

UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE PATENT TRIAL AND APPEAL BOARD

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VF Outdoor, LLC  
Petitioner

v.

Cocona, Inc.  
Patent Owner

Patent No. 8,945,287  
*Inter Partes* Review No. IPR2018-00190

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**PATENT OWNER'S PRELIMINARY RESPONSE**

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## **I. INTRODUCTION**

The Board should decline to institute *inter partes* review for claims 27, 28, 30, 32, 33, and 35-39 (the “challenged claims”) of the Petition regarding U.S. Patent No. 8,945,287 (the “Patent”) for at least the reason that Petitioner VF Outdoor, LLC has not met its burden of proving, under 35 U.S.C. § 314(a) and 37 C.F.R. § 42.108(c), that there is a reasonable likelihood that the claims are unpatentable.

## **II. CLAIM CONSTRUCTION**

In an IPR, the Board shall give a claim its broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.100(b). The broadest reasonable interpretation (“BRI”) of a claim term is the plain language of the term in view of the specification, as interpreted by a person of ordinary skill in the art (“POSITA”). *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010).

### **A. Active Particles**

For the purpose of deciding whether to institute *inter partes* review, Cocona submits that the Board should construe “active particles” as “particles that adsorb or trap substances on their surface.” This construction is taken from the Patent’s specification and is consistent with the BRI standard in view of the intrinsic record.

Petitioner’s proposed construction of “active particles” as “particles capable of causing chemical reactions at their surface or capable of physical reactions, including the ability to adsorb, absorb, or trap substances” should be rejected as

overly broad and inconsistent with the intrinsic record. Pet. at 13. (Emphasis added). More specifically, Petitioner's proposed construction improperly broadens "active particles" in at least two ways. First, Petitioner's proposed construction encompasses particles that react by absorption, which is a bulk process that is very different from the surface-active process of adsorption. Haggquist Decl. (Ex. 2001) at ¶¶ 10-11. Second, Petitioner's proposed construction stretches "active particles" even further to encompass any particle "capable of physical reactions," which includes practically any particle. Petitioner's proposed claim construction is clearly overbroad and has the effect of reading the word "active" right out of the claims in violation of the canons of claim construction. The broadest possible interpretation (*i.e.*, reading the word "active" out of the claims) is not the broadest reasonable interpretation.

Independent claim 27, the only challenged independent claim, recites:

A water-proof composition comprising:  
a liquid-impermeable breathable cured base material  
comprising a first thickness;  
a plurality of active particles in contact with the liquid-  
impermeable breathable cured base material, the plurality  
of active particles comprising a second thickness;  
and wherein, the first thickness comprises a thickness at  
least 2.5 times larger than the second thickness but less  
than an order of magnitude larger than the second

thickness, the active particles improve the moisture vapor transport capacity of the composition, and a moisture vapor transmission rate of the water-proof composition comprises from about 600 g/m<sup>2</sup>/day to about 11000 g/m<sup>2</sup>/day.

Patent at claim 27. (Emphasis added).

Claim 27, as shown above, recites “a plurality of active particles” that “improve the moisture vapor transport capacity of the composition.” Claims 28-38 depend directly from claim 27 and further define the “active particles” of claim 27.

Consistent with claim 27, the Patent explains that use of “active particles” can provide desirable properties including enhanced moisture vapor transport, odor adsorption, and anti-static properties. *See, e.g.*, Patent at Abstract (“The active particles incorporated in the membrane may improve or add various desirable properties to the membrane, such as for example, the moisture vapor transport capability, the odor adsorbance, the anti-static properties, or the stealth properties of the membrane.”).

A person of ordinary skill in the art understands that “active particles” are “active” because they adsorb or trap substances on their surface.

These particles may provide such properties because they are “active.” That is, the surface of these particles may be active. Surface active particles are active because they have the capacity to cause chemical reactions at the

surface or physical reactions, such as, adsorb or trap substances, including substances that may themselves be a solid, liquid, gas or any combination thereof.

Patent at 4:4-10. (Emphasis added).

Certain types of active particles (such as activated carbon) have an adsorptive property because each particle has a large surface area made up of a multitude of pores (e.g., pores on the order of thousands, tens of thousands, or hundreds of thousands per particle). It is these pores that provide the particle or, more particularly, the surface of the particle with its activity (e.g., capacity to adsorb). For example, an active particle such as activated carbon may adsorb a substance (e.g., butane) by trapping the substance in the pores of the activated carbon.

*Id.* at 4:12-21. (Emphasis added).

These particles can provide such properties because they are “active”. Active particles are active because they have the capacity to adsorb or trap substances, including substances that may themselves be a solid, liquid, and/or gas, for example, pollen, water, butane, and ambient air. Active particles have an adsorptive property because each particle has a multitude of pores (e.g., pores on the order of thousands, tens of thousand, or hundreds of thousands per particle). It is these pores that provide the



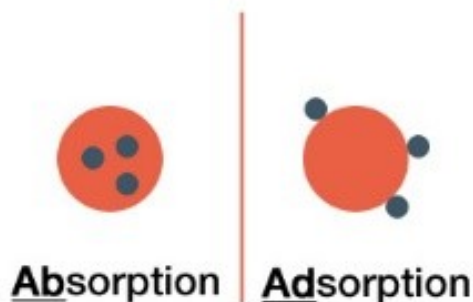
active particle with its capacity to adsorb. For example, an active particle such as activated carbon can adsorb a substance (e.g., butane) by trapping the substance in the pores of the activated carbon.

