

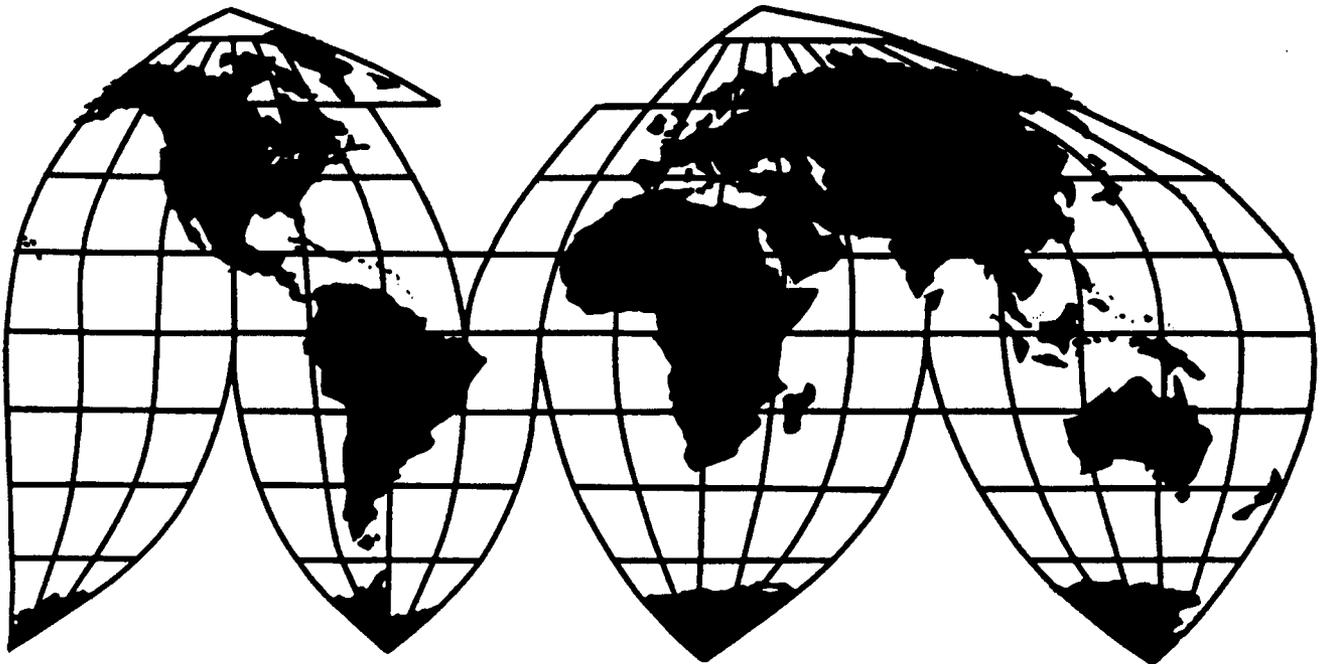
Certain Polyethylene Terephthalate Yarn and Products Containing Same

Investigation No. 337-TA-457

Publication 3550

October 2002

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

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Investigation No. 337-TA-457



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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

CERTAIN POLYETHYLENE
TEREPHTHALATE YARN AND
PRODUCTS CONTAINING SAME

Inv. No. 337-TA-457

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**NOTICE OF COMMISSION DETERMINATION TO REVERSE THE DECISION
OF THE PRESIDING ADMINISTRATIVE LAW JUDGE ON THE ISSUE OF
INDEFINITENESS; TERMINATION OF THE INVESTIGATION
WITH A FINDING OF NO VIOLATION.**

AGENCY: U.S. International Trade Commission.

ACTION: Notice

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to reverse the decision of the presiding administrative law judge (ALJ) contained in ALJ Order No. 61, which issued on February 4, 2002, that the patent claims at issue of were not shown to be invalid as indefinite under 35 U.S.C. § 112, second paragraph, by clear and convincing evidence. The Commission has previously determined not to review an initial determination (ID), contained in Order No. 61, that found that the patent claims at issue were not infringed. 67 *Fed. Reg.* 14975 (March 26, 2002). The investigation has been terminated with a finding of no violation of section 337 of the Tariff Act of 1930.

FOR FURTHER INFORMATION CONTACT: Jean Jackson, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, D.C. 20436, telephone 202-205-3104. Copies of the public version of Order No. 61 and all other nonconfidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, D.C. 20436, telephone 202-205-2000. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TTD terminal on 202-205-1810. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS-ON-LINE) at <http://dockets.usitc.gov/eol/public>. General information concerning the Commission may also be obtained by accessing its internet server (<http://www.usitc.gov>).

SUPPLEMENTARY INFORMATION: On May 17, 2001, the Commission instituted this patent-based investigation, which concerns allegations of unfair acts in violation of section 337 of the Tariff Act of 1930 in the importation and sale of certain polyethylene terephthalate yarn and products containing same that allegedly infringed certain claims of U.S. Letters Patent 5,630,976 ("the '976 patent"). 66 *Fed. Reg.* 27586. The complainant in this investigation is Honeywell International Inc. of Morristown, New Jersey. The respondents are Hyosung Corp. of Seoul, Korea and Hyosung America, Inc., a wholly-owned U.S. subsidiary of Hyosung Corp. (collectively, Hyosung).

On December 13, 2001, respondent Hyosung moved for summary determination of patent invalidity and non-infringement. The motion was opposed by Honeywell and supported by the Commission investigative attorney (IA). On February 4, 2002, the ALJ issued Order No. 61, a portion of which was an ID granting Hyosung's motion for summary determination of no infringement, and a portion of which was an order denying Hyosung's motion as to patent invalidity. The ALJ found that respondents had failed to prove by clear and convincing evidence that the claims at issue of the '976 patent were invalid due to indefiniteness, lack of enablement, or failure to provide an adequate written description. Respondents filed a petition for review of the ID on February 19, 2002. Complainant and the IA filed appeals of the order denying summary determination on the same date.

On March 21, 2002, the Commission determined to review only the ALJ's decision on the issue of indefiniteness under 35 U.S.C. § 112, second paragraph. The issues not under review became the Commission's final determination under Commission rule 210.42(h)(2).

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 190, as amended, 19 U.S.C. § 1337, and in sections 210.24 and 210.45 of the Commission's Rules of Practice and Procedure, 19 C.F.R. §§ 210.24, 210.45.

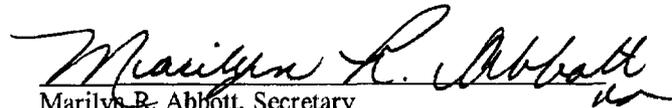
By order of the Commission.


Marilyn R. Abbott
Secretary

Issued: May 17, 2002

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached, **Notice of Commission Determination To Reverse The Decision Of The Presiding Administrative Law Judge On The Issue Of Indefiniteness; Termination Of The Investigation With A Finding Of No Violation**, was served upon the following parties, via first class mail and air mail where necessary on **May 17, 2002**.



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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

DOCKET

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In the Matter of

**CERTAIN POLYETHYLENE
TEREPHTHALATE YARN AND
PRODUCTS CONTAINING SAME**

Inv. No. 337-TA-457

OFFICE OF THE
SECRETARY
U.S. ITC

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COMMISSION OPINION

I. BACKGROUND

A. Procedural History

This investigation, which concerns allegations of unfair acts in violation of section 337 of the Tariff Act of 1930 in the importation and sale of certain polyethylene terephthalate (PET) yarn and products containing same that allegedly infringe certain claims of U.S. Letters Patent 5,630,976 ("the '976 patent"), was instituted by the Commission on May 17, 2001. 66 *Fed. Reg.* 27586. The complainant is Honeywell International Inc. of Morristown, New Jersey. The respondents are Hyosung Corp. of Seoul, Korea and Hyosung America, Inc., a wholly-owned U.S. subsidiary of Hyosung Corp. (collectively, Hyosung).

On December 13, 2001, respondent Hyosung moved for summary determination of patent invalidity and no infringement. The motion was opposed by Honeywell and supported by the

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Commission investigative attorney (IA). On February 4, 2002, the presiding administrative law judge (ALJ) issued Order No. 61, a portion of which was an initial determination (ID) granting Hyosung's motion for summary determination of no infringement, and a portion of which was an order denying Hyosung's motion as to patent invalidity. The ALJ found that Hyosung had proved that it did not infringe the asserted '976 patent claims, but had failed to prove by clear and convincing evidence that the claims at issue were invalid under 35 U.S.C. § 112, paragraphs 1 and 2, due to indefiniteness, lack of enablement, and/or failure to provide an adequate written description.

Complainant Honeywell filed a petition for review of the ID finding no infringement on February 19, 2002. On the same date, Hyosung and the IA filed appeals of the order denying summary determination of invalidity. The IA's appeal was limited to the issue of indefiniteness. Hyosung appealed the ALJ's rulings on indefiniteness, lack of enablement, and failure to provide an adequate description. Under Commission rule 210.24, "[r]ulings by the administrative law judge on motions may not be appealed to the Commission prior to the administrative law judge's issuance of an initial determination," This provision allows appeals of ALJ orders to the Commission at the time of issuance of the final ID in an investigation.

On March 21, 2002, the Commission decided not to review the ID finding of no infringement and to accept the appeal of the portion of Order No. 61 concerning indefiniteness. The ALJ's ID on infringement and the parts of his order concerning the written description and enablement requirements were not reviewed, and therefore became the Commission's final

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determination on those issues under Commission rule 210.42(h)(2), 9 U.S.C. § 210.42(h)(2).

Although the final determination of no infringement effectively determined the outcome of the investigation, procedurally the investigation remained stayed pending the final disposition of the issue under review. The investigation is now before the Commission for final disposition.

B. Products at Issue: PET Yarn and Products Containing Same

The '976 patent is directed to a process for making PET multifilament yarn. PET yarn is converted into tire cord that is used as a reinforcement material in tires. During the patented manufacturing process, molten PET polymer is extruded under high pressure through small holes in a plate called a spinneret. The molten fibers emerge from the spinneret and are cooled in a solidification column. According to the '976 patent, if the cooled PET fibers are withdrawn at sufficient speed, a modest level of crystallinity will be imparted to the otherwise amorphous (*i.e.*, non-crystalline) fibers. This partially crystalline yarn is referred to as "undrawn yarn."

When undrawn yarn is subjected to a spin-draw process, the yarn is stretched (*i.e.*, drawn) between rollers to make "drawn yarn." During stretching, additional crystallinity is imparted to the PET fibers. The claims of the '976 patent are directed to certain properties of both the undrawn and drawn PET yarns. Hyosung's summary determination motion was directed to one such property -- the "melting point elevation" limitation -- which is found in all of the asserted claims of the '976 patent.

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C. Asserted Claims of the '976 Patent

The '976 patent has 17 claims. Of these, claims 1- 2, 4-5, 7-8, 10-11, and 13-17 are asserted against Hyosung. All of the asserted claims contain the claim term, "melting point elevation," upon which Hyosung based its arguments concerning invalidity. Claims 1, 7, and 14 of the '976 patent are independent claims. Claims 1 and 14, which are representative of the claimed invention, read as follows:¹

1. A process for production of a drawn polyethylene terephthalate yarn which translates to a high tenacity dimensionally stable tire cord, comprising:

(a) extruding a molten melt-spinnable polyethylene terephthalate having an intrinsic viscosity of 0.8 or greater through a shaped extrusion orifice having a plurality of openings to form a molten spun yarn,

(b) solidifying the spun yarn gradually by passing the yarn through a solidification zone which comprises (a) a retarded cooling zone and (b) a cooling zone adjacent said retarded cooling zone wherein said yarn is rapidly cooled and solidified in a blown air atmosphere,

(c) withdrawing the solidified yarn at sufficient speed to form a crystalline, partially oriented yarn with a crystallinity of 3 to 13% and a melting point elevation of 2° to 10° C., and

(d) hot drawing the yarn to a total draw ratio between 1.5/1 and 2.5/1.

14. A process for the production of a drawn polyethylene terephthalate yarn which translates to a high tenacity dimensionally stable tire cord comprising:

¹ Claim 7 is similar to claim 1 except that: (i) it allows the undrawn PET yarn to fall within a slightly broader range of crystallinity of 3 to 15 percent, and (ii) it requires the drawn PET yarn to have a terminal modulus of at least 20 grams/denier.

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- (a) extruding a molten melt-spinnable polyethylene terephthalate having an intrinsic viscosity of 0.8 or greater through a shaped extrusion orifice having a plurality of openings to form a molten spun yarn;
- (b) solidifying the spun yarn gradually by passing the yarn through a solidification zone which comprises (i) a retarded cooling zone and (ii) a cooling zone adjacent said retarded cooling zone wherein said yarn is rapidly cooled and solidified in a gaseous atmosphere;
- (c) withdrawing the solidified yarn at sufficient speed to form a crystalline partially oriented yarn with a crystallinity of 7 to 13%; and
- (d) hot drawing the yarn to a total draw ratio between 1.5/1 and 2.5/1; thereby obtaining a drawn yarn with a terminal modulus of at least 20 g/d and a melting point elevation of 10° C. to 14° C.

All asserted claims of the '976 patent recite a specified range for the claim term "melting point elevation." Claims 1, 4, 7, 10, and 13 require a melting point elevation of 2° to 10°C for the undrawn yarn. Claims 2, 5, 8, and 11 require a melting point elevation of 2° to 5°C for the undrawn yarn. Claim 15 requires a melting point elevation of "at least 3°C" for undrawn yarn. Claims 14, 16, and 17 require a melting point elevation of 10° to 14°C for drawn yarn.

D. Melting Point Elevation Limitation

The '976 patent defines "melting point elevation" as "the difference between the specimen melting point (M.P.) and the melting point (M.P.Q.) of a specimen after subsequent rapid liquid nitrogen quenching of an encapsulated DSC sample from the melt." '976 patent at

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col. 5, lines 3-6.² Thus, the melting point elevation (hereinafter “MPE”) equals M.P. minus M.P.Q., namely, the difference between the melting points of (i) the partially crystalline specimen (for either the undrawn or drawn PET yarn), and (ii) the purely amorphous specimen (where rapid liquid nitrogen quenching has prevented re-crystallization of the molten PET material).

The ‘976 patent provides some information about how to measure the melting points of PET yarn specimens, including the type of equipment to use for determining melting points (a Perkin-Elmer Differential Scanning Calorimeter - “DSC”). ‘976 patent at col. 4, line 64 - col. 5, line 6. It also discloses information such as the sample weight (2 mg), the rate of temperature increase for performing the test (20°C per minute), and which peak of the DSC scan should be used to determine the M.P. (the highest temperature peak of the DSC trace). *Id.* The patent does not disclose the method that must be used to prepare the PET yarn specimen for thermal analysis in the DSC. The parties did not dispute that the method of sample preparation has a substantial effect on the melting point result.

II. The ALJ’S Ruling On Indefiniteness

The ALJ found that four different techniques of preparing samples of PET yarn for melting point temperature analysis using a DSC were known to one of o

² “DSC” is the abbreviation for “differential scanning calorimeter,” an apparatus used in determining melting points.

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ordinary skill in the art before the July 5, 1988, priority date of the '976 patent. ID at 4, FF 5. He also determined that the specification of the '976 patent does not disclose any technique for preparing the PET yarn samples for DSC analysis. *Id.* He determined that only one technique -- Honeywell's proprietary and unpublished method, referred to as the "ball method" -- would yield MPE results within the claimed ranges when Hyosung's PET yarn samples were tested. ID at 5, 19; FF 8, 15. He found that the "ball method" was known to those of ordinary skill in the art through presentations at scientific conferences. ID at 6. Finally, the ALJ found that a person of ordinary skill in the art would know that different yarn sample preparation methods would result in different melting point temperatures for the same PET yarn sample. ID at 9; FF 6-7, 9.

The ALJ relied on *Exxon Research & Engineering Co. v. U.S.*, 265 F.3d 1371 (Fed. Cir. 2001), and *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987), for the proposition that a claim element can be found to be indefinite only if reasonable efforts at claim construction prove futile. Because he found that a person of ordinary skill in the art at the time of the '976 invention knew of and could use any one of several different techniques for determining whether a given product satisfied the MPE limitations, he held that *Exxon Research* and *Hybritech* compelled a ruling that the MPE limitations in the '976 patent claims are not indefinite. ID at 15-16.

Honeywell argued before the ALJ, as it does here, that the claims are not indefinite because one of ordinary skill in the art would interpret the claim term "melting point elevation," to require the use of the ball method. The ALJ rejected that argument, finding the expert

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deposition testimony of Dr. Wiegmann, which was presented by Honeywell on that point, to be conclusory and unfounded. ID at 24. The ALJ found that, at best, Dr. Wiegmann's testimony indicated only that one of skill in the art might view the ball method as the preferred analytical method. *Id.*

The undisputed findings of material fact found by the ALJ, and not challenged on appeal before the Commission, include:

1. Each and every asserted claim of the '976 patent requires that the yarn produced by the claimed process fall within a specified MPE range. Order No. 61 at 3-4.
2. The '976 patent "fails to explicitly disclose a particular method to be used in determining whether a PET yarn sample's MPE fulfills any of the ranges or levels claimed therein." Order No. 61 at 4, 37.
3. Prior to the earliest claimed priority date of the '976 patent (July 5, 1988), several sample preparation methods were known to persons of skill in the art, and in the published literature, to determine the melting points of polymers, including PET yarns. Order No. 61 at 4, 38.
4. At least three sample preparation methods had been published as of the earliest claimed priority date of the '976 patent: (i) the "coil method," (ii) the "cut method," and (iii) the "restraining method." Order No. 61 at 5.
5. A fourth method of sample preparation -- the "ball method" -- was proprietary to Honeywell and was never published." Order No. 61 at 5.
6. Prior to the earliest claimed priority date of the '976 patent, it was known in the art "that different sample preparation methods resulted in variations in melting point results for an identical yarn sample." Order No. 61 at 9, 38-39.

III. Standard on Review

Commission rule 210.45 (c) states:

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On review, the Commission may affirm, reverse, modify, set aside or remand for further proceedings, in whole or in part, the initial determination of the administrative law judge. The Commission also may make any findings or conclusions that in its judgment are proper based on the record in the proceeding.

Once the Commission determines to review an initial determination, the Commission reviews the determination under a *de novo* standard. *Certain Acid-Washed Denim Garments and Accessories*, Inv. No. 337-TA-324, Commission Opinion at 4-5 (August 28, 1992)(the Commission examines for itself the record on the issues under review); *accord, Certain Flash Memory Circuits and Products Containing Same*, Inv. No. 337-TA-382, Commission Opinion at 14 (January 9, 1997). Commission practice is consistent with the Administrative Procedure Act which provides that once an initial agency decision is taken up for review, “the agency has all the powers which it would have in making the initial decision except as it may limit the issues on notice or by rule. 5 U.S.C. §557(b). This provision and Commission rule 210.45(c) reflect the fact that the Commission is not an appellate court, but the body responsible for making the final agency decision. We find it appropriate to apply the same standard on final disposition of an appeal of an ALJ Order as we do in the case of review of an ID.

IV. DEFINITENESS

A. Relevant Patent Law

Patents are presumed to be valid under 35 U.S.C. § 282. The presumption of validity includes a presumption that the claims comply with the provisions of 35 U.S.C. § 112, *i.e.*, that the invention is described and enabled by the specification and that the claims are definite.

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Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 941 (Fed. Cir. 1990). An alleged infringer cannot overcome that presumption with anything less than clear and convincing evidence of invalidity. *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1355 (Fed. Cir. 1999).

A patent must include “one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, paragraph 2. The standard for this “definiteness” requirement is “whether those skilled in the art would understand what is claimed when the claim is read in light of the specification.”

Beachcombers, Int'l v. Wildewood Creative Prods., Inc., 31 F.3d 1154, 1158 (Fed. Cir. 1994).

The purpose of the “definiteness” requirement is to put competitors on notice of the limits of the claimed invention, so that they may fairly know the point at which their activities may begin to pose a serious risk of infringement. *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1577, 1581 (Fed. Cir. 1996). The Supreme Court explained the rationale underlying the definiteness requirement in *United Carbon Co. v. Binney & Smith Co.*, 317 U.S. 228, 236 (1942), as follows:

A zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement of claims would discourage invention only a little less than unequivocal foreclosure of the field. Moreover, the claims must be reasonably clear-cut to enable courts to determine whether novelty and invention are genuine.

Accordingly, the definiteness requirement shapes the future conduct of persons other than the inventor, by insisting that they receive notice of the scope of the patented device.

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The Federal Circuit has held that the standard for assessing whether a patent claim is sufficiently definite “requires an analysis of whether those persons of skill in the art would understand the bounds of the claim when read in light of the specification.” *Credle v. Bond*, 25 F.3d 1566, 1576 (Fed. Cir. 1994). In evaluating whether the definiteness standard has been met, the court must determine whether “the claims at issue [are] sufficiently precise to permit a potential competitor to determine whether or not he is infringing.” *Morton Int’l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470 (Fed. Cir. 1993) (upholding a determination of indefiniteness on the basis that “one skilled in the art could not determine whether a given compound was within the scope of the claims”).

“The determination of claim indefiniteness is a legal conclusion that is drawn from the court’s performance of its duty as the construer of patent claims.” *Exxon Research*, 265 F.3d at 1376, citing *Personalized Media v. U.S. International Trade Commission*, 161 F.3d 696, 705 (Fed. Cir. 1998). Thus, the analysis done in determining whether a claim is indefinite is much the same as an analysis undertaken during claim construction. As in claim construction, the Federal Circuit has held that extrinsic evidence, such as expert testimony, may not be relied upon in determining indefiniteness when the intrinsic evidence unambiguously defines the disputed claim language. *Personalized Media*, 161 F.3d at 706. Intrinsic evidence includes the claim language, the specification, and the prosecution history (if admitted into evidence). *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

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B. Discussion

In this case at least three different methods (four, if Honeywell's proprietary "ball method" is included) were known to persons of ordinary skill in the art for determining MPE. Neither the claims, the specification, nor the prosecution history of the '976 patent, however, provide *any* guidance to a person of ordinary skill regarding the method to be used in determining whether the MPE claim limitations are met. Accordingly, as the ALJ determined, the claim term "melting point elevation" cannot properly be limited to the use of any one particular method of sample preparation.

Tests conducted by Honeywell prior to this investigation and prior to the issuance of the '976 patent confirm the criticality of the sample preparation method. [

] .³ The difference in MPEs identified in Honeywell's test program are consistent with the differences in MPEs proffered by Hyosung and Honeywell for the same accused product using their respective "preferred" methods.⁴ Thus, whether a particular

³ Hyosung Motion for Summary Determination of Non-Infringement and Invalidity, Exh. E at HON 069008; Exh. H at HON 068939; Exh. G at AS 0004055. The "coil method" was not tested.

⁴ MPEs derived from Hyosung's tests using the cut method were: [] for undrawn yarn and [] for drawn yarn. ID at 27-28; FF 10. In contrast, the MPEs from Honeywell tests of the same PET yarn product using Honeywell's "ball" method were: [

(continued...)

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PET yarn satisfies the MPE limitation of the claims is completely dependent upon the sample preparation method, regardless of the makeup of the PET yarn sample itself. Moreover, a PET yarn product that satisfies an MPE limitation using one technique *cannot* satisfy that MPE limitation under the other two techniques.⁵

In denying the motion for summary determination of invalidity under 35 U.S.C. § 112, ¶ 2, the ALJ relied most prominently on the Federal Circuit’s decision in *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371 (Fed. Cir. 2001). In *Exxon Research*, the Federal Circuit reversed the trial court’s finding of indefiniteness where a claim term of one patent-in-suit was susceptible to two different interpretations. In doing so, the Federal Circuit held that “[t]he specification makes it reasonably clear that the patentee intended to use [a particular] method in calculating relative productivity.” *Exxon Research*, 265 F.3d at 1377. Accordingly, because the Federal Circuit determined that the claims, properly construed, included only one method of calculation, and excluded the other method, it found that the ambiguity regarding which method to use was not “insoluble” and that the claims were therefore not indefinite. *Id.* With respect to a second patent-in-suit in *Exxon Research*, the Federal Circuit recognized that the issue of claim construction presented “a close question” because the claim term “U subL,” as written and

⁴ (...continued)

] for undrawn yarn and [] for drawn yarn. *Id.*

⁵ Given the 2° C to 10° C range for the MPE limitations of claims 1 and 14, certain undrawn yarn products could possibly satisfy those claims using both the cut and Honeywell’s ball method. However, the restrained method results in MPEs approximately 30° C and 25° C greater than those obtained using the cut or Honeywell’s method, respectively.

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described, was ambiguous. *Exxon Research*, 265 F.3d at 1383. Nonetheless, the Federal Circuit concluded, based on the specification and other language used in the claims, that “one of skill in the art could and would understand that U subL refers to the interstitial liquid velocity along the column.” *Id.* Accordingly, the Federal Circuit eliminated the “ambiguity” by narrowly construing the disputed term in accordance with the specification and other claim language to mean one defined type of velocity.

In the present case, the claims cannot be reasonably construed to include the use of one and only one specific method of preparing a sample to be tested for melting point elevation because the ‘976 patent provides no reasonable basis for adopting a narrowing construction, nor is such a construction supported by the published literature in this art. The Federal Circuit in *Exxon Research* admonished that claims should be held to be indefinite only where the claim “is insolubly ambiguous, and no narrowing construction can properly be adopted.” *Exxon Research*, 265 F.3d at 1375. In so holding, we believe the Federal Circuit was referring to situations, like this one, where after a reasonable attempt at claim construction, the claims cannot reasonably be interpreted in a manner that would resolve the ambiguity and preserve their validity. Accordingly, we believe that *Exxon Research* supports a finding that the ‘976 claims at issue are indefinite.

The ALJ also relied on the Federal Circuit’s decision in *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367 (Fed. Cir. 1986), to support his determination that the claims of the ‘976 patent are definite under § 112, ¶ 2. In *Hybritech*, the Federal Circuit reversed a finding

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of indefiniteness because it found that the claims, which were directed to “monoclonal antibodies having a [particular] affinity,” when read in light of the specification, reasonably apprised those skilled in the art of the invention and “[we]re as precise as the subject matter permits.” *Id.* at 1370.⁶ Thus, the Federal Circuit held that the claim element relating to antibody affinity was definite even in the absence of a standard set of experimental conditions, stating:

The evidence of record indisputably shows that calculating affinity was known in the art at the time of filing, and notwithstanding the fact that those calculations are not precise, or ‘standard,’ the claims, read in light of the specification, reasonably apprise those skilled in the art and are as precise as the subject matter permits. As a matter of law, no court can demand more.

802 F.2d at 1385.

While the claims in *Hybritech* were as precise as the subject matter permitted given the highly complex nature of the particular technology there at issue, the claims in this case are not. The published references that Hyosung cited in its motion for summary determination expressly state the manner in which the PET yarn is prepared for DSC testing. For instance, the 1981 Jaffe reference cautions that in view of the variations in the measurements, “as much sample

⁶ Despite the ALJ’s reliance on *Hybritech*, he nonetheless concluded that, under *Exxon Research*, the failure of the claims to be “as precise as the subject matter permits” no longer constitutes a fatal defect. ID at 15 (“[T]he fact that more specificity could have been provided in the ‘976 patent is not, as current case law now stands, a fatal defect.”) (citing *Exxon Research*, 265 F.3d at 1383). However, *Exxon Research* did not overrule *Hybritech*. A panel decision of the Federal Circuit cannot overrule a prior precedential panel decision. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563, (Fed.Cir.1991) (“[W]e note that decisions of a three-judge panel of this court cannot overturn prior precedential decisions.”); *see also Yunus v. Dept. of Veterans Affairs*, 242 F.3d 1367, 1372 n.1 (Fed.Cir.2001) (citing *Newell Cos., Inc. v. Kenney Mfg. Co.*, 864 F.2d 757, 765 (Fed.Cir.1988), for the proposition that upon direct conflict between Federal Circuit decisions, “the precedential decision is the first”).

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information as possible should be included” when reporting thermal analysis data.⁷ Thus, the published art of thermal analysis recognizes that the manner in which a PET yarn sample is prepared for testing affects the value of the melting point measurement obtained, and demonstrates that the practice in the art is to state which method of sample preparation is used.

In view of the ‘976 patent’s failure to designate any particular method for PET yarn sample preparation and the clear evidence that it is necessary to identify which sample preparation method is to be used, we find that the claims in issue are not “as precise as the subject matter permits,” particularly in view of the published literature in the field at the time of the filing of the ‘976 patent. Accordingly, we find that *Hybritech* supports a finding that the claims at issue here are indefinite.

The ALJ dismissed relevant case authority that supports a finding of indefiniteness in this case, including *Amgen, Inc. v. Hoechst Marion Roussel, Inc.*, 126 F. Supp.2d 69, 155 (D. Mass. 2001), and *Arcade Inc. v. Minnesota Mining and Mfg. Co.*, 24 U.S.P.Q.2d 1578, 1587 (E.D. Tenn. 1991). The operative facts supporting the indefiniteness determinations in *Amgen v. Hoechst* and *Arcade* are essentially identical to the facts in this investigation. In *Amgen v. Hoechst* and *Arcade*, the legal conclusions of indefiniteness were based on the following material facts: (1) a person of ordinary skill in the art would know of more than one test method to determine the value set forth in the claim element; (2) the results derived from each method were mutually exclusive; (3) whether a given product satisfies the element depended upon the test

⁷ Exh. E, Hyosung’s Petition for Review, M. Jaffe, “Fibers” at 719.

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method used; and (4) neither the claims, the specifications, nor the prosecution histories disclosed the method to be used. Similarly in the instant case: (1) at least three different sampling techniques for determining MPE were known to a person of ordinary skill (four if one includes Honeywell's proprietary technique); (2) use of different techniques results in different MPE values; (3) satisfaction of the claim element is dependent upon the technique used; and (4) neither the claims, the specification, nor the prosecution history of the '976 patent discloses the technique that should be used to ascertain the MPE.⁸

Although the ALJ acknowledged that the facts of *Amgen* and *Arcade* are similar to those presented in this case, he declined to apply the reasoning of those cases on the basis that neither was decided on summary judgment. ID at 12 n.5. However, the fact that neither *Amgen* nor *Arcade* was decided on summary judgment does not preclude applying those cases here. In *Exxon Research*, the Federal Circuit expressly rejected the notion that indefiniteness could not properly be determined on summary judgment, holding:

We adhere to the principle that determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims *We therefore reject Exxon's argument that the issue of indefiniteness turns on an underlying factual dispute that should not have been resolved as a matter of law on summary judgment*

Exxon Research, 265 F.3d at 1376 (emphasis added).

Thus, neither *Amgen* nor *Arcade* can properly be distinguished on the basis that those cases were decided on summary judgment.

⁸ ID at 4-6, 9-10, 15-16, 17-18, 19, 22, 26-27; FF 4-9.

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The undisputed material facts found by the ALJ support the conclusion that one of ordinary skill in the art would not be put on notice of the boundaries of the claims at issue. The various methods of sample analysis covered by the '976 claims in issue produce widely varying and non-overlapping results. Thus, the claims fail to put competitors on notice of the limits of the claimed invention, so that they may fairly know the point at which their activities may begin to pose a serious risk of infringement. *See Morton Int'l v. Cardinal Chemical Co.*, 5 F.3d 1464, 1470 (claims at issue not sufficiently precise to enable a competitor to determine whether he is infringing); *Athletic Alternatives*, 73 F.3d 1577, 1581 (“The purpose of the “definiteness” requirement is to put competitors on notice of the limits of the claimed invention, so that they may fairly know the point at which their activities may begin to pose a serious risk of infringement.”); *Amgen, Inc. v. Hoechst*, 126 F.Supp.2d 69, 155-57 (where specification discloses several different preparation methods, each of which would lead to different quantitative results, and the patent applicant did not specify the preparation method that should be used, claim is indefinite); *Arcade*, 24 USPQ2d 1578, 1587 (where there was a failure to identify specific speed for tests where tests could be run at various speeds which would lead to a difference in the test results, the court held the claims to be indefinite).

Honeywell argued before the ALJ, as it does here, that the claims were not indefinite because one of ordinary skill in the art would interpret the claim term “melting point elevation,” to require the use of the ball method. The ALJ rejected that argument, finding the expert testimony presented by Honeywell on that point to be conclusory and unfounded. ID at 24. He

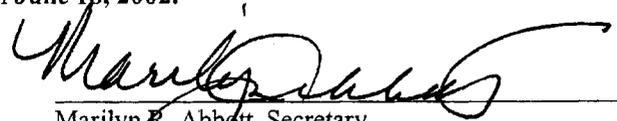
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found that the expert testimony indicated, at best, only that one of skill in the art might view the ball method as the preferred analytical method. Moreover, under principles of claim construction, which under *Personalized Media* are appropriate to apply in an indefiniteness analysis, it would have been improper for the ALJ to use extrinsic evidence to import a limitation (the ball method) into the claim language since the individual claim terms cover all known methods of sample analysis and require no interpretation by one skilled in the art.

Therefore, for the reasons stated above, we reverse the ALJ's order to the extent that it finds that Hyosung did not demonstrate by clear and convincing evidence that the '976 patent claims were invalid due to indefiniteness. The ALJ's unreviewed ID of no infringement, as well as our determination of invalidity due to indefiniteness, result in a finding of no violation of section 337 in this investigation.

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached, **COMMISSION OPINION**, was served upon the following parties, via first class mail and air mail where necessary on **June 18, 2002**.



Marilyn R. Abbott, Secretary
U.S. International Trade Commission
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Washington, DC 20436

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN POLYETHYLENE
TEREPHTHALATE YARN AND
PRODUCTS CONTAINING SAME**

Inv. No. 337-TA-457

**NOTICE OF COMMISSION DETERMINATION TO REVIEW IN PART AN ORDER
GRANTING-IN-PART AND DENYING-IN-PART A MOTION FOR SUMMARY
DETERMINATION OF INVALIDITY AND NON-INFRINGEMENT OF THE ONLY
PATENT AT ISSUE IN THE INVESTIGATION; DETERMINATION TO GRANT TWO
MOTIONS TO STRIKE EXHIBITS**

AGENCY: U.S. International Trade Commission.

ACTION: Notice

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to review in part an order (Order No. 61) issued on February 4, 2002, by the presiding administrative law judge (ALJ) in the above-captioned investigation granting-in-part and denying-in-part a motion for summary determination of invalidity and non-infringement of the only patent at issue in the investigation. The Commission has determined to review only the issue of indefiniteness under 35 U.S.C. § 112, second paragraph. The Commission has also determined to grant two motions to strike certain exhibits attached to pleadings filed in connection with Order No. 61.

FOR FURTHER INFORMATION CONTACT: Jean Jackson, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, SW., Washington, D.C. 20436, telephone 202-205-3104. Copies of the public version of Order No. 61 and all other nonconfidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, SW., Washington, D.C. 20436, telephone 202-205-2000. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TTD terminal on 202-205-1810. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS-ON-LINE) at <http://dockets.usitc.gov/eol/public>. General information concerning the Commission may also be obtained by accessing its internet server (<http://www.usitc.gov>).

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SUPPLEMENTARY INFORMATION: The Commission instituted this patent-based investigation, which concerns allegations of unfair acts in violation of section 337 of the Tariff Act of 1930 in the importation and sale of certain polyethylene terephthalate yarn and products containing same, on May 17, 2001. *66 Fed. Reg. 27586*. The complainant, Honeywell International Inc. of Morris town, New Jersey named Hyosung Corp. of Seoul, Korea as the only respondent. On September 21, 2001, the Commission determined not to review an ID adding Hyosung America, Inc., a wholly-owned U.S. subsidiary of Hyosung Corp., as a respondent.

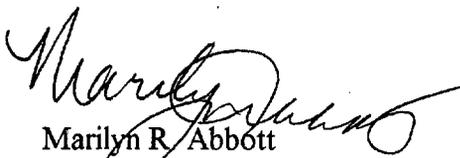
On December 13, 2001, respondent Hyosung moved for summary determination of patent invalidity and non-infringement. The motion was opposed by Honeywell and supported by the Commission investigative attorney. On February 4, 2002, the ALJ issued an order, Order No. 61, which granted Hyosung's motion for summary determination of non-infringement, but denied the motion as to patent invalidity. Honeywell filed a petition for review of the initial determination portion of the order on February 19, 2002. Hyosung and the Commission investigative attorney (IA) filed appeals of the portion of the order denying summary determination on the same date. Each of these parties filed responses to the February 19, 2002, filings on February 26, 2002.

Although the Commission has determined to review the issue of definiteness under 35 U.S.C. § 112, second paragraph, it does not wish to receive any further written submissions.

On February 25, 2002, Hyosung moved to strike certain documents that were attached to Honeywell's response to the appeals of the order on the ground that the documents were not before the ALJ when he decided the motion for summary determination. On March 1, 2002, Honeywell opposed the motion. On February 28, 2002, Hyosung moved to strike a document that was attached to Honeywell's response to Hyosung's and the IA's petitions for review on the ground that the document was not of record. This motion was opposed by Honeywell on March 7, 2002. Both motions to strike were supported by the IA on March 7, 2002.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 190, as amended, 19 U.S.C. § 1337, and in sections 210.24 and 210.42(h) of the Commission's Rules of Practice and Procedure, 19 C.F.R. §§ 210.24, 210.42(h).

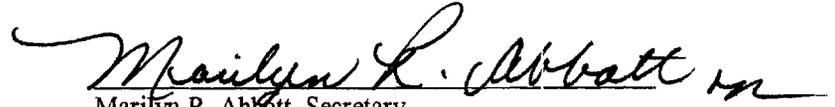
By order of the Commission.


Marilyn R. Abbott
Secretary

Issued: March 21, 2002

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached, **Notice of Commission Determination To Review In Part An Order Granting-In-Part and Denying-In-Part a motion for Summary Determination of Invalidity and Non-Infringement Of The Only Patent At Issue In the Investigation; Determination to Grant Two Motion to Strike Exhibits**, was served upon the following parties, via first class mail and air mail where necessary on March 21, 2002.


Marilyn R. Abbott, Secretary
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PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

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In the Matter of

CERTAIN POLYETHYLENE
TEREPHTHALATE YARN AND
PRODUCTS CONTAINING SAME

Inv. No. 337-TA-457

**ORDER NO. 61: INITIAL DETERMINATION GRANTING IN PART AND
DENYING IN PART RESPONDENTS' MOTION FOR SUMMARY
DETERMINATION OF NON-INFRINGEMENT AND INVALIDITY
OF U.S. PATENT NO. 5,630,976**

(February 4, 2002)

On December 13, 2001, RESPONDENTS, Hyosung Corporation and Hyosung (America), Inc., (collectively, "Hyosung") moved [457-049] pursuant to Commission Rule 210.18 for summary determination of non-infringement and invalidity of U.S. Letters Patent 5,630,976 ("the '976 patent"). On January 2, 2002, COMPLAINANT, Honeywell International Inc. ("Honeywell"), filed a response in opposition to the motion, and the COMMISSION INVESTIGATIVE STAFF ("Staff") on the same date filed a response in support of the motion. On January 9, 2002, Hyosung moved [457-066] for leave, hereby granted to file a reply to Honeywell's opposition.

Pursuant to Commission Rule 210.18, summary determination "... shall be rendered if pleadings and any depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a summary determination as a matter of law." 19 C.F.R. § 210.18(b); also see DeMarini Sports, Inc. v. Worth, Inc., 239 F.3d 1314, 1322 (Fed. Cir. 2001) ("DeMarini"); Wenger Mfg., Inc. v. Coating Machinery Systems, Inc., 239 F.3d 1225, 1231 (Fed. Cir. 2001) ("Wenger").

"When ruling on a motion for summary judgment, all of the nonmovant's evidence is to be credited, and all justifiable inferences are to be drawn in the nonmovant's favor." Xerox Corp. v. 3Com Corp., 267 F.3d 1361, 1364 (Fed. Cir. 2001). The trier of fact should "assure itself that there is no reasonable version of the facts, on the summary judgment record, whereby the nonmovant could prevail, recognizing that the purpose of summary judgment is not to deprive a litigant of a fair hearing, but to avoid an unnecessary trial." EMI Group North America, Inc. v. Intel Corp., 157 F.3d 887, 891 (Fed. Cir. 1998). However, where a party fails to make a showing sufficient to establish an element essential to that party's case, and on which that party will bear the burden of proof at trial, summary judgment must be entered against that party. J& M Corp. v. Harley-Davidson, Inc., 269 F.3d 1360, 1365-66 (Fed. Cir. 2001). "In other words, '[s]ummary judgment is authorized when it is quite clear what the truth is,' [citations omitted], and the law requires judgment in favor

of the movant based upon facts not in genuine dispute.” Paragon Podiatry Laboratory, Inc. v. KLM Laboratories, Inc., 984 F.2d 1182, 1185 (Fed. Cir. 1993).

In its motion, Hyosung contends that the asserted claims of the ‘976 patent, the only patent at issue in this investigation, are invalid as indefinite and non-enabling under 35 U.S.C. § 112, ¶¶ 1 and 2, and further that its accused polyethylene terephthalate (“PET”) yarn and products containing the same do not infringe any of those claims.¹ See Hyosung Motion at 2 and 3.

Hyosung’s Invalidity Contentions

In connection with Hyosung’s contentions that the ‘976 patent is invalid under 35 U.S.C. § 112 ¶¶ 1 and 2, it is first noted that all existing patents including the ‘976 patent are statutorily presumed to be valid. 35 U.S.C. § 282; Richardson-Vicks Inc. v. The Upjohn Co., 122 F.3d 1476, 1480 (Fed. Cir. 1997) (“Richardson-Vicks Inc.”). Accordingly, the party challenging a patent’s validity has the burden of overcoming the statutory presumption by clear and convincing evidence. Richardson-Vicks Inc., supra; Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988).

Hyosung’s motion for summary determination turns on one element that is found in every one of the asserted claims of the ‘976 patent -- the “melting point elevation” (“MPE”), i.e., the temperature particular ranges or levels identified in each claim. See

¹ Claims 1, 2, 4, 5, 7, 8, 10, 11, and 13-17 of the ‘976 patent are at issue in this investigation. See Notice of Investigation, 66 Fed. Reg. 27586 (May 10, 2001); Notice of Commission Determination (December 18, 2001). Of these, claims 1, 7 and 14 are independent and the remaining asserted claims depend directly or indirectly from those claims.

Hyosung Motion at 2 and 9-10. For instance, some claims require an MPE of “2° to 10°C” for undrawn yarn, another claim requires an MPE of “at least 3°C” for undrawn yarn, and yet other claims require an MPE of “10° to 14°C” for drawn yarn.² See id.

The parties do not dispute that several different methods for preparing a PET yarn sample for thermal analysis in order to determine a sample’s melting point were known in the art prior to the earliest priority filing date of the ‘976 patent, which was July 5, 1988. See Hyosung Statement of Uncontested Facts No. 6; Honeywell Response to Statement of Undisputed Facts No. 6; Staff Response to Statement of Undisputed Facts No. 6. There is also no genuine dispute that the ‘976 patent fails to explicitly disclose a particular method to be used in determining whether a PET yarn sample’s MPE fulfills any of the ranges or levels claimed therein. See id.; also see Hyosung Statement of Uncontested Facts Nos. 5 and 6; Honeywell Response to Statement of Undisputed Facts Nos. 5 and 6; Staff Response to Statement of Undisputed Facts Nos. 5 and 6. Although Honeywell disputes Hyosung’s statement of uncontested fact no. 5 that no method of sample preparation is disclosed in the specification of the ‘976 patent. Honeywell asserts in response that “[t]he unspecified parameters used in DSC testing that would be known by a person of ordinary skill in the art include (a) sample preparation” See Honeywell Response to Statement of Undisputed

² Specifically, asserted claims 1, 4, 7, 10 and 13 require that the claimed undrawn yarn have an MPE of 2° - 10° C. Asserted claims 2, 5, 8 and 11 require a narrower MPE range of 2° - 5° C for undrawn yarn. Claims 14, 16 and 17 require an MPE range of 10° - 14° C for drawn yarn. Claim 15, along with the MPE range for drawn yarn of 10° - 14°C that is required by claim 14 from which it depends, additionally requires an MPE for undrawn yarn of “at least 3°C.” See Hyosung Motion at 10.

Facts No. 5 at p. 3 (emphasis added). Thus, Honeywell admits that the preferred method of sample preparation is not explicitly stated in the specification of the '976 patent, and is instead only found within the knowledge of a person of ordinary skill in the art who reads the '976 patent.

For several years before the July 5, 1988 priority date, three sample preparation methods were published in the art: (i) the “coil method,” (ii) the “cut method,” and (iii) the “restraining method.” See Staff Response at 5. Honeywell’s infringement allegations against Hyosung’s accused PET yarn products are based upon an analysis that uses a fourth sample preparation method called the “ball method” (also referred to as the “twist/crimp method”). There is no dispute that the ball method was also known in the art by the July 5, 1988 priority date, as Hyosung’s expert, Dr. Raymond E. Fornes, has admitted in his expert report. See Honeywell Opposition, Declaration of Eric J. Kraus (“Kraus Decl.”) ¶ 3 and Exhibit H (Fornes Expert Report ¶ 36).

The ball method is the only sample preparation technique that has been shown to result in MPEs for the accused PET yarn products that fall within the claimed ranges and levels. See Hyosung Motion at 15; Honeywell Opposition at 2 and 21; Staff Response at 6. Hyosung denies infringement by relying instead upon the cut method, under which the

³ Hyosung’s experts testified in their depositions that they had heard of the ball method in the 1980s, but expressed uncertainty as to the dates when they had first heard of the method and stated only that they recalled discussions of the method at conferences. See Honeywell Opposition at 2, 19 and 36; Kraus Decl. Exhibits C (Fornes Deposition at 66:11-12) and E (Cheng Deposition at 94:20-95:4). They did not testify that they knew at that time of the method’s details, used it, or were aware of any printed publication about it.

MPEs of its accused products fall outside of [] the claimed ranges and levels. See Hyosung Motion at 16-18; Honeywell Opposition at 3; Staff Response at 6.⁴ Hyosung argues that Honeywell's insistence on the ball method as the only method of sample preparation allowable under the asserted claims of the '976 patent is neither supported nor enabled by the written description of the patent or claimed by the patent, and if accepted renders the patent invalid under 35 U.S.C. § 112, ¶¶ 1 and 2. See Hyosung motion at 27.

Section 112, ¶ 1 of Title 35 requires that "[t]he specification shall contain a written description of the invention." Although this requirement does not mean that the applicant must describe exactly the subject matter claimed, it is satisfied if the specification "clearly allow[s] persons of ordinary skill in the art to recognize that he or she invented what is claimed." In re Hayes Microcomputer Products, Inc. Patent Litigation, 982 F.2d 1527, 1533 (Fed.Cir. 1992) ("Hayes"). The specification must demonstrate that the inventor was in possession of the invention at the time of filing of the application, which in this case would have been the earliest priority date of July 5, 1988. See In re Alton, 76 F.3d 1168, 1172 (Fed.Cir. 1996) ("The adequate written description requirement . . . serves 'to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him; how the specification accomplishes this is not material.'"). Whether the written description requirement has been met is a question of fact. Wang Laboratories, Inc. v. Toshiba Corporation, 993 F.2d 858, 865 (Fed.Cir. 1993).

⁴ It is not necessary to go into the technical details of each method for the purposes of this motion.

Paragraph one of 35 U.S.C. § 112 also requires that the patent specification must describe the manner and process of making and using the invention “in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same” The issue of whether a disclosure is enabling is a matter of law. Applied Materials, Inc. v. Advanced Semiconductor Materials America, Inc., 98 F.3d 1563, 1575 (Fed.Cir. 1996). “To be enabling, the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without ‘undue experimentation.’” Genentech, Inc. v. Novo Nordisk, A/S, 108 F.3d 1361,1365 (Fed.Cir. 1997) (“Genentech”). “Patent protection is granted in return for an enabling disclosure of an invention, not for vague intimations of general ideas that may or may not be workable.” Id. at 1366. Although a specification need not disclose minor details that are well known in the art, “[i]t is the specification, not the knowledge of one skilled in the art, that must supply the novel aspects of an invention in order to constitute adequate enablement,” and in so doing the specification cannot merely provide “only a starting point, a direction for further research.” Id. On the other hand, “[i]t is not fatal if some experimentation is needed, for the patent document is not intended to be a production specification.” Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 941 (Fed.Cir. 1990). “Undue experimentation” is “a matter of degree” and “not merely quantitative, since a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the

experimentation should proceed” PPG Industries, Inc. v. Guardian Industries Corp., 75 F.3d 1558, 1564 (Fed. Cir. 1996) (“PPG Industries”).

Finally, under paragraph two of Section 112, claims must “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.” Claim indefiniteness under Section 112, ¶ 2 is a question of law. Exxon Research and Engineering Co. v. U.S., 265 F.3d 1371, 1376 (Fed.Cir. 2001) (“Exxon Research”); Union Pacific Resources Co. v. Chesapeake Energy Corp., 236 F.3d 684, 692 (Fed.Cir. 2001). “[I]f the claims, read in light of the specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the courts can demand no more.” Shatterproof Glass Corp. v. Libby-Owens-Ford Co., 758 F.2d 613, 624 (Fed.Cir.), cert. dismissed, 474 U.S. 976 (1985) (“Shatterproof Glass”); accord, Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1385 (Fed.Cir. 1986), cert. denied, 480 U.S. 947 (1987) (“Hybritech”). Further in this connection, the Federal Circuit has recently observed:

We have not insisted that claims be plain on their face in order to avoid condemnation for indefiniteness; rather, what we have asked is that the claims be amenable to construction, however difficult that task may be. If a claim is insolubly ambiguous, and no narrowing construction can properly be adopted, we have held the claim indefinite. If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.

Exxon Research, supra, 265 F.3d at 1375. “By finding claims indefinite only if reasonable efforts at claim construction prove futile,” the Federal Circuit continued in Exxon Research, “we accord respect to the statutory presumption of patent validity.” Id.

Neither Honeywell, Hyosung nor Staff disputes that a person of ordinary skill in the art would have known, prior to the earliest filing date of the ‘976 patent, of several methods of sample preparation for thermal analysis of PET yarn in addition to the ball method, including the cut method, the coil method and the restraining method. See Hyosung Statement of Uncontested Facts No. 6; Honeywell Response to Statement of Undisputed Facts No. 6; Staff Response to Statement of Undisputed Facts No. 6. Further, no party disputes that it was known, prior to the earliest filing date of the ‘976 patent, that different PET yarn sample preparation methods resulted in variations in melting point results for an identical yarn sample. See Hyosung Motion at 14; Honeywell Opposition at 10-11; Staff Response at 4-5; also see Hyosung Statement of Uncontested Facts No. 7; Honeywell Response to Statement of Undisputed Facts No. 7;⁵ Staff Response to Statement of Undisputed Facts No. 7.

Thus, it would have been possible as of the earliest priority filing date of the ‘976 patent for a person of ordinary skill in the art to utilize any of the then-known methods

⁵ Honeywell disputes Hyosung’s statement of uncontested fact no. 7 “only to the extent it relates to “those of skill in the art.” See Honeywell Response to Statement of Undisputed Fact No. 7. However, in its Opposition, Honeywell contradicts itself by stating that “[a] person of ordinary skill in the art would have known that the initial melting point of a specimen (M.P.) can be affected by the sample preparation method used” See Honeywell Opposition at 10.

of sample preparation, including the cut method, to find the MPE of PET yarn products for the purpose of determining whether they infringe the asserted claims of the '976 patent. Moreover, as indicated in the chapter on "thermal analysis of fibers" (known as "TA") written by Dr. Michael Jaffe, Honeywell's own expert in this investigation, that appeared in a 1981 treatise edited by Edith A. Turi and entitled Thermal Characterization of Polymeric Materials, in using such methods "[i]t is often prudent to use several different sample preparation techniques to allow the identification and elimination of artifacts before standardizing procedures." See Hyosung Motion, Declaration of Eric J. Fues ("Fues Decl.") Exhibit F (M. Jaffe, "Fibers," appearing in Edith A. Turi, ed., Thermal Characterization of Polymeric Materials Chapter 7, at 719 (1981)) (emphasis added).

The choice of sampling method, rather than being an essential element of the claimed invention, is more appropriately viewed as a detail that would be well-known to a person of ordinary skill in the art that does not have to be included in the patent specification. See Hyatt v. Boone, 146 F.3d 1348, 1353 (Fed.Cir. 1998), cert. denied, 525 U.S. 1141(1999), citing In re Eltgroth, 419 F.2d 918, 921 (C.C.P.A. 1970) ("This court has often observed that minutiae of descriptions or procedures perfectly obvious to one of ordinary skill in the art yet unfamiliar to laymen need not be set forth."). When an explicit limitation in a claim is not present in the written description, it must be shown that a person of ordinary skill would have understood, at the time the patent application was filed, that the description requires that limitation. Id.; also see Purdue Pharma L.P. v. Faulding Inc., 230

F.3d 1320, 1323 (Fed.Cir. 2000) (claim limitation held not adequately disclosed in the written description of the patent). Here, however, it is not an express limitation of the asserted claims that fails to appear in the written description of the '976 patent, but an unclaimed "detail" that a person of ordinary skill in the art would readily know -- an appropriate method of preparing the PET yarn sample for thermal analysis so that the MPE of the sample can be determined. The fact that the measurement of MPE is subject to variation depending upon the choice of method is immaterial because, as the Jaffe Chapter notes, one of ordinary skill in the art would probably "use several different sample preparation techniques." See Modine Manufacturing Co. v. U.S. International Trade Commission, 75 F.3d 1545, 1557 (Fed Cir.), cert. denied sub nom. Showa Aluminum Corp. v. Modine Manufacturing Co., 518 U.S. 1005 (1996) (holding that claim term "relatively small is not indefinite and that mathematical precision should not be imposed for its own sake because patentee has right to claim invention in terms understood by persons of ordinary skill in the art). The artisan is able to make any reasonable choice of the methods of sample preparation that were known in the art as of the earliest priority filing date of the '976 patent, and that choice does not necessarily have to be the ball method.

With regard to enablement under Section 112, ¶ 1, the undisputed facts here lead to a similar conclusion that the asserted claims of the '976 patent are valid. As Staff points out, "[t]he enablement requirement is met if the description enables any mode of making or using the invention" Staff Response at 17 (emphasis added), citing Engel

Industries, Inc. v. The Lockformer Co., 946 F.2d 1528, 12533 (Fed.Cir. 1991). Sample preparation methods are details, not claim elements, and several were well known in the art as of the earliest priority filing date of the '976 patent. Their measurement variations were also well known. Hence, the lack of a specific choice of method in the specification of the '976 patent does not render the claimed invention unworkable. See Genentech, supra, 108 F.3d at 1365-66. Further, the fact that artisans have long known to "use several different sample preparation techniques" means that at least some basic experimentation with different techniques has always been considered routine in this field. See PPG Industries, supra.

Finally, concerning claim indefiniteness under Section 112, ¶ 2, the controlling cases here are Hybritech, supra, and Exxon Research, supra.⁶ In Hybritech, the Federal

⁶ Both Hyosung and Staff cite Amgen, Inc. v. Hoechst Marion Roussel, Inc., 126 F.Supp.2d 69 (D.Mass. 2001) ("Amgen") in support of their contentions that the asserted claims of the '976 patent fail the specification definiteness, claim definiteness and enablement requirements of 35 U.S.C. § 112, ¶¶ 1 and 2. See Hyosung Motion at 23-25; Staff Response at 9, 12-13 and 15-16. However, as Honeywell points out in its Opposition at 40-41, Amgen reached a contrary result from this Initial Determination not on summary judgment, but only after a lengthy trial in which detailed factual findings were made by the District Court and the accused infringer met its burden of proof by clear and convincing evidence, albeit by an "admittedly close" margin. See Amgen, 126 F.Supp.2d at 155. For this reason, Amgen is not applicable here.

Staff also cites Arcade Inc. v. Minnesota Mining and Manufacturing Co., 24 U.S.P.Q.2d 1578, 1586-87 (E.D.Tenn. 1991) ("Arcade"), in support of its invalidity assertions. See Staff Response at 11-12. Arcade likewise is another District Court case that found the patent at issue to be indefinite under 35 U.S.C. § 112 after a jury trial on the merits. The facts are similar to here – the asserted claims of the patent at issue required certain ranges of tensile rupture strength but the patent did not specify what tests had to be run to ascertain that characteristic. See Arcade, supra, 24 U.S.P.Q.2d at 1587. There were various speeds at which tests could be run that could make a difference in test results, and "Arcade had to find out how to run the tests by phoning 3M." Id. Thus,
(continued...)

Circuit reversed the District Court's holding that the claims of the patent at issue were invalid as indefinite "because antibody affinity cannot be estimated with any consistency." Hybritech, *supra*, 802 F.2d at 1385. The Federal Circuit instead held, under a factual scenario directly relevant to this investigation, that "[t]he evidence of record indisputably shows that calculating affinity was known in the art at the time of filing, and notwithstanding the fact that those calculations are not precise, or 'standard,' the claims, read in light of the specification, reasonably apprise those skilled in the art and are as precise as the subject matter permits. As a matter of law, no court can demand more." *Id.* (emphasis added), citing Shatterproof Glass, *supra*, 758 F.2d at 624.

In Exxon Research, the Federal Circuit again reversed a District Court's finding that certain claims of the patents at issue were invalid as indefinite. Although the Federal Circuit noted that "[t]he trial court was correct to fault the Exxon patents as lacking in specificity in several respects – specificity that in some instances would have been easy to provide and would have largely obviated the need to address the issue of indefiniteness," it found that "[w]hile we agree with the trial court that the product was less than perfect, we

⁶ (...continued)

the Court determined, "[o]ne skilled in the art would not be able to duplicate the invention claimed in the '299 patent in the absence of any information about the testing in the patent." *Id.*

Although Arcade cites Hybritech and Shatterproof Glass, it is questionable whether this 1991 District Court holding would have survived the Federal Circuit's more recent pronouncements in Exxon Research, *supra*, that allow a finding of indefiniteness "only if reasonable efforts at claim construction prove futile." Exxon Research, *supra*, 265 F.3d at 1375. Arcade also found other significant omissions in the patent that further supported its conclusion of indefiniteness. See Arcade, *supra*, 24 U.S.P.Q.2d at 1587. On balance, Arcade does not impel the same result here.

disagree that the flaws were fatal.” Exxon Research, supra, 265 F.3d at 1376. In connection with the District Court’s finding that one claim was indefinite because there were two possible ways to calculate the increase in productivity, the “subtraction method” and the “division method,” and the patent did not make clear which of these ways was used in the claim, the Federal Circuit in reversing found that the examples and figures in the specification “make[] it reasonably clear that the patentee intended to use the subtraction method in calculating relative productivity.” Id. at 1377.

Concerning the District Court’s further finding that another claim was indefinite because it was not clear whether the patentee meant the claim term “U subL” to refer to “interstitial velocity” or “superficial velocity,” two measures that can vary by as much as 50 percent, the Federal Circuit further held that the expert testimony showed that interstitial velocity made more technical sense. See Exxon Research, supra, 265 F.3d at 1383. However, noting the District Court’s derivation of its contrary but plausible view from an example in the patent specification, the Federal Circuit admitted that “[t]his is a close question,” that the patentee “could easily have cured the ambiguity by adding a single word or phrase to the claims or specification of the ‘982 patent stating which method of measuring liquid velocity the patentee was using,” that “[i]n fact, much of the extrinsic evidence suggests that the practice in this field of art is to state specifically whether velocity is interstitial or superficial,” and that “[t]hat practice was not followed in the ‘982 patent,” leaving the result “that there is some question as to the proper interpretation of the claims.”

Id. Despite these admitted faults of the '982 patent, the Federal Circuit nevertheless held that the claims were not "rendered so ambiguous that one of ordinary skill in the art could not reasonably understand their scope." Id.

On the basis of the facts here, Hybritech and Exxon Research compel a ruling that the asserted claims of the '976 patent are not invalid as indefinite under 35 U.S.C. § 112, ¶ 2, even though they are less than perfect. