United States District Court,
N.D. Georgia, Atlanta Division.

FORT JAMES CORPORATION and Fort James Operating Company,
Plaintiffs.
v.
J.H. MCNAIRN, LTD.; McNairn Packaging, Inc.; and Coating Excellence International,
Inc. Defendants.

No. 1:04-CV-3000-CAP

May 25, 2006.

William H. Boice, Kilpatrick Stockton, Atlanta, GA, for Plaintiffs.

John C. Herman, Brian McQuillen, Duane Morris, Atlanta, GA, for Defendants.

ORDER

PANNELL**, J.**

Before the court is the Special Master's Report and Recommendation [Doc. No. 185] construing the claims of the following patents: U.S. Patent No. 5,128,182 entitled "Composite Integral Sheet of Wrap Material and Method of Making" and U.S. Patent No. 5,480,693 entitled "Composite Integral Sheet of Highly Absorbent Wrap Material with Hydrophobic Water-Vapor-Permeable Pellicle." The defendants have filed a motion to modify the Report [Doc. No. 187], while the plaintiffs have filed a motion asking the court to adopt the Report and Recommendation [Doc. No. 186]. The court, therefore, must conduct a de novo review of the claim construction with respect to those objections. *See* Cooper-Houston v. Southern Railway Co. ., 37 F.3d 603, 604 (11th Cir.1994).

Having reviewed the Report and Recommendation in light of the defendants' objections, the court concludes that the Special Master's claim construction is well-founded, consistent with the evidence presented, and supported by the prevailing law. Accordingly, the court hereby ADOPTS the Report and Recommendation [Doc. No. 185] as its order.

Conclusion

For the reasons discussed above, the court HEREBY:

(1) ADOPTS the Report and Recommendation of the Special Master [Doc. No. 185] as the opinion and order of this court;

(2) DENIES the defendants' motion to modify the Report and Recommendation [Doc. No. 187]; and

(3) GRANTS the plaintiffs' motion to adopt the Report and Recommendation in its entirety [Doc. No. 186].

SO ORDERED.

SPECIAL MASTER'S REPORT AND RECOMMENDATION REGARDING DISPUTED CLAIM CONSTRUCTION ISSUES

NORTH, J.

The undersigned Special Master to the Honorable Charles A. Pannell, Jr. hereby reports and recommends as follows regarding disputed claim construction issues.

Background

This is a patent infringement case. Plaintiffs (sometimes collectively referred to as "Fort James") allege that Defendants (sometimes collectively referred to as "Coating Excellence") infringe certain claims of U.S. Patent No. 5,128,182 (the " '182 patent") and U.S. Patent No. 5,480,693 (the " '693 patent"). These patents generally are directed to a 3-ply composite wrap material for foodstuffs.

The Court's January 20, 2006, Order [Dkt. No. 148] designated the undersigned as Special Master to preside over a *Markman* hearing and to submit a report and recommendation regarding the claim construction issues raised by the parties. At that time, pursuant to the parties' June 6, 2005, Joint Claim Construction Statement [Dkt. No. 59], there were six terms in dispute: (1) "water vapor impermeable polymer [or polymeric] layer"/" Impermeable polymer layer"; (2) "foraminous hydrophobic water-vapor-permeable pellicle"; (3) "coated"; (4) "treated fibers"; (5) "fibrous absorbent layer"; and (6) "hydrophobe precursor."

After consultation with counsel for the parties, the undersigned issued a March 8, 2006, Order Governing Procedure at Claim Construction Hearing [Dkt. No. 164]. That Order, among other things, specified March 20, 2006, to be the hearing date. That Order also provided for an exchange of notices regarding witness testimony. Both parties filed such Notices [Dkt. Nos. 165, 166 and 168], each identifying the two witnesses they had identified in the Joint Claim Construction Statement. The undersigned conducted a pre-hearing telephonic conference on March 16, 2006. During that conference, Coating Excellence withdrew the term "coated" from dispute. Fort James did not oppose this withdrawal. Coating Excellence confirmed this withdrawal in its March 17, 2006, filing [Dkt. No. 171]. FN1

FN1. During the Pre-Hearing teleconference, the undersigned also requested that each party present at the hearing all of the documents and evidence upon which they rely, without regard to whether the party previously had filed the item with prior claim construction briefing. The parties complied, and each presented a binder of evidence at the hearing. The undersigned also requested that a copy be presented to the Court Reporter to be made part of the Record. These binders will be referred to as "Plaintiffs' Hearing Binder, Tab ___" and "Defendants Hearing Binder, Tab ____." Many items are common to both binders.

The undersigned held the *Markman* Hearing on March 20, 2006 (the "Hearing"). Pursuant to the Order Governing Procedure at Claim Construction Hearing, the Hearing began with short opening statements and then attorney argument, counsel taking each disputed term one at a time. Fort James then opted not to present live testimony. Coating Excellence did provide live testimony from one of the two witnesses identified in its Notice: Louann Mueller.

During the course of the Hearing, Coating Excellence tendered a number of proposed constructions that differed from the proposed constructions set forth in the Joint Claim Construction Statement. Fort James objected. The undersigned ultimately determined that the parties would be permitted to file final statements of their proposed claim constructions no later than noon on March 21, 2006, and that each party would be permitted to provide a brief response to any new issues raised by the final constructions of the other no later than noon on March 24, 2006. The parties filed such final statements and responses according to this schedule [Dkt. Nos. 175, 176, 178 and 180].

Having considered the arguments and evidence presented at the Hearing, as well as having considered the written submissions of the parties, the undersigned sets forth below a summary of the legal standards currently governing claim construction, an overview of the '182 and '693 patents, the characteristics of the "person of ordinary skill in the art" with respect to the '182 and '693 patents, an analysis and recommendation regarding the construction for each of the five remaining disputed terms, a recommendation regarding the resolution of evidentiary objections raised by the parties, and a summary of the recommended claim constructions.

Claim Construction Standards

The district court, and not a jury, has the responsibility to construe or interpret disputed claim terms. Markman v. Westview Instruments, Inc., 517 U.S. 370, 390-91, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). This is an independent obligation. Exxon Chem. Patents v. Lubrizol Corp., 64 F.3d 1553, 1555 (Fed.Cir.1995) ("the trial judge has an independent obligation to determine the meaning of the claims, notwithstanding the views asserted by the adverse parties").

The Federal Circuit Court of Appeals recently set forth a comprehensive statement of the standards that the district court should apply for purposes of claim construction. Phillips v. AWH Corp., 415 F.3d 1303, 1312-19 (Fed.Cir.2005) (en banc). The *Phillips* court's statements of standards include, but are not limited to, the below statements that have been recited verbatim from the opinion.

-> It is a "bedrock principle" of patent law that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Id*. at 1312 (citations omitted).

-> We have frequently stated that the words of a claim "are generally given their ordinary and customary meaning." We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application. *Id*. at 1312-13 (internal citations omitted).

-> Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. *Id*. at 1313.

-> In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. In such circumstances, general purpose dictionaries may be helpful. In many cases that give rise to litigation, however, determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." Those sources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Id*. at 1314 (internal citations omitted).