Haggquist (Ex. 1004) at ¶ 28. (Emphasis added).

Active particles are particles that have pores or traps, and have the capacity to adsorb substances in solid, liquid, and/or gas phases, and combinations thereof. These pores can vary in size, shape, and quantity, depending on the type of active particle. For example, some particles naturally have pores, such as volcanic rock, and other particles such as carbon may be treated with extreme temperature and an activating agent such as oxygen to create the pores.

*Id.* at ¶ 28. (Emphasis added).

As discussed in the Patent and as shown above, adsorption results from the large surface area provided by certain particles, such as activated carbon. *See* Haggquist at Fig. 1 (depicting the pores of an active particle); Ex. 2001 at ¶¶ 8-11. Absorption, on the other hand, is a bulk process—not a surface process—where a fluid or gas is dissolved by a liquid or a solid. Ex. 2001 at ¶¶ 10-11. One well-known example of absorption is dissolving salt into water.



The image above depicts the difference between the surface-active process of adsorption (shown on the right) and the bulk dissolution process of absorption (shown on the left). *Id.* A person of ordinary skill in the art understands that adsorption and absorption are two very different processes. *Id.*

Cocona’s proposed construction of “active particles” as “particles that adsorb or trap substances on their surface” is taken straight from the Patent, is consistent with the understanding of a person of ordinary skill in the art in view of the specification, and should therefore be adopted as consistent with broadest reasonable interpretation standard.

In an effort to have the Board adopt an overly-broad construction for “active particles,” Petitioner ignores and mischaracterizes the intrinsic record. To that end, Petitioner’s primary argument for reading the word “active” out of the claims rests on obvious typographical errors in Haggquist (Ex. 1004) (“Haggquist”). Ex. 2001 at ¶¶ 12-13.

Haggquist is a U.S. pre-grant publication, and was published with 32 claims on January 29, 2004. Then-pending claim 1 recited “An encapsulated active

particle comprising an active particle that is at least partially encapsulated by at least one encapsulant that inhibits absorption by said active particle.” *Id.* (Emphasis added). This reference to “absorption by said active particle” is an obvious typographical error given that Haggquist clearly teaches active particles adsorbing substances and the use of an encapsulant to stop or deactivate adsorption. *See* Ex. 2001 at ¶ 12 (reference to absorption in then-pending claim 1 a clear typographical error); Haggquist at ¶ 4 (“These particles can provide such properties because they are ‘active’. Active particles are active because they have the capacity to adsorb or trap substances, including substances that may themselves be a solid, liquid, and/or gas, for example, pollen, water, butane, and ambient air.”) (Emphasis added); *Id.* at ¶ 4 (“A common problem often associated with active particles is that they can be prematurely deactivated. When active particles are premature deactivated, the particles cannot adsorb substances originally intended to be adsorbed, but instead, adsorbed some undesired substance.”) (Emphasis added); *Id.* at ¶ 7 (“Other substances that are prematurely adsorbed may be relatively easy to remove.”); *Id.* at ¶ 13 (“The objects of the invention are accomplished by deactivating active particles with a removable substance (e.g., encapsulant) for protection against premature deactivation. The removable substance, as used on or with the active particles, deactivates the active particles by blocking or inhibiting the pores of the active particles.”) (Emphasis added); *Id.* at ¶

28 (“Active particles are particles that have pores or traps, and have the capacity to adsorb substances in solid, liquid, and/or gas phases, and combinations thereof.”) (Emphasis added); *Id.* at ¶ 29 (“Active particles are particles that can adsorb a substance or have the potential to adsorb a substance.”) (Emphasis added); *Id.* at ¶ 31 (“FIG. 1 shows a cross-sectional view of a portion of an active particle 100 having pores 120 dispersed throughout the periphery of the particle. As shown in FIG. 1, at least some of pores 120 are filled by encapsulant 110 (e.g., a removable substance).”) (Emphasis added); *Id.* at ¶ 32 (discussing that an active particle encapsulant “prevents deleterious or unintended substances from being adsorbed or deactivate through other adverse conditions”) (Emphasis added); *Id.* at ¶ 37 (“For example, the encapsulant can fill at least a portion of each pore, fill at least a portion of the pores, fill all the pores, cover portions of each active particle, encompass the entire active particle, or encapsulate using combinations thereof. The regions of the active particle in which the encapsulant has been applied are blocked or inhibited from further adsorption.”) (Emphasis added); *Id.* at ¶ 38 (“When the encapsulated particles are subjected to step 220, the portions of the active particles that have been previously deactivated by the encapsulate are unable to further adsorb.”) (Emphasis added); *Id.* at ¶ 41 (“Removing the encapsulant rejuvenates the pores of the active particles and bestows the performance enhancing characteristics of the active particles to the embedding substance,

without damaging the embedding substance.”) (Emphasis added); *Id.* at ¶ 46 (“Thus, the encapsulant may fill the pores of the active particles...”); *Id.* at ¶ 48 (discussing encapsulated activated carbon); *Id.* at ¶ 56 (“Note that the encapsulant preserves the active particles as they are mixed with the base material by preventing the base material from entering the pores during formation of the master batch.”); *Id.* at ¶ 84-86 (discussing encapsulated activated carbon); *Id.* at ¶ 80 (discussing odor adsorbance); *Id.* at ¶ 92, 84, 99 (discussing butane adsorbance by activated carbon). Petitioner ignores the breadth of the intrinsic record in support of its overly-broad construction.

Petitioner also relies on one sentence in paragraph 14 of Haggquist to support its overly-broad construction for “active particles.” Pet. at 12-13. When paragraph 14 is viewed as a whole by a person of ordinary skill in the art, it is clear that the words “absorption” and “absorbed” are typographical errors and were not intended by the inventor to alter the meaning of “active particles.” *See* Ex. 2001 at ¶ 13 (references to absorption in paragraph 14 of Haggquist typographical error).

Paragraph 14 of Haggquist is shown below, with references to adsorption in underline and references to absorption in italics:

One advantage of deactivating the active particles with the removable substance is that it can prevent the active particles from prematurely adsorbing a substance. If the active particles prematurely adsorb a substance (e.g., a

deleterious substance) or are otherwise exposed to an adverse condition affecting adsorption, the particles can deactivate before having an opportunity to adsorb desirable substances. Premature deactivation can include deactivation on account of *absorption* occurring at an undesirably early time whether or not the *absorbed* substance was deleterious, non-deleterious or even the intended target. For example, assume that active particles are introduced for the purpose of adsorbing substance “A”, but before the active particles can be used for that purpose, the active particles prematurely deactivate by adsorbing substance “B,” which is not easily removeable. Had the active particles been deactivated with the removable substance, the active particles may not have prematurely adsorbed substance “B”.

*Id.* (Emphasis added).

As shown above, paragraph 14 discusses deactivating active particles (*e.g.*, blocking their pores) to keep them from prematurely adsorbing a substance. *Id.* There are four references to deactivation by adsorption in paragraph 14 before the sentence relied on by Petitioner, and then three more references to adsorption after. A person of ordinary skill in the art would recognize that the references to absorption are obvious typographical errors because the pores of an active particle are blocked (*e.g.*, deactivated) by adsorption, not by absorption. *See* Ex. 2001 at ¶ 13 (references to absorption in paragraph 14 of Haggquist typographical error).

The correct adsorptive reading of paragraph 14 is further supported by reference to the active particles' "intended target," which is clearly a substance intended to be adsorbed by the active particles. *See, e.g.*, Haggquist at ¶ 4 ("For example, an active particle such as activated carbon can adsorb a substance (e.g., butane) by trapping the substance in the pores of the activated carbon."). Nowhere does the Patent describe the intended target or application of the claimed active particles as the bulk process of absorption. Moreover the hypothetical in the last sentence of paragraph 14, which involves "active particles prematurely deactivat[ing] by adsorbing substance 'B'", makes it abundantly clear that the paragraph is directed to deactivation by premature adsorption. A person of ordinary skill in the art, on reading the Patent, would understand that "active particles" work by adsorbing or trapping substances on their surfaces, not by absorption. *See* Ex. 2001 at ¶¶ 8-11 (active particles work by adsorbing or trapping substances on their surfaces).

Petitioner asserts "Further the definition of active particles cannot be limited to adsorptive particles, since the '287 Patent discloses other activity in addition to adsorption," and cites to the Patent at 6:4-10. The cited passage states:

When deactivation is the result of performance activity  
(in this case, performance adsorption) by the particles  
when incorporated in an article (adsorption at a time after  
removal of the removable protective substance),

performance activity may be restored through rejuvenation (or other reactivation) if desired and if such deactivation was due to a non-deleterious event.

*Id.* (Emphasis added).

The cited language does not support the Petition’s assertion on page 13 that “active particles cannot be limited to adsorptive particles.” On the contrary, the cited language actually supports Cocona’s proposed construction of “active particles” as “particles that adsorb or trap substances on their surface.” The “performance activity” discussed in the cited language is simply the intended adsorptive action of the active particles, such as water adsorption. *See, e.g.*, Patent at 5:59-65 (“In the case of adsorptive activity and moisture management, when a removable protective substance is introduced to the active particle prior to exposure of the active particle to a deleterious event or other adsorptive performance limiter, the active particle is placed in a protected or deactivated state, limiting performance adsorption of the active particle for the time when premature deactivation is to be avoided.”); Haggquist at ¶ 5 (“Exposing the active particles to a substance can prematurely deactivate the active particles by blocking or inhibiting the pores, thus reducing the adsorptive capacity of the active particles.”). Petitioner’s argument ignores the clear teachings of the intrinsic record and should be rejected.



## **B. First and Second Thicknesses**

For the purpose of deciding whether to institute inter partes review, Cocona submits that the Board should construe “first thickness” as “first layer or membrane” and “second thickness” as “second layer or membrane.” These constructions are consistent with the claim language and the intrinsic record in view of the BRI standard.

Petitioner’s proposed construction of “first thickness” as “the thickness of the water-proof composition, which includes the base material and the active particles” (Pet. at 11) and “second thickness” as “the particle size of the active particles” (Pet. at 14) should be rejected as contrary to the claim language and unsupported by the intrinsic record.

It is axiomatic that claim construction is focused on the language of the claims. As shown below in claim 27, each of the “thicknesses” is appropriately understood as a layer or membrane, with the “first thickness” (base material) being “in contact with” the “second thickness” (the plurality of active particles):

A water-proof composition comprising:

a liquid-impermeable breathable cured base material  
comprising a first thickness;

a plurality of active particles in contact with the liquid-  
impermeable breathable cured base material, the plurality  
of active particles comprising a second thickness;

...

Patent at claim 27. (Emphasis added).

Consistent with the claim language, the intrinsic record makes clear that the “first thickness” is a layer or membrane. *See, e.g., id.* at Abstract (“The present disclosure relates to active particle-enhanced membrane and methods for making and using the same.”); *Id.* at 2:12-13 (“The present disclosure relates to active particle-enhanced membrane and methods for making and using the same.”).

Accordingly, Cocona’s proposed construction of “first thickness” as “first layer or membrane” should be adopted by the Board as consistent with the claim language and specification.

Like for the “first thickness,” the broadest reasonable interpretation of “second thickness” is “second layer or membrane.” First, Cocona’s proposed construction should be adopted as providing consistency to the “thickness” claim language. *See Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1334 (Fed. Cir. 2003) (“unless otherwise compelled ... the same claim term in the same patent or related patents carries the same construed meaning.”).

Second, Cocona’s proposed construction for “second thickness” as “second layer or membrane” should be adopted as consistent with the embodiments of the Patent that disclose placing a layer of active particles in contact with a base material (often using a solution or liquid suspension of active particles). *See, e.g.,* Haggquist (Ex. 1004) at ¶ 67 (“The principles of the present invention can be incorporated into an air dispersion method for treating an embedding substance ... and (d) fixes the active particles to the embedding substance.”); *Id.* at ¶ 68 (“The fixing step, referred to above at step (d), is the step that permanently attaches the particles to the embedding substance. In one approach, this step may be implemented by using a solution that contains a binding agent and a solvent (e.g., water). This solution is applied to bind the particles to the embedding substance. The binding agent serves as the “glue” that secures the particles to the embedding substance, but the water serves as the “carrier” for carrying the binding agent through the embedding substance to the particles.”); *Id.* at ¶ 71 (“The principles of the present invention can be incorporated into a padding method that is used to treat an embedding substance. The padding method involves passing a material (e.g., yarn, fabric, etc.) through a bath of active particles.”); *Id.* at ¶ 72 (“The active particles can be permanently attached to the embedding substance through application of a binding agent. The binding agent is typically applied to the embedding substance as a solution either before or after the embedding substance

passes through the padding chamber.”); *Id.* at ¶ 71 (“This combined mixture is sometimes referred to as a liquid suspension. This suspension can, for example, be sprayed onto the embedding substance, can be applied to the embedding substance by a roller or other applicator, or can be used as a bath in which embedding substance can be submersed.”); *Id.* at ¶ 78 (“The principles of the present invention can also be incorporated into a xerographic method for treating an embedding substance. The xerographic method uses the principles of electrostatic or magnetic attraction to transfer a toner formulation from a hopper to a drum assembly.”); *Id.* at claim 5 (reciting “A method for incorporating active particles into an embedding substance”); *Id.* at claim 11 (reciting “an air dispersion process, a padding process, a xerographic process, and a solution preparation process”).

Accordingly, Cocona’s proposed construction of “second thickness” as “second layer or membrane” should be adopted by the Board as consistent with the claim language and specification in view of the broadest reasonable interpretation standard.

Petitioner’s proposed constructions for “first thickness” and “second thickness” violate a number of claim construction principles and should be rejected by the Board.

Petitioner’s proposed construction of “first thickness” as “the thickness of the water-proof composition, which includes the base material and the active

particles” (Pet. at 11) improperly re-writes a number of limitations in the claim. By way of example, Petitioner’s proposed construction re-writes the claim to make the “water-proof composition” (the claim preamble) the “first thickness” instead of the “cured base material.” But that is not how the claim is written. The claim recites a “base material comprising a first thickness” and so the “first thickness” plainly does not correspond to “the base material and the active particles” as urged by Petitioner. Moreover, Petitioner’s proposed construction assumes that the preamble is limiting—which it is not—and the Petition fails to explain why it should be limiting in this instance. Accordingly, Petitioner’s proposed construction for “first thickness” substantively re-writes the claim in violation of the BRI standard and should therefore be rejected.

Petitioner’s arguments that the Patent specification and prosecution history support its substantial re-writing of claim 27 also miss the mark. *See, e.g.*, Pet. at 10-16. For example, Petitioner asserts on pages 10-11 of the Petition that the applicant’s identification of support for the “first thickness” amendment to then-pending claim 28 (issued claim 27) provides a basis for Petitioner’s proposed construction. While the applicant did identify support for the “first thickness” claim amendment, the identification of support for purposes of 35 U.S.C. § 112 did not act to re-write or re-define the plain language of the claims as urged by Petitioner. Indeed, contrary to Petitioner’s arguments, the applicant was explicit

that the “first thickness” corresponds to the “base material” (*e.g.*, not to the water-proof composition including the base material and the active particles as urged by Petitioner). *See* Ex. 1007 at 17 (“Applicant has amended independent claims 1, 28, 63 and 68 to include the claim features that the cured base material solution comprises a first thickness and the plurality of active particles comprises a second thickness, with the first thickness being less than an order of magnitude larger than the second thickness.”) (Emphasis added). Moreover, in view of the applicant’s remarks during prosecution that “the cured base material solution comprises a first thickness,” any ambiguity in the prosecution history regarding the “first thickness” does not rise to the level of a clear and unambiguous definitional statement or disclaimer. Petitioner’s proposed construction for “first thickness” should therefore be rejected as contrary to the plain language of the claim and as unsupported by the intrinsic record.

Petitioner’s proposed construction of “second thickness” as “the particle size of the active particles” (Pet. at 14) should likewise be rejected. The claim clearly states that the plurality of active particles comprise the “second thickness,” not the individual particles as urged by Petitioner. Petitioner again erroneously conflates the identification of support for a claim amendment with a definitional statement. Pet. at 13-14. But the applicant was clear that the “second thickness” corresponds to the plurality of active particles. *See* Ex. 1007 at 17 (“Applicant has amended

independent claims 1, 28, 63 and 68 to include the claim features that the cured base material solution comprises a first thickness and the plurality of active particles comprises a second thickness, with the first thickness being less than an order of magnitude larger than the second thickness.”) (Emphasis added). In view of the applicant’s express remarks during prosecution that “the plurality of active particles comprises a second thickness,” any ambiguity in the prosecution history regarding the “second thickness” cannot not rise to the level of a clear and unambiguous definitional statement or disclaimer. Petitioner’s proposed construction for “second thickness” should therefore be rejected as contrary to the plain language of the claim and as unsupported by the intrinsic record.

### **III. THE BOARD SHOULD DENY INSTITUTION OF GROUNDS 1-4 BECAUSE PETITIONER HAS FAILED TO MEET ITS BURDEN UNDER § 314(A)**

In Grounds 1 and 3, Petitioner has failed to show that the alleged anticipatory references to Dutta (Ex. 1002) and Halley (Ex. 1003) disclose “active particles,” a “first thickness,” and a “second thickness” consistent with the broadest reasonable interpretation of those terms. Ground 2, which alleges obviousness over Dutta and Haggquist, should be denied for at least the reasons given for the denial of Ground 1. Ground 4, which alleges obviousness over Halley and Haggquist, should be denied for at least the reasons given for the denial of Ground 3. Petitioner has not met its burden under § 314(a) to show a reasonable likelihood

that the challenged claims are invalid, and Cocona submits that the Petition should be denied in its entirety.

Determining whether a claim is anticipated is a two-step procedure: first the claim must be construed, then each element of the properly construed claim must be compared to the prior art. *Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1332 (Fed. Cir. 2010). To anticipate the claim, the prior art must disclose all elements of the claim, arranged as in the claim. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008). To justify institution of an IPR on anticipation grounds, a petitioner must explain specifically why or how the alleged disclosure anticipates the claim. *Tasco, Inc. v. Pagnani*, IPR2013-00103, Decision Denying Institution at 11 (Paper 6, May 23, 2013); *Google v. EveryMD*, IPR2014-00347, Decision Denying Institution at 17-20 (Paper 9, May 22, 2014) (“Google”); *see also* 37 C.F.R. § 42.104(b) (Petition must identify how the claim is to be construed, how the construed claim is unpatentable, and the relevance of cited evidence).

Petitioner cannot shift its burden to the Board, asking the Board to “sift through” their Petition and references to determine where each element of a claim is found in the art and identify any differences. *Google* at 25. Rather, the Board “will address only the basis, rationale, and reasoning put forth by the Petitioner in the petition, and resolve all vagueness and ambiguity in Petitioner’s arguments



against the Petitioner.” *Liberty Mutual Ins. Co. v. Progressive Casualty Ins. Co.*, CBM2012- 00003, Order Denying Grounds at 10, 14 (Paper 8, Oct. 25, 2012) (“Liberty Mutual”). “It would be unfair to expect the Patent Owner to conjure up arguments against its own patent and just as inappropriate for the Board to take the side of the Petitioner to salvage an inadequately expressed ground proposing an alternative rationale.” *Liberty Mutual* at 14.

Likewise, the Board should ignore arguments presented only in an expert declaration and cited without explanation. The petition, not the declaration, must specify where the claim elements are found in the art. 37 C.F.R. §§ 42.104(b)(4), 42.22(a). The petition must include a detailed explanation of the declaration’s significance, or the Board may exclude or give no weight to the cited declaration. 37 C.F.R. §§ 42.22(a)(2), 42.104(b)(5). These rules prevent a petitioner from avoiding page limits by stuffing its expert declaration with argument.

An obviousness analysis must be based on several factual inquiries: “(1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the art at the time the invention was made; and (4) objective evidence of nonobviousness, if any.” *Leo Pharm. Prods. v. Rea*, 726 F.3d 1346, 1353 (Fed. Cir. 2013) (quoting *In re Kubin*, 561 F.3d 1351, 1355 (Fed. Cir. 2009)).

To justify institution of an IPR, a petitioner must therefore meaningfully address the scope and content of the prior art, and any differences between the prior art and the claims. *Google* at 24-25; *Naughty Dog, Inc. v. McRO, Inc.*, IPR2014-00197, Decision Denying Institution at 20-22 (Paper 11, May 28, 2014) (“Naughty Dog”); *see also* 37 C.F.R. § 42.104(b) (Petition must identify how the claim is to be construed, how the construed claim is unpatentable, and the relevance of cited evidence). Petitioner fails to make these factual inquiries.

**A. The Board should deny institution of Ground 1 because the Petition fails to show how Dutta discloses “active particles”**

The Petition asserts for Ground 1 that claims 27, 28, 30, 32, and 36-37 of the Patent are anticipated by Dutta. Pet. at 7. The Petition, however, relies on an overly-broad construction for “active particles” that is designed to manufacture anticipation using a reference that does not disclose “active particles.” Ground 1 should thus be denied since Petitioner has not carried its burden under § 314(a) to show how the “active particles” element, when properly construed, is met by Dutta.

The Petition asserts that Dutta’s “absorbent particles” disclose the “active particles” of claim 27. *See* Pet. at 2 (“Dutta explicitly discloses that the MVTR of this membrane can be increased by incorporating into it hydrophilic absorbent particles, such as Sephadex particles.”) (Emphasis added); *Id.* at 22 (citing to Dutta at 4:20-28 for “absorbent particles”); *Id.* at 23 (citing to Dutta at 9:18-22 for

“absorbent-type particles”); *Id.* at 24 (citing to Dutta for absorbent particles); *Id.* at 25 (citing to Dutta for absorbent particles). Petitioner makes clear that its argument relies on an interpretation of “active particles” that includes absorbent particles. *See* Pet. at 34 (“Dutta discloses the use of active particles (absorbent particles)...”).

As discussed above in Section II.A, the broadest reasonable interpretation of “active particles” is “particles that adsorb or trap substances on their surface.” A POSITA understands that the surface-active process of adsorption is very different from the bulk dissolution process of absorption. Ex. 2001 at ¶ 14. The Petition, however, relies on the absorbent particles of Dutta—which are not active particles—to allege anticipation over Dutta. Petitioner tacitly acknowledges this fact. *See* Pet. at 38 (“If Cocona argues that that the Sephadex particles disclosed in Dutta are not active particles, Haggquist discloses active particles...”).

The Petition fails to provide a single citation to Dutta showing active particles, such as activated carbon, that adsorb or trap substances on their surface. Accordingly, Ground 1 should be denied for at least the reason that the Petition fails to show how each element of claims 27, 28, 30, 32, and 36-37 is met by Dutta.

**B. The Board should deny institution of Ground 1 because the Petition fails to show how Dutta discloses the “first thickness” and the “second thickness”**

The Petition relies on improper and overly-broad constructions for “first thickness” and “second thickness” and fails to show how Dutta anticipates the claims when those elements are properly construed. Ground 1 should therefore be denied since Petitioner has not carried its burden under § 314(a).

As discussed above in Section II.B, the broadest reasonable interpretation of “first thickness” is “first layer or membrane” and “second thickness” is “second layer or membrane.” On the other hand, Petitioner’s proposed construction of “first thickness” as “the thickness of the water-proof composition, which includes the base material and the active particles” (Pet. at 11) improperly re-writes a number of limitations in the claim, including: (1) making the “water-proof composition” (the claim preamble) the “first thickness” instead of the “cured base material,” as claimed; (2) making the “first thickness” correspond to “the base material and the active particles” instead of just the “base material,” as claimed; and (3) improperly making the preamble’s “water-proof composition” a limitation on the claims. Petitioner’s proposed construction of “second thickness” also improperly re-writes the claim to make the “second thickness” refer to a single particle rather than to the “plurality of active particles,” as claimed. *See Net MoneyIN*, 545 F.3d at 1369 (to anticipate a claim, the prior art must disclose all elements of the claim, arranged as in the claim.).

Ground 1 should be denied for a number of reasons in view of the “first thickness” element. First, Petitioner proposes a construction for “first thickness” but fails to show in the Petition how Dutta satisfies Petitioner’s construction. Petitioner’s claim chart for the “water-proof composition” element of claim 27 appears on page 21 of the Petition:

Claim No.	8,945,287	<i>Dutta or Dutta in view of Haggquist</i>
27	27. A water-proof composition comprising:	<u><i>Dutta</i></u> <ul style="list-style-type: none"> <li>▪ “The material of the invention can be in the form of a <i>waterproof</i>, air permeable, water vapor permeable non-porous polymer film or sheet made of a polymer resin...” (Ex. 1002 at Abstract (emphasis added).)</li> </ul>

As shown above, Petitioner’s claim chart fails to show how Dutta discloses “the thickness of the water-proof composition, which includes the base material and the active particles.” The Petition fails to show how Dutta discloses the “thickness of the water-proof composition” or how the water-proof composition “includes the base material and the active particles,” as alleged by Petitioner. The Petition’s single citation to the Abstract of Dutta fails to specifically show how Dutta discloses the “first thickness” under Petitioner’s proposed construction. Petitioner cannot—as it does here—shift its burden to the Board, asking the Board to “sift through” the Petition and Dutta to determine where each element of claim 27 is found in view of Petitioner’s erroneous claim construction. *Google* at 25. Ground 1 should be denied on at least this basis.

Second, Ground 1 should be denied because the Petition fails to specifically show how the “first thickness” element, as properly construed, is met by Dutta.

The Petition states on page 33:

As noted by Table 1 and the descriptions of the Examples in the specification of Dutta, the polyurethane films created from drying and heating include the active particles. (Id. at p. 17:30-38; p. 18:1-21; and p. 23:5-10.)  
Therefore, Dutta discloses a liquid-impermeable breathable cured base material comprising a first thickness.

*Id.* (Emphasis added).

The Petition fails to specifically show that Dutta discloses a two-layer water-proof composition comprising a base material (a first “layer or membrane”) and a plurality of active particles (a second “layer or member”) as claimed. *See Net MoneyIN*, 545 F.3d at 1369. Ground 1 should be denied for at least this reason.

Moreover, assuming *arguendo* that the Board does not fully adopt Cocona’s proposed constructions, the Petition still fails to specifically show how Dutta discloses the first and second thicknesses as recited by the claim. The language of claim 27 states that the “liquid-impermeable breathable cured base material” comprises the “first thickness” and the “plurality of active particles” comprise the “second thickness.” The first and second thicknesses are clearly distinct. The Petition however fails to treat them as distinct with the “first thickness” including

“the base material and the active particles” (Pet. at 11), and relies on disclosure from Dutta allegedly showing “base material” combined with “active particles.” See Pet. at 33. The Petition fails to show how the “first thickness” is disclosed by Dutta, and Ground 1 should be denied for at least this reason.

Ground 1 should also be denied because the Petition fails to specifically show how Dutta discloses the “second thickness” as claimed. As discussed above in Section II.B, the broadest reasonable interpretation of “second thickness” is “second layer or membrane,” and the Petition fails to specifically show where Dutta discloses a second layer, distinct from the first, composed of the “plurality of active particles.”

Even assuming *arguendo* that the Board does not fully adopt Cocona’s proposed construction for “second thickness,” the Petition still fails to specifically show how Dutta discloses each element. More specifically, claim 27 states that the “plurality of active particles” comprise the “second thickness.” Yet the citations to Dutta relied on by Petitioner disclose the size of individual particles. See Pet. at 22 (citing to Dutta for the particle size of Sephadex, an absorbent particle); *Id.* at 23 (citing to Dutta for the size of individual “absorbent-type particles”); *Id.* at 24 (citing to Dutta for the size of individual particles). Accordingly, Ground 1 should be denied for at least the reason that the Petition fails to specifically show how Dutta discloses the “second thickness” element of the claims.

**C. The Board should deny institution of Ground 2**

The Petition asserts for Ground 2 that claims 27, 28, 30, 32, and 35-39 of the Patent are obvious over Dutta and Haggquist. Pet. at 7. Ground 2 should be denied for at least the reasons given with respect to the denial of Ground 1, discussed above in Section III.A and B.

**D. The Board should deny institution of Ground 3 because the Petition fails to show how Halley discloses “active particles”**

The Petition asserts for Ground 3 that claims 27, 28, 30, 32, 33, and 35-37 of the Patent are anticipated by Halley. Pet. at 7. As was the case with the alleged anticipation over Dutta, the Petition in Ground 3 relies on an overly-broad construction for “active particles” and fails to specifically identify active particles in Halley. Ground 3 should therefore be denied under § 314(a).

The Petition asserts that Halley’s disclosure of a “particulate solid” meets the “active particles” of claim 27. *See* Pet. at 51 (citing to Halley at 3:1-7 for a “particulate solid”); *Id.* at 52 (same). Halley further discloses that “A preferred particulate solid is carbon particles.” Halley at 3:1-7.

As discussed above in Section II.A, the broadest reasonable interpretation of “active particles” is “particles that adsorb or trap substances on their surface.” Halley’s disclosure of “particulate solids,” like particulate carbon, does not disclose surface-active particles that adsorb or trap substances on their surface. A POSITA understands that particulate carbon is not an “activated carbon” since it



has not been processed to have the porosity necessary for surface action. *See* Ex. 2001 at ¶ 14. Accordingly, Ground 3 should be denied for at least the reason that the Petition fails to show how each element of the claims is met by Halley.

**E. The Board should deny institution of Ground 3 because the Petition fails to show how Halley discloses the “first thickness” and the “second thickness”**

As was the case in Ground 1, the Petition for Ground 3 relies on improper constructions for “first thickness” and “second thickness” and fails to show how Halley anticipates the claims when those elements are properly construed. Ground 3 should therefore be denied since Petitioner has not carried its burden under § 314(a).

Ground 3 should be denied for a number of reasons in view of the “first thickness” element. First, Petitioner proposes a construction for “first thickness” but fails to show in the Petition how Halley satisfies Petitioner’s construction. Petitioner’s claim chart for the “water-proof composition” element of claim 27 appears on page 50 of the Petition:

Claim No.	8,945,287	<i>Halley</i>
1	1. A water-proof composition comprising:	<p><u><i>Halley</i></u></p> <ul style="list-style-type: none"> <li>▪ “The present invention relates to a composite material, especially a water-resistant water-vapour-permeable material which has improved abrasion resistance and other desirable properties.” (Ex. 1003 at p. 1:8-10.)</li> <li>▪ “By ‘liquid water resistant’ is meant that the material is <b><i>waterproof</i></b> at a water pressure of 13.8 kN/M2.” (<i>Id.</i> at p. 6:27-28 (emphasis added).)</li> </ul>

Petitioner’s claim chart fails to show how Halley discloses “the thickness of the water-proof composition, which includes the base material and the active particles.” The Petition fails to show how Halley discloses the “thickness of the water-proof composition” or how the water-proof composition “includes the base material and the active particles,” as alleged by Petitioner. The Petition’s two citations to Halley fail to specifically show how Halley discloses the “first thickness” under Petitioner’s proposed construction. Petitioner cannot—as it does here—shift its burden to the Board, asking the Board to “sift through” the Petition and Halley to determine where each element of claim 27 is found in view of Petitioner’s erroneous claim construction. *Google* at 25. Ground 3 should be denied on at least this basis.

Second, Ground 3 should be denied because the Petition fails to specifically show how the “first thickness” element, as properly construed, is met by Halley. The Petition states on page 57:

Therefore, Halley discloses a liquid-impermeable breathable cured base material (cured polyurethane solution) (including particulates) comprising a first thickness (polymeric material of 5-100 microns, 10-200 microns, 70-140 microns, and 80-100 microns).

*Id.* (Emphasis added).

The Petition fails to specifically show that Halley discloses a two-layer water-proof composition comprising a base material (a first “layer or membrane”) and a plurality of active particles (a second “layer or member”) as claimed. *See Net MoneyIN*, 545 F.3d at 1369. Ground 3 should be denied for at least this reason.

Assuming *arguendo* that the Board does not fully adopt Cocona’s proposed constructions, the Petition still fails to specifically show how Halley discloses the first and second thicknesses recited by the claim. As discussed above with respect to Ground 1, the first and second thicknesses are clearly distinct. The Petition however fails to treat them as distinct with the “first thickness” including “the base material and the active particles” (Pet. at 11) and relies on disclosure from Halley allegedly showing “base material” including “active particles.” *See* Pet. at 57. The Petition thus fails to show how the “first thickness,” which is separate from the “second thickness,” is disclosed by Halley. Ground 3 should be denied for at least this reason.

Ground 3 should also be denied because the Petition fails to specifically show how Halley discloses the “second thickness” as claimed. As discussed above in Section II.B, the broadest reasonable interpretation of “second thickness” is “second layer or membrane,” and the Petition fails to specifically show where Halley discloses a second layer, distinct from the first, composed of the “plurality of active particles.”

Assuming *arguendo* that the Board does not fully adopt Cocona’s proposed construction for “second thickness,” the Petition still fails to specifically show how Halley discloses each element. More specifically, claim 27 states that the “plurality of active particles” comprise the “second thickness.” But the citations to Halley relied on by Petitioner do not disclose the “plurality of active particles” as claimed. *See* Pet. at 50-51 (citing to Halley at 3:8-20 for the “primary particle size”); *Id.* at 51 (citing to Halley at 3:8-13 for the “primary particle size”). Accordingly, Ground 3 should be denied for at least the reason that the Petition fails to specifically show how Halley discloses the “second thickness” element of the claims.

**F. The Board should deny institution of Ground 4**

The Petition asserts for Ground 4 that claims 38-39 of the Patent are obvious over Halley and Haggquist. Pet. at 7. Ground 4 should be denied for at least the

reasons given with respect to the denial of Ground 3, discussed above in Section III.D and E.

#### **IV. CONCLUSION**

For the foregoing reasons, the Board should deny the Petition in whole or in part.

Dated: March 7, 2018

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## **CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing document was served on the following counsel for Petitioners:

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Date: March 7, 2018

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**CERTIFICATION UNDER 37 C.F.R. § 42.24(d)**

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner Preliminary Response is fewer than the 14,000 allowed under 37 C.F.R. § 42.24.

Dated: March 7, 2018

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