner Fails to Show Either Reference Discloses the Claimed “Further Constituents”

Claim 1 recites “wherein a coating medium used to form the surface coating comprises zinc powder, aluminum powder, titanium tetrabutanolate ***and further constituents***” (emphasis added). For this claim element, the Petition simply refers to a quote in Sepeur-794 that “[t]he coating is composed of Al pigment paste and Zn pigment paste dissolved in tetrabutylorthotitanate and applied by a paint spray gun” (Pet. at 49), but provides no mapping or any other explanation as to what disclosures within these paragraphs allegedly map to the claimed “further

constituents,” leaving it up to the reader to speculate and attempt to unravel Petitioner’s intended theory.

Once again, “[i]t is not the Board’s responsibility to weave together [p]etitioner’s evidence into a cohesive case.” *Nearmap*, IPR2024-00729, Paper 9 at 20-21 (citing *Parus*, 70 F.4th at 1371); *see also* 37 C.F.R. § 42.104(b)(4) (“The statement must identify ... **[h]ow** the construed claim is unpatentable under [§§ 102 and/or 103] ... [and] must specify **where** each element of the claim is found in the prior art patents or printed publications relied upon” (emphasis added)).

Petitioner has failed to establish that either Yokota or Sepeur-794 disclose the claimed “further constituents.” As such, **even if** there existed a reason to combine Sepeur-794 with Yokota (which Patent Owner disagrees with, as explained below), Petitioner provides no evidence that the resulting combination still include a coating formed using a coating medium that comprises “further constituents.” Also, as discussed above, Petitioner’s assertion that this term is indefinite make discerning Petitioner’s intent as to applying these references to the claim element even more inscrutable.

Denial of institution is therefore appropriate.

c. Petitioner’s Motivation to Combine is Deficient on its Face

Petitioner avers, citing *Adams*, that “it would have been obvious to substitute the insulating zinc plating on the third-generation type vehicle wheel bearing

apparatus of US‘013 [Yokota] with the zinc and aluminum metal coating compositions of US‘794 [Sepeur-794] because the mere substitution of one element for another known in the field would have been obvious.” Pet. at 53 (citing *Adams*, 383 U.S. at 50-51; *see also* Pet. at 25 (similarly relying on *Adams*)).

As discussed *supra* in Section IV.D.1.c, the holding in *Adams* requires that any proposed substitution ***must yield a predictable result***. *KSR*, 550 U.S. at 416 (citing *Adams*, 383 U.S. at 50-51).

Petitioner ignores this critical requirement. Neither the Petition nor the Haber Declaration assert that the proposed combination of Kametaka and Sepeur-340 would yield a predictable result—as discussed *supra* in Section IV.D.1.c, all references in the Petition and the Haber Declaration to “predictable” are inapposite other than Dr. Haber’s acknowledgement in ¶¶17 and 20 that this requirement is necessary for an obviousness finding (but not actually presenting any such analysis).

Petitioner’s reliance on *Adams*, without establishing how its “predictable result” requirement is satisfied, renders the Petition deficient. Institution should be denied on this basis.

d. A POSA Would Not Have Been Motivated to Combine Sepeur-794 with Yokota

Petitioner avers that a POSITA “would have been motivated to apply the zinc and aluminum metal coating compositions of US‘794 [Sepeur-794] to the

vehicle wheel bearing hubs of US‘013 [Yokota] because US‘794 [Sepeur-794] teaches a metal oxide and metal pigment, in particular zinc pigment and aluminum pigment, that protect **steel** effectively against corrosion even when the layer thickness is in the lower micron range and that impart highly resistant edge protection to the coated **steel** component.” Pet. at 54 (emphasis added).

Sepeur-794 discloses that its coating is specifically intended for press-hardened steel parts. Ex. 1005, Abstract, ¶[0009].

However, Yokota is entirely silent regarding its components made of steel, nor does Petitioner identify any teaching or suggestion within Yokota to form its components of steel.

Petitioner’s alleged motivation to combine Sepeur-794 with Yokota is predicated on—and incorrectly assumes—that Yokota’s components are formed of steel. As such, Petitioner’s motivation to combine these references is, at best, lacking in the development and analysis needed to support its arguments. Institution should be denied as a result.

2. Claims 2-7

Claims 2-7 depend from independent claim 1. The Petition’s deficiencies regarding claim 1 therefore likewise render fatal Petitioner’s theories regarding claims 2-7.

VII. Conclusion

For at least the reasons set forth herein, the Board should deny institution.

Respectfully submitted,

December 20, 2024

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I hereby certify that the foregoing Patent Owner Preliminary Response Under 37 C.F.R. § 42.107 contains 8,870 words as measured by the word processing software used to prepare the document, excluding the cover page, signature block, and portions exempted under 37 C.F.R. § 42.24(a).

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CERTIFICATE OF SERVICE

I certify that a copy of the Patent Owner Preliminary Response Under 37 C.F.R. § 42.107 was served on Petitioner by causing it to be sent by email to counsel for Petitioner at the following email address:

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