-> The claims, of course, do not stand alone. Rather, they are part of "a fully integrated written instrument," consisting principally of a specification that concludes with the claims. For that reason, claims "must be read in view of the specification, of which they are a part." As we stated in *Vitronics,* the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id*. at 1315 (internal citations omitted).

-> Consistent with that general principle, our cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs. *Id*. at 1316 (citation omitted).

-> In addition to consulting the specification, we have held that a court "should also consider the patent's prosecution history, if it is in evidence." The prosecution history, which we have designated as part of the "intrinsic evidence," consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent. Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent. Furthermore, like the specification, the prosecution history was created by the patentee in attempting to explain and obtain the patent. *Id*. at 1317 (internal citations omitted).

-> Although we have emphasized the importance of intrinsic evidence in claim construction, we have also authorized district courts to rely on extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." However, while extrinsic evidence "can shed useful light on the relevant art," we have explained that it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language." ' *Id*. at 1317 (internal citations omitted).

-> Within the class of extrinsic evidence, the court has observed that dictionaries and treatises can be useful in claim construction. *Id*. at 1318 (citations omitted).

-> We have also held that extrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field. However, conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court. Similarly, a court should discount any expert testimony "that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." *Id*. at 1318 (internal citations omitted).

Overview of Patents at Issue

The inventors of the '182 patent filed the application on September 12, 1991. The United States Patent and Trademark Office issued the patent on July 7, 1992. FN2 The field of the invention is composite wrap materials, more specifically those used for packaging foodstuffs. ('182 patent, col. 1, lines 11-14.) The Background of the invention lists a number of problems regarding the then existing composite wrap. These problems included unsightly grease stains, soggy foodstuff and cold foodstuff. (E.g., id., col. 1, line 25-col. 2, line 7.) The inventors then went on to describe their invention as a "3-ply composite wrap material for hot foodstuffs, having three layers-a first absorbent layer, a second printable layer and a water vapor impermeable, polymer layer interposed between the first and second layers." (Id., col. 3, lines 16-20.)

FN2. Plaintiffs' Hearing Binder, Tab A.

The inventors described the purposes of the three layers as follows: The absorbent layer is placed adjacent to the hot foodstuff. The purpose of this layer is to absorb "water vapor from the hot foodstuff which has passed through it and has condensed on the impermeable polymer layer, as well as any grease which may be present." (Id., col. 3, lines 32-37.) The printable layer is positioned adjacent to the side of the impermeable polymer layer away from the hot foodstuff and "is used for printing of identifying symbols, marks, labels or

other indicia of source." (Id., col. 3, lines 51-54.) The water vapor impermeable polymer layer exists between the absorbent layer and the printable layer. Among other things, it is intended to "prevent both grease penetration and water vapor penetration from the hot foodstuff to the outside of the composite wrap material." (Id., col. 4, lines 11-16.) This layer also helps to facilitate heat retention. (Id., col. 4, lines 21-24.) The patent provides a list of preferred polymers that may be used to make the layer. (Id., col. 4, lines 37-42.)

The United States Patent and Trademark Office issued the '182 patent with one independent claim (claim 1) and sixteen dependent claims (claims 2-17). Plaintiffs' Preliminary Disclosure of Infringement Contentions [Dkt. No. 29] indicates that Fort James asserts infringement of at least claims 1-7 and 10-17. Claim 1 provides as follows:

1. A composite integral wrap material, comprising:

a first layer of absorbent material;

a second layer of printable material; and

a *water vapor impermeable polymer layer interdisposed* between said first and second layers, wherein at least one of said first and second layers is discontinuously bonded to a respective side of said polymer layer at spaced locations, so that said at least one of said first and second layers forms air pockets with said polymer layer at locations between the bond locations.

The disputed term in the '182 patent is the reference to a water vapor impermeable polymer layer (underscored above).

The '693 patent improves on the 3-ply composite wrap material claimed in the '182 patent. The '693 patent has two inventors in common with the '182 patent. The inventors filed the application on January 12, 1995. The United States Patent and Trademark Office issued the patent on January 2, 1996. FN3

FN3. Plaintiffs' Hearing Binder, Tab B.

With respect to the '182 patent, the inventors of the '693 patent noted that the '182 patent had overcome many of the problems (e.g., moisture and grease) related to single patty hamburgers and cheeseburgers. ('693 patent, col. 2, lines 30-39.) However, the '693 patent inventors observed that the wrap claimed by the '182 patent still could have these problems where large amounts of steam or grease are involved. (Id., col. 2, lines 40-43.) This could be the case, for instance, where there are large portions of meat and the sandwich is stored "for several minutes longer than the usual holding time." (Id., col. 1, lines 52-53.) Another problem the inventors identified with respect to the 3-ply wrap claimed in the '182 patent is that the bun or cheese could adhere to the absorbent layer. (Id., col. 1, lines 53-58.)

The inventors of the '693 patent solved these problems. Specifically, they stated in the Background of the patent, "The sandwich wrap of the present invention provides greatly improved moisture control while decreasing adhesive tendencies between sandwich components and the absorbent inner layer by interposing a foraminous hydrophobic water-vapor-permeable pellicle on fibers positioned between the sandwich and the moisture-vapor-impermeable polymeric layer." (Id., col. 1, lines 60-66.) "In preferred embodiments, highly absorbent materials are included in at least a portion of the absorbent layer...." (Id., col. 2, lines 3-7.)

The '693 patent concludes with twenty-five claims. Plaintiffs' Preliminary Disclosure of Infringement Contentions indicates that Fort James asserts at least claims 16-18. Claim 16 is an independent claim; claims 17-18 depend upon claim 16. Claim 16 provides as follows:

16. A foldable composite integral food wrap, comprising: a foldable sheet having a *water-vapor-impermeable polymeric layer* disposed between a printable layer and a *fibrous absorbent layer;* wherein at least one of said printable layer and said absorbent layer is discontinuously bonded to said polymeric layer at spaced locations, so that at least one of said printable layer and said absorbent layer forms air pockets with said polymeric layer at locations between the bond locations, wherein said absorbent layer has treated fibers therein, each *treated fiber* bearing a *foraminous hydrophobic water-vapor-permeable pellicle,* said treated fibers forming an area between said water-vapor-impermeable polymeric layer and the face of said absorbent layer opposite to said water-vapor-impermeable polymeric layer, said pellicle having been formed by application of an aqueous mixture of a *hydrophobe precursor* to the surface of a sheet of absorbent material.

The disputed terms of claim 16 have been underscored.

The "Person of Ordinary Skill in the Art"

The *Phillips* court confirmed, as noted above, "that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." Phillips, 415 F.3d at 1313. As further noted above, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." Id. at 1313. Indeed, a person of ordinary skill in the art ("POSITA") is a hypothetical person who also is presumed to be aware of all the pertinent art and is not descriptive of some particular individual. Endress + Hauser, Inc. v. Hawk Measurement Sys. Pty. Ltd., 122 F.3d 1040, 1042 (Fed.Cir.1997).

The question, then, is how one characterizes POSITA with respect to the patents in question. Fort James set forth its description of POSITA at the Hearing. In summary, POSITA, according to Fort James, would have the following characteristics: has at least a college degree with some experience in the paper-making industry and more preferably in making food or sandwich wraps; understands the structure of paper and paper composites; is familiar with heat and mass transfer phenomena; and is familiar with the structure of polymers. Fort James suggests that this same description applies to the disputed terms in both patents. FN4 Coating Excellence agrees with Fort James on both points. FN5 Accordingly, for purposes of this case, the undersigned finds that POSITA has these characteristics.

FN4. Hearing Transcript [Dkt. No. 177] at p. 17, lines 12-18.

FN5. Hearing Transcript at p. 69, line 17-p. 70, line 16.

The parties also agree that the four persons identified in the prehearing Notices have the above background and experience level of POSITA. FN6

FN6. Hearing Transcript at p. 17, lines 12-18; p. 70, lines 13-16.

Analysis Regarding Five Disputed Terms

1. "*Water Vapor Impermeable Polymer Layer*"

Claim 1 of the '182 patent requires, among other things, the presence of a "water vapor impermeable polymer layer." Claim 16 of the '693 patent requires, among other things, a "water-vapor-impermeable

polymeric layer." Other claims of the patents also require this water vapor impermeable layer or an "impermeable polymer layer." While the disputed term must be construed as a whole in the context of the claim and patent as a whole, the gist of the parties' dispute relates to the meaning of the word "impermeable."

Fort James proposes the following construction: "The polymer [or polymeric] layer must be a substantially continuous film, and although pinholing in the film can and does occur, the amount of pinholing should be minimized to reduce the passage of water vapor through the film so as not to adversely affect the function of the food wrap." FN7 In its submissions and argument, Fort James acknowledges the language in the specification that describes the impermeable polymer layer as a "complete barrier." Fort James, however, takes the position that "complete barrier" refers to the continuous nature of the polymer barrier resulting from the extrusion process. Further, Fort James contends that POSITA would understand that water vapor could pass through the water vapor impermeable polymer layer by at least two means: (1) diffusion through the polymer structure and (2) flow through any pinholes created after the extrusion of the polymer layer.FN8

FN7. Plaintiffs' Final Proposed Claim Constructions [Dkt. No. 175] at p. 2.

FN8. Hearing Transcript at p. 24, lines 12-16; p. 31, line 18-p. 32, line 2.

Coating Excellence proposes the following construction: "a polymer having a water-vapor transmission rate (WVTR) equal to zero; preventing passage of water-vapor; being a complete barrier to water-vapor; being impervious to water-vapor." FN9 In its submissions and argument, Coating Excellence, among other things, focuses on the specification reference to the impermeable polymer layer being a "complete barrier" and underscores the specification references to the layer "preventing" the passage of water vapor.FN10

FN9. Defendants' Response to Plaintiffs' Final Claim Construction Statement [Dkt. No. 180] at Ex. A, pp. 1-3.

FN10. Hearing Transcript at p. 52, line 25-p. 54, line 7. While Coating Excellence's proposed construction refers to a WVTR of zero, at the Hearing, Coating Excellence would not commit regarding whether or not the inventive polymer barrier is 100% impermeable. Coating Excellence indicated that the proper construction should be "to prevent the passage of water. That it has to be a complete barrier...." Hearing Transcript at p. 63, lines 11-14. Its subsequent filing retained the original proposed construction requiring a WVTR of 0.

a. ***Review of intrinsic evidence***

The undersigned finds that the meaning of the term "water vapor impermeable polymer layer" is not "immediately apparent." *See* Phillips, 415 F.3d at 1314. While the meaning of the words water vapor and polymer layer do not appear to be disputed by the parties, the meaning of the term as a whole and the meaning of the word impermeable in the context of the term as a whole are not self-evident. Accordingly, it is appropriate to consider the "those sources available to the public" noted above in *Phillips*. *Id*.

Coating Excellence correctly notes that the inventors in both patents describe the function of the water vapor impermeable polymer layer as a condensation surface with respect to water vapor and characterize it as a "complete barrier." (E.g., '182 patent, col. 4, lines 16-17, 35; '693 patent, col. 7, line 3.) It is also correct that there are a number of references establishing that one of the functions of the polymer barrier is to prevent

the passage of water vapor. (E.g., '182 patent, col. 4, lines 21-22.) FN11 But these references do not answer the key question regarding whether the "complete barrier" needs to be 100% water vapor impermeable (i.e., absolutely no water vapor passes through it). The proper construction must include an interpretation of what a "complete barrier" is in the context of these two patents so as to avoid the need for subsequent claim construction at summary judgment or trial. Several portions of the intrinsic record are informative.

FN11. Coating Excellence further points out that the absorbent layer must be able to "absorb all the water vapor lost by the hot sandwich and condensed on the impermeable layer." ('182 patent, col. 3, lines 41-44.) This is not inconsistent with the below proposed construction because this statement does not say that 100% of the water vapor has condensed on the impermeable layer.

As a starting point, there is no basis in the specification to support Coating Excellence's proposed construction to the extent that it would require a Water Vapor Transmission Rate of 0. The term Water Vapor Transmission Rate does not appear in the specification. The specification contains no quantitative descriptions of the impermeable polymer barrier that would support the notion that absolutely no water vapor can pass through such layer.

The specifications of both patents, however, do explain that water vapor may pass through the impermeable polymer barrier as a result of pinholing. ('182 patent, col. 5, lines 58-65; '693 patent, col. 16, lines 27-34.) The language in both specifications is essentially identical FN12 and is as follows:

FN12. The language quoted above is from the '693 patent. Unlike above, the '182 patent begins with "Because layer 40" and uses "must" instead of "should."

Because the layer 40 is impermeable, extrudate 70 should be extruded as a pinhole free film at a thickness sufficient to be able, when cooled, to form an impermeable barrier. Although some pinholing may occur as a result of paper fibers penetrating through the polymer film when the polymer film contacts layers 20 and 30, the amount of pinholing should be minimized to reduce water vapor loss, and hence heat loss.
Thus, the inventors inform the public that, as a result of putting the three layers together, there may be pinholes in the impermeable polymer layer that permit passage of water vapor. Nevertheless, such polymer layer remains "impermeable" and a "complete barrier" within the context of the patents as long as the amount of pinholing is minimized to reduce passage of water vapor and heat loss. Id.
The specifications also reflect that the polymer layer is not expected to perform its functions indefinitely. The specifications reflect that inventive wrap is only expected to perform its functions during the holding period-the time period after the foodstuff is prepared and before it is eaten. For instance, the Background section of the '182 patent states, "Composite wrap materials have long been used to package hot foodstuffs. In addition to keeping the foodstuff relatively fresh for *a period of time,* the wrap facilitates heat retention by the foodstuff after it is made, but before it can be consumed." ('182 patent, col. 1., lines 19-23 (emphasis added); *see also* col. 4, lines 27-28 ("thereby maximizing sandwich temperature during holding").)

The '693 patent likewise refers to the wrap performing its functions during a holding period. The patent states, "it is difficult to provide a suitable but inexpensive and ecologically sound environment for maintaining hot sandwiches in a palatable condition for the storage interval between preparation and consumption, particularly for periods of more than several minutes." ('693 patent, col. 1, lines 21-25; *see also* col. 1, lines 50-52 ("if the sandwich is stored for *several minutes longer than the usual holding time*") (emphasis added); col. 2, lines 40-43 ("a sacrifice of heat retention or storage time (holding period) could be required").) FN13

FN13. At the Hearing, Coating Excellence stated that it would not be appropriate to bring any temporal limitation into consideration for the construction of this term because the patents also could cover cold food.

Hearing Transcript at p. 68, line 17-p. 69, line 7. The undersigned need not and has not determined whether the patent covers cold food. The inventive polymer barrier plainly functions relative to water vapor given off by hot foodstuffs, and the specifications provide ample support for the notion that barrier is not expected to perform its function indefinitely in this regard.

Also pertinent to construing the term "water-vapor impermeable polymer layer," the specification of the '182 patent contains discussion regarding prior art reference U.S. Patent No. 4,515,840 FN14 ("Gatward" or " '840 patent"). Prior art cited in a patent or cited in the prosecution history is intrinsic evidence. V-Formation, Inc. v. Benetton Group SpA, 401 F.3d 1307, 1311 (Fed.Cir.2005).

FN14. Defendants' Hearing Binder, Tab 3.

Gatward relates to a composite wrap material for foodstuffs. The '182 patent inventors describe Gatward as having a thermoplastic material that is semi-permeable to water vapor. The '182 patent inventors further state that the drawback of this "semi-permeable" material is that "the heated foodstuff is giving off its own heat via the water vapor which is allowed to pass through the semi-permeable thermoplastic material, thereby permitting the foodstuff to cool off." ('182 patent, col. 2, lines 3-7.) The Gatward patent itself recites, "said thermoplastic film containing microperforations of such magnitude as to permit transmission of water vapor." ('840 patent, col. 6, lines 10-12.)

Gatward also is discussed in the file history of the '182 patent. Specifically, there is discussion in the October 17, 1990, Amendment . FN15 Coating Excellence contends that this discussion constitutes a disavowal of any construction of the term "impermeable" that would permit the passage of water vapor through the polymer layer. Specifically, in responding to a rejection under Section 103 (obviousness), the '182 patent inventors distinguished Gatward as follows: "In stark contrast to the present invention, *Gatward* teaches a microporous polymer structure which *allows* water vapor to escape. While this prevents sogginess, the hot food cools very rapidly." FN16 This file history argument is consistent with the characterization of Gatward in the specification and the above noted language of the Gatward patent itself.

FN15. This "Amendment" can be found at Plaintiffs' Hearing Binder, Tab C.1.C., at p. 7. The parties agree that the inventors made no amendment relative to the argument that Coating Excellence suggests constitutes a disavowal. Coating Excellence is correct, however, that there potentially could be a disavowal even absent an amendment. The "Amendment" also includes discussion at pages 2-3 in which the polymer layer is referred to as a "complete layer." The issue being addressed was whether a wax/polymer blend properly could be considered a polymer, not whether any amount of water vapor can pass through the polymer layer. In any event, as is the case with the specification, the reference to "complete barrier" by itself does not answer the question of what "impermeable" or a "complete barrier" means in the context of the patents at issue.

FN16. Plaintiffs' Binder at Tab C.1.C. at p. 5.

The undersigned finds that the file history argument regarding Gatward does not constitute a disavowal of a construction of "impermeable" that would permit some passage of water vapor through the polymer layer.FN17 *See Purdue Pharma L.P. v. Endo Pharms., Inc.,* No. 04-1189, 2006 U.S.App. LEXIS 2887 at (Fed.Cir. Feb. 1, 2006) (requiring that a disavowal be "clear and unmistakable"). The pertinent, critical distinction between Gatward and the invention of the '182 patent is that Gatward avoids water vapor caused sogginess of foodstuff by purposefully removing the water vapor through microperforations in the thermoplastic layer. The '182 patent does not seek to avoid water vapor caused sogginess in the same way.

Instead, the '182 patent's inventive wrap avoids water vapor caused sogginess in foodstuff through a polymer layer that acts as a condensation surface coupled with an absorbent layer that absorbs the condensate. ('182 patent, col. 4, lines 17-23.) This improves on Gatward by facilitating heat retention. This distinction does not require that there be no passage whatsoever of water vapor through the polymer layer of the '182 patent, provided that the polymer layer/absorbent layer combination performs its function and the heat retention goal is met.

FN17. The statements made in this same "Amendment" regarding the Barner reference, which together with Gatward had been the basis for the examiner's rejection under Section 103 (obviousness), likewise do not constitute such disavowal. The Barner composite wrap requires that the top be opened where there is hot food emitting water vapor. Nothing in this discussion should be taken as any comment regarding the propriety of the examiner's rejection under Section 103 or any comment on any validity or invalidity issue.

In summary, after examination of the intrinsic record, the undersigned finds that POSITA would understand that the polymer layer of the '182 patent can be "impermeable" and a "complete barrier" even if some amount of water vapor passes through the polymer layer, provided that the polymer/absorbent layer combination constitutes the mechanism for avoiding water vapor caused sogginess in the foodstuff and such passage is minimized so as to reduce resulting heat loss during the holding period.FN18

FN18. There was discussion at the Hearing regarding certain test results found in the file history of the '693 patent. Plaintiffs' Hearing Binder, Tab C.1.E. The undersigned understands that these tests were submitted to the United States Patent and Trademark Office after the notice of allowance relating to the '693 patent and were relative to a validity issue. The undersigned has placed no weight on the tests or the discussion regarding the tests in connection with this claim construction.

b. ***Review of extrinsic evidence***

The undersigned finds that no extrinsic evidence is necessary to construe the term "water vapor impermeable polymer layer." It should be noted, however, that the extrinsic evidence submitted by the parties and reviewed by the undersigned generally supports the proposed construction of the term water vapor impermeable polymer layer and further explains how water vapor can pass through the polymer layer in the context of the inventions of the '182 and '693 patents.FN19 The undersigned briefly addresses this extrinsic evidence below.

FN19. Further, even were consideration of the extrinsic evidence necessary to arrive at the proper construction, such consideration would be proper. Phillips, 415 F.3d at 1318 (providing that a district court may consider extrinsic evidence in the form of witness testimony "to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art").

i. ***Bezigian Testimony***

Mr. Bezigian is a Coating Excellence witness.FN20 He obtained a Bachelor in Science in Plastics Engineering from the University of Lowell in 1977 and a Master of Business administration from Bryant College in 1987. He has held numerous technical and manufacturing roles at major film and paper converters in the United States, including James River Corp., and has been a consultant to the film and paper converting industries since 1991. He also is an Adjunct Professor at the University of Massachusetts-Lowell where he lectures on the topics of extrusion coating, cast film and packaging. The parties agree that Mr. Bezigian has the background, education and training of a POSITA with regard to the two patents in dispute.

FN20. He is identified in Defendants' Notice of Witness Testimony To Be Presented at Markman Hearing [Dkt. No. 67], but ultimately did not provide live testimony. The statement of his qualifications is excerpted from this Notice.

James River deposed Mr. Bezigian on June 29, 2005.FN21 During the deposition, Mr. Bezigian testified that "impermeable means that nothing goes through." FN22 The undersigned places no weight on this conclusory opinion. As noted above in *Phillips,* "conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court. Similarly, a court should discount any expert testimony 'that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." ' 415 F.3d at 1318 (internal citations omitted). FN23

FN21. Excerpts of the Deposition ("Bezigian Test. at __") can be found at Plaintiffs' Hearing Binder, Tab G.I.

FN22. Bezigian Test. at p. 104, line 13. Mr. Bezigian also testified that no one to his knowledge has ever made a product covered by the patents at issue. *Id*. at p. 105, lines 4-6. Nothing in this Report and Recommendation should be considered to be a comment on or conclusion regarding whether any specific foodstuff wrap products fall or have fallen within the scope of one or more claims of the '182 or '693 patents.

FN23. The same rationale applies to Mr. Bezigian even though he was not identified as an expert.

Mr. Bezigian's technical testimony regarding polymers and the extrusion of polymers, in contrast, is instructive. Mr. Bezigian repeatedly testified that moisture vapor barriers made from polymers and used in industry may reduce, but not eliminate, the movement of water vapor through the polymer barrier. FN24 Further, he testified that a polymer layer thick enough to prevent the passage of water vapor could not be extruded and would not be a sandwich wrap. The following excerpt is illustrative:

FN24. Bezigian Test. at p. 82, lines 2-7 (stating that he is not aware of any extruded sandwich wrap where WVTR equals 0).

Q Okay. *Well, is it a question of degree?* In other words, the thicker the polyethylene, that the less water vapor will pass through? And, again, by pass through, I want to isolate down to the-to at the molecular level as opposed to pinholes or through the fold. If you're just talking at the molecular level, no matter what the thickness is, will some water vapor pass through the molecular structure of polyethylene?
A I mean *there's a practical limit in extrusion coating. Extrusion coating is generally where you put a layer of five or six or maybe ten mills maximum thickness onto a substrate. Even that, I believe, would pass moisture*. If it was an inch thick or a half an inch thick or a quarter of an inch thick, I don't believe it would, but that has to be borne out by testing.

Q Okay.

A But a quarter inch thick of polyethylene is rigid, it's not flexible, it's not made by extrusion coating. And it wouldn't be sandwich wrap. *Anything in the normal extrusion coating range of, say, quarter of a mill to around a mill has a moisture vapor or water vapor permeability rate*. Those words are used kind of

interchangeably.

Q Has one greater than zero?

A Yes.

Q So anything greater-so, in other words, *you cannot extrusion coat a polyethylene layer that has a water vapor transmission rate of zero?*

A *Correct*

Q Can you extrusion coat any polymer that would have a water vapor transmission rate of zero?

A I would believe that answer would be no.

Bezigian Test. at p. 58, line 4-p. 59, line 10 (emphasis added); *see also* id., p. 45, lines 6-7 ("Polyethylene film or just films in general act as a barrier to some degree to gas and liquids"); p. 53, lines 10-15 (concluding that it would be impractical to make a plastic layer thick enough to avoid pinholing) .FN25 FN25. Coating Excellence, at the Hearing, characterized the manner in which water can pass through the polymer layer as theoretical chemistry. Hearing Transcript at p. 58, lines 4-11. However, there is no factual support for this distinction. Such view is also inconsistent with Coating Excellence's agreement that Mr. Bezigian has the background and other characteristics of a POSITA.

ii. ***Mueller Testimony***

Louann Mueller also is a Coating Excellence witness.FN26 She received her Bachelor of Business Administration with a minor in Paper Sciences from Western Michigan University in 1984. While there, she took courses in pulp and paper engineering, organic chemistry, paper manufacturing and testing. She worked for James River from 1987 to 1996. She has worked as a Technical Manager for Coating Excellence. Her responsibilities have included work on composite food wrap products. Recently, she was promoted to Vice President of Printing and Laminating.FN27 The parties agree that Ms. Mueller has the background, education and training of a POSITA with regard to the two patents in dispute.

FN26. Ms. Mueller is identified in Defendants' Notice of Witness Testimony To Be Presented at Markman Hearing [Dkt. No. 66], and the above description of her background is taken from that Notice.

FN27. Hearing Transcript at p. 143, lines 20-21.

Ms. Mueller testified at the Hearing. Her testimony as a whole is consistent with that of Mr. Bezigian. On direct examination, she testified that "I'm not familiar with any polymer that is 100 percent impermeable to water vapor." FN28 She also testified that the higher density polyethylene, which is a better barrier to water vapor than low density polyethylene, is not used in sandwich wrap.FN29 While on cross-examination, Ms. Mueller did state her view of "impermeable to be zero percent water vapor," FN30 the undersigned places no weight on this conclusory statement.

FN28. Hearing Transcript at p. 149, lines 2-3.

FN29. Hearing Transcript at p. 146, line 21-p. 147, line 4; p. 153, lines 7-22.

FN30. Hearing Transcript at p. 158, line 19.

iii. ***Crotogino testimony***

Dr. Crotogino is a Fort James witness.FN31 He has a Bachelor of Applied Science degree in chemical engineering and a Ph.D. in chemical engineering from McGill University in Montreal. Dr. Crotogino worked for the Pulp and Paper Research Institute of Canada from 1976 until his retirement in 2004. The parties agree that Dr. Crotogino has the background, education and training of a POSITA with regard to the two patents in dispute.

FN31. Plaintiffs' Notice of Live Testimony at Claim Construction Hearing [Dkt. No. 171] at pp. 1-3. The summary of Dr. Crotogino's qualifications come from this Notice.

Coating Excellence deposed Dr. Crotogino on June 30, 2005.FN32 Dr. Crotogino's testimony is consistent with the notion that impermeable is a relative concept regarding foodstuff wraps. He testified that one needs to consider the function of the wrap "[w]ithin the useful life of the product," there is no such a thing as a "complete barrier," and "pores are indigenous to any material basically." FN33

FN32. Excerpts of the Deposition ("Crotogino Test. at __") can be found at Defendants' Hearing Binder, Tab 9.

FN33. Crotogino Test. at p. 104, lines 3-13; p. 118, lines 14-17. The portion of the transcript referenced in Defendants' Response to Plaintiffs' Final Claim Construction Statement [Dkt. No. 180], page 76, lines 6-22, simply reflects Dr. Crotogino agreeing with certain of the specification language, not saying what that language means.

iv. ***Other extrinsic evidence***

In addition to the above testimony, the parties submitted or referred to the following extrinsic evidence:

1. Coating Excellence tendered as part of its claim construction evidence a 1988 definition of "impermeable" from Webster's New World Dictionary.FN34 It states that "impermeable" means "not permeable; not permitting fluids to pass through it; impenetrable." This is an example of the sort of situation noted in *Phillips* where blind reliance on general purpose dictionary definitions will not result in a construction that comports with the meaning to a POSITA. 415 F.3d at 1321. The undersigned placed no weight on this definition.

FN34. Defendants' Hearing Binder, Tab 19.

2. Coating Excellence refers to U.S. Patent No. 5,368,946 (" "6 patent"), issued November 29, 1994, claim 2 of which refers in part to a specified Water Vapor Transmission Rate.FN35 While this supports the notion that the concept of a Water Vapor Transmission Rate was known in the art during the pertinent time periods, it does not support any argument that the patents at issue should be read to require a Water Vapor Transmission Rate of 0.FN36

FN35. Defendants' Hearing Binder, Tab 20.

FN36. It should be noted that, while the specification of the "6 patent states that the inventive wrap generally "provides superior moisture barrier properties," it nowhere suggests that it must have a Water Vapor Transmission Rate of 0 to provide such qualities.

3. Coating Excellence also submitted a TAPPI Water Vapor Transmission Rate test.FN37 Again, because the intrinsic record provides no support for incorporating a WVTR into the claims, this extrinsic evidence should be given no weight.FN38

FN37. Defendants' Hearing Binder, Tab 18.

FN38. The undersigned further notes that the test at Tab 18 states in Note 1 that "WVTR is a distinctive characteristic, often erroneously termed 'permeability." ' Defendants' Response to Plaintiffs' Final Claim Construction Statement also references certain tests that were not included in Defendants' Hearing Binder. In any event, no weight should be placed on test methodologies that are not referenced in the intrinsic record.

c. ***Recommended claim construction***

In summary, the undersigned recommends that the term "water vapor impermeable polymer layer" and alternative references to the impermeable polymer layer of the '182 and '693 patents be construed to mean: "A polymer layer that is substantially impermeable to water vapor. Substantially impermeable means that some amount of water vapor may pass through the polymer layer, provided that the polymer/absorbent layer combination constitutes the mechanism for avoiding water vapor caused sogginess in the foodstuff and such passage is minimized so as to reduce resulting heat loss during the holding period."

2. "***Foraminous Hydrophobic Water-Vapor-Permeable Pellicle***"

Claim 16 of the '693 patent includes reference to a "foraminous hydrophobic water-vapor-permeable pellicle" (sometimes, "FHWVP"). As noted above, the inventors of the '693 patent stated that the identified problems in the prior art could be avoided through the use of a FHWVP in the 3-ply sandwich wrap: "The sandwich wrap of the present invention provides greatly improved moisture control while decreasing adhesive tendencies between sandwich components and the absorbent inner layer by interposing a foraminous hydrophobic water-vapor-permeable pellicle on fibers positioned between the sandwich and the moisture-vapor-impermeable polymeric layer." ('693 patent, col. 1, lines 60-66.)

The parties offer two different proposed interpretations of FHWVP, which overlap in many regards but also differ in important ways. Fort James proposes the following: "A thin film that may have gaps in it and that also contains small pores. The film repels water, but water vapor may pass through the gaps or the pores in the film." FN39 Coating Excellence proposes the following construction: "a thin film on and between certain fibers in the fibrous absorbent layer that is porous and not necessarily continuous. The thin film repels liquid water, but permits water vapor to pass through. The film being the deposit or precipitate left behind after hydrophobic precursor is applied to the fibers and the carrier removed." FN40

FN39. This proposed construction is set forth in Plaintiffs' Final Proposed Claim Constructions [Dkt No. 175] at p. 3.

FN40. This proposed construction is set forth in Defendants' Amended Claim Construction Statement [Dkt. No. 176] at Ex. A, p. 1.

As confirmed at the Hearing, the parties agree on a number of the aspects of the proper construction of FHWVP: The parties agree that foraminous means porous; and they agree that "hydrophobic water vapor permeable" means repelling water but permitting water vapor to pass through. There are, however, three primary areas of disagreement between the parties: (1) whether the pellicle should be described as being "on" the fiber or "on or between" the fiber; (2) whether or not the pellicle must form a distinct sublayer; and (3) whether the construction should include language describing how the pellicle is formed.

a. ***Review of the intrinsic evidence***

As was the case with the term "water vapor impermeable polymer layer," the undersigned finds that, read by itself, the meaning of the term "foraminous hydrophobic water-vapor-permeable pellicle" is not "immediately apparent" and consideration of additional "sources" is appropriate. Phillips, 415 F.3d at 1314.

With respect to the word pellicle, the inventors clearly and unambiguously intended to be their own lexicographers. Id., at 1316. They state as follows: "We use the word 'pellicle' to describe the 'deposit' or 'precipitate' left behind after hydrophobe precursor has been applied to fibers and the carrier removed. We chose the word 'pellicle' because it has the connotation of being very thin and not necessarily continuous." ('693 patent, col. 2, lines 7-11.) There are no statements in other portions of the specification or the file history that would suggest that a different meaning should be given to the word pellicle.

The pellicle need not necessarily be a film. The specification, for instance, provides that the "pellicle may be present on fibers in a distinct sublayer as indicated in FIG. 4 or it may be present as a film, coating or crust on at least some, and surprisingly even possibly all, of the fibers in layer 20." ('693 patent, col. 5, lines 9-13.) A number of claims not in dispute use the word "residue" to describe the form of the pellicle. (E.g., Claim 19.) *See* Dorel Juvenile Group, Inc. v. Graco Children's Prods., 429 F.3d 1043, 1045-46 (Fed.Cir.2005) (citing Phillips, 415 F.3d at 1315-17) (noting that the claims are part of the specification).

The specification indicates that the pellicle bearing fibers may be in a distinct sublayer in certain embodiments. But, as can be observed in the quoted material in the previous paragraph, not all embodiments require a sublayer. ('693 patent, col. 5, lines 9-13.) For instance, the specification explains that all of the absorbent layer may be treated with the pellicle in certain circumstances. ('693 patent, col. 2, lines 1-4.) There would be no distinct sublayer under such scenario.

The pellicle properly is described as being "on" the fiber. The specification consistently describes the pellicle in this fashion. (E.g., '693 patent, col. 1, lines 64-65 ("pellicle on fibers"); col. 4, lines 64 ("pellicles on the fibers"); col. 5, line 52 ("pellicles present on the surface of individual fibers").) The specification no where refers to the pellicle being "on and between certain fibers."

Finally, the parties debate whether the construction of this term should include reference to the means by which the pellicle is formed. Coating Excellence, as noted above, suggests that the construction should conclude with a statement providing, "The film being the deposit or precipitate left behind after hydrophobe precursor is applied to the fibers and the carrier removed." Fort James suggests that such additional language is not needed because the last portion of claim 16 itself provides, "said pellicle having been formed by application of an aqueous mixture of a hydrophobe precursor to the surface of a sheet of absorbent material." The undersigned agrees with Coating Excellence that the inventors have defined pellicle to be the "deposit" or "precipitate" "left behind after hydrophobe precursor has been applied to fibers and the carrier removed." ('693 patent, col. 2, lines 7-9). But the undersigned also agrees with Fort James that this concept is provided as an express limitation of claim 16. Therefore, it should not also be

incorporated as part of the construction of the term at issue. Such redundancy potentially could lead to juror confusion.

b. ***Review of extrinsic evidence***

The undersigned finds that the proper construction of the disputed term can be ascertained without reference to extrinsic evidence.FN41

FN41. In their final claim construction statements [Dkt. Nos. 175 and 176], Fort James offered two dictionary definitions relating to the undisputed meanings of hydrophobe and foramen. Coating Excellence offered no extrinsic evidence in support of their positions.

c. ***Recommended claim construction***

For the above reasons, the undersigned recommends that the term "foraminous hydrophobic water-vapor-permeable pellicle" be construed to mean: "A very thin and not necessarily continuous residue on fibers. This residue may be in, but is not limited to, the following forms: a distinct sublayer, a film, a coating, a crust, a deposit and a precipitate. This residue has holes or pores, repels water and permits water vapor to pass through it."

3. "*Treated Fibers*"

Claim 16 of the '693 patent provides in part "... wherein said absorbent layer has *treated fibers* therein, each *treated fiber* bearing a foraminous hydrophobic water-vapor-permeable pellicle, said *treated fibers* forming an area...." (Emphasis added.) Fort James suggests that this term has a plain meaning to a POSITA and need not be interpreted.FN42 Coating Excellence contends that the construction must require that "treated fibers be formed by spreading hydrophobe precursor on the surface of a sheet of absorbent layer such that a sublayer of fibers in the fibrous absorbent layer has a foraminous hydrophobic water-vapor permeable pellicle." FN43

FN42. Plaintiffs' Final Proposed Claim Constructions [Dkt. No. 175] at p. 3.

FN43. Defendants' Amended Claim Construction Statement [Dkt. No. 176] at Ex. A, pp. 3-4.

Fort James does not dispute that "treated" in this term is in reference to treatment with foraminous hydrophobic water-vapor-permeable pellicle. FN44 Fort James simply suggests that it would be redundant to include language regarding the pellicle within a construction of "treated fibers" given the other language in the claim.FN45 Coating Excellence appears to want a construction that would include express reference linking "treatment" to the "pellicle" as a defensive measure so that the concept could not be read out of the claim at a later date.FN46

FN44. No file history or extrinsic evidence has been presented that is inconsistent with this point.

FN45. Hearing Transcript at p. 117, line 21-p. 118, line 14.

FN46. Hearing Transcript at p. 121, lines 6-10.

The undersigned hereby finds that the term "treated fibers" requires no construction. *See* Biotec Biologische Naturverpackungen v. Biocorp., Inc., 249 F.3d 1341, 1349 (Fed.Cir.2001) ("the meaning of 'melting' does not appear to have required 'construction." ') The undersigned also hereby finds that, based on its representations at the Hearing, Fort James is estopped to argue at a later date that the express language in claim 16 linking the "treatment" of the fibers with the inventive pellicle is not a claim limitation.FN47

FN47. There was some discussion at the Hearing regarding whether claim 16 is a product-by-process claim and the current status of such claims under Federal Circuit precedent. Because of Fort James' above concession, the undersigned reports that these issues need not be resolved in the context of this claim construction process.

4. "*Fibrous Absorbent Layer*"

Claim 16 of the '693 patent refers to a fibrous absorbent layer. Claim 16 provides in part, "a foldable sheet having a water-vapor-impermeable polymeric layer disposed between a printable layer and a fibrous absorbent layer...." Fort James suggests that this term has plain meaning to a POSITA and need not be interpreted.FN48 Coating Excellence suggests the following: "a fibrous layer having a distinct sublayer of fibers bearing foraminous hydrophobic water-vapor permeable pellicle and a sublayer having highly absorbent material comprising an ionic complex of two essential ingredients: a water-soluble anionic polyelectrolyte, and a polyvalent metal cation."

FN48. Plaintiffs' Final Proposed Claim Constructions [Dkt No. 175] at pp. 3-4.

Coating Excellence, in short, asserts that the abstract and certain other references in the specification require the finding that each reference to absorbent layer in the claims of the '693 patent is a reference to an absorbent layer containing highly absorbent material.FN49 Coating Excellence also asserts that the absorbent layer must be a "sublayer." In response, Fort James takes the view that, while certain embodiments encompass highly absorbent material in the form of the sublayer, claim 16 is not so limited and claim differentiation supports the point.FN50

FN49. Hearing Transcript at p. 127, lines 7-23.

FN50. Hearing Transcript at p. 123, lines 6-16, p. 123, line 6-p. 124, line 9.

Beginning with the claim language, the undersigned finds that the term "fibrous absorbent layer," as it appears in claim 16, has an ordinary meaning to a POSITA and requires no construction unless intrinsic evidence requires a contrary conclusion.FN51 *See* Biotec, 249 F.3d at 1349.

FN51. Defendants' Amended Claim Construction Statement [Dkt. No. 176] at Ex. A, p. 7 contains no reference to the file history or any extrinsic evidence; therefore, none has been considered.

Coating Excellence correctly notes that the title of the patent refers to "Highly Absorbent Wrap Material" and that the abstract indicates that the "absorbent layer will include highly absorbent material." There also is at least one specification reference linking the invention to the highly absorbent material. (E.g., '693 patent, col. 6, lines 38-58.) However, these intrinsic record references do not end the analysis.

As noted above, the Background of the invention describes the invention without any mention of highly

absorbent material: "The sandwich wrap of the present invention provides greatly improved moisture control while decreasing adhesive tendencies between sandwich components and the absorbent inner layer by interposing a foraminous hydrophobic water-vapor-permeable pellicle on fibers positioned between the sandwich and the moisture-vapor-impermeable polymeric layer." (Id., col. 1, lines 60-66.) The specification then goes on to describe how, "In preferred embodiments, highly absorbent materials are included in at least a portion of the absorbent layer." (Id., col. 2, lines 3-5.) Similarly, at the beginning of the section entitled "Description of the Preferred Embodiments," the inventors first describe the invention in part by stating that it has a first absorbent layer bearing the pellicle. (Id., col. 4, lines 29-32.) Then, the inventors go on to describe a certain type of highly absorbent material that may be present in preferred embodiments. (Id. at col. 4, lines 34-37; *see also* col. 3, lines 1-17 ("In a preferred embodiment, at least a portion of the [absorbent material] layer will also include highly absorbent material....").)

In summary, the undersigned finds that the intrinsic record as a whole makes clear that the highly absorbent material is just one aspect of the invention (i.e., part of the preferred embodiments) and should not be construed to be a limitation of claim 16. *See* Seachange Int'l, Inc. v. C-Cor Inc., 413 F.3d 1361, 1377 (Fed.Cir.2005) (noting that it is improper to import limitations from a preferred embodiment into a claim); Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 908 (Fed.Cir.2004) ("The fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives.").FN52 Microsoft Corp. v. Multi-Tech Systems, Inc., 357 F.3d 1340, 1348 (Fed.Cir.2004), relied upon by Coating Excellence, is distinguishable. In that case, the patent specification repeatedly referred to data transmission via telephone lines and no where referred to the use of a packet switching network. Consequently, in light of the specification as a whole, the court found that the communications must be via telephone. *Id*. Here, in contrast, the '693 patent plainly indicates that the use of highly absorbent materials is one embodiment of the invention, but not required for all embodiments of the invention. ('693 patent, col. 4, lines 34-37; col. 3, lines 1-25.)

FN52. Fort James also notes that certain other claims specifically include a limitation describing one form of highly absorbent material, supporting the notion that the inventors understood how to draft such limitation when they so desired. For instance, claim 20, which is dependent upon claim 16, contains a limitation directed to the highly absorbent material described in the specification. Reading "highly absorbent material" into claim 16 would violate the theory of claim differentiation, which requires that an independent claim not be construed to contain a limitation added by a dependent claim. Curtiss-Wright Flow Control Corp. v. Velan, Inc. ., 438 F.3d 1374, 1380-81 (Fed.Cir.2006).

The undersigned likewise rejects Coating Excellence's attempt to read a "sublayer" limitation into claim 16. Again, as was the case with the pellicle, there is support (e.g., Fig.4) for the existence of sublayers of highly absorbent material and pellicle bearing fibers residing in separate sublayers in certain embodiments of the invention, but claim 16 is not so limited. The word "sublayer" does not appear in claim 16 and should not be read into claim 16.

Finally, Coating Excellence suggests that "fibrous absorbent layer" be construed to be a sublayer comprised of a certain type of highly absorbent material: "a water-soluble anionic polyelectrolyte, and a polyvalent metal cation." FN53 While this may describe a specific embodiment of the invention, there is no intrinsic support for limiting claim 16 to such absorbent material.

FN53. Defendants' Amended Claim Construction Statement [Dkt. No. 176] at Ex. A, p. 5.

For the above reasons, the undersigned finds that no construction of the term "fibrous absorbent layer" is necessary or appropriate. *See* Biotec, 249 F.3d at 1349.

5. "*Hydrophobe Precursor*"

Claim 16 of the '693 patent also refers to a "hydrophobe precursor." That claim states in part, "said pellicle having been formed by application of an aqueous mixture of a *hydrophobe precursor* to the surface of a sheet of absorbent material." (Emphasis added.) Fort James suggests that this term has plain meaning to a POSITA and requires no interpretation.FN54 Coating Excellence suggests that the term should be construed to mean "any organic material combining a site reactive toward starch or cellulose with a long hydrophobic tail and having a surface energy of less than 35 dynes/cm when applied to fibers on the surface of the inner absorbent layer." FN55

FN54. Plaintiffs' Final Proposed Claim Constructions [Dkt. No. 175] at p. 3.

FN55. Defendants' Amended Claim Construction Statement [Dkt. No. 176] at Ex. A, pp. 7-8.

The specification for the '693 patent, in a number of locations, describes the use of a hydrophobe precursor to form the foraminous hydrophobic water-vapor-permeable pellicle. (E.g., '693 patent, col. 2, lines 7-9; col. 4, lines 60-65.) The specification describes "the most convenient method of forming" the pellicle. (Id., col. 7, lines 28-47.) The specification explains that "typically" there will be a surface energy of less than 35 dynes/cm. (Id., col. 7, lines 47-50.) The specification then goes on to describe broadly what a hydrophobe precursor "may be": "Broadly speaking, a hydrophobe precursor may be any organic material combining a site reactive toward starch or cellulose with a long hydrophobic tail such as, for example, a C_{14}-C_{18} carbon chain length." ('693 patent, col. 8, lines 1-4.) The inventors further identify specific types of chemicals that should be considered "a hydrophobe precursor" and set forth a typical structure for a "hydrophobe precursor." ('693 patent, col. 8, lines 4-52.) FN56

FN56. Neither party identified any file history material pertinent to this construction.

In short, while certain aspects of Coating Excellence's construction are mentioned as embodiments of the invention, the undersigned finds that the specification does not limit the term "hydrophobe precursor" to such embodiments.

The relationship between the hydrophobe precursor and the resulting pellicle is plain from the language of claim 16. It is, therefore, a close call whether any construction is necessary. However, to avoid any confusion by a juror regarding what a precursor is, the undersigned recommends the following construction: "A precursor is a material from which another material can be formed. A hydrophobe precursor may be, but is not limited to, any organic material combining a site reactive toward starch or cellulose with a long hydrophobic tail, as well as the specific hydrophobic precursors identified in the specification of the '693 patent and materials having the structure of the hydrophobe precursors disclosed in the specification of the '693 patent." FN57

FN57. Fort James submitted a dictionary definition of precursor that is consistent with the above. Plaintiffs' Response to Defendants' Amended Claim Construction Statement [Dkt. No. 178]. The above construction, however, was adduced from the statements in the specification and no consideration of extrinsic evidence is necessary.

Rulings on Objections

The parties made certain evidentiary objections during the course of the hearing. The undersigned reserved

ruling at that time. While resolution of none of these objections impacted the proposed constructions, the undersigned nevertheless sets forth rulings on the objections as follows for completeness sake:

1. Coating Excellence objected to any consideration being given to the tests that appeared in the file history of the '693 patent.FN58 As noted above in footnote 18, no weight was placed on these tests and the objection is sustained.

FN58. Hearing Transcript at p. 97, lines 18-25.

2. Fort James objected to the foil wrapper identified by Coating Excellence as Defendants' Exhibit No. 1.FN59 Coating Excellence suggested this was an example of a prior art foodstuff wrapper. Because no evidentiary foundation was laid to support this point, the objection is sustained.

FN59. Hearing Transcript at p. 99, lines 2-25.

3. Fort James objected to the Hearing testimony of Ms. Mueller on the basis that it was outside the scope of her deposition testimony.FN60 As the record is not clear regarding the differences in the scope of Ms. Mueller's testimony at deposition and that given at the Hearing, and because Coating Excellence's Notice disclosed that she might address the topics covered during the live testimony, the objection is overruled.

FN60. Hearing Transcript at p. 149, lines 18-20.

4. Coating Excellence objected to certain portions of the cross-examination of Ms. Mueller as being outside the scope of direct examination.FN61 These cross-examination questions generally went to the topic of food wrap products. As Coating Excellence raised issues regarding foodstuff wrap products during direct examination, the undersigned overrules the objection.

FN61. Hearing Transcript at p. 152, lines 7-10; p. 159, lines 12-15.

Summary of Constructions

In summary, the undersigned recommends that the disputed terms be construed as follows:

1. The term "*water vapor impermeable polymer layer*" and alternative references to the impermeable polymer layer of the '182 and '693 patents be construed to mean: "A polymer layer that is substantially impermeable to water vapor. Substantially impermeable means that some amount of water vapor may pass through the polymer layer, provided that the polymer/absorbent layer combination constitutes the mechanism for avoiding water vapor caused sogginess in the foodstuff and such passage is minimized so as to reduce heat loss during the holding period."

2. The term "*foraminous hydrophobic water-vapor-permeable pellicle*" be construed to mean: "A very thin and not necessarily continuous residue on fibers. This residue may be in, but is not limited to, the following forms: a distinct sublayer, a film, a coating, a crust, a deposit and a precipitate. This residue has holes or pores, repels water and permits water vapor to pass through it."

3. The term "*treated fibers*" requires no construction.

4. The term "*fibrous absorbent fiber*" requires no construction.

5. The term "*hydrophobe precursor*" be construed to mean: "A precursor is a material from which another material can be formed. A hydrophobe precursor may be, but is not limited to, any organic material combining a site reactive toward starch or cellulose with a long hydrophobic tail, as well as the specific hydrophobic precursors identified in the specification of the '693 patent and materials having the structure of the hydrophobe precursors disclosed in the specification of the '693 patent."

This 4th day of April, 2006.

CERTIFICATE OF SERVICE

I certify that today I caused a true and correct copy of the foregoing Special Master's Report And Recommendation Regarding Disputed Claim Construction Issues to be served by Hand to:

The Honorable Charles A. Pannell, Jr.

Judge, United States District Court

Northern District of Georgia

75 Spring Street, S.W.

Atlanta, GA 30303-3361

and by facsimile and regular mail to:

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This 4th day of April, 2006.

N.D.Ga.,2006.
Fort James Corp. v. J.H. McNairn, Ltd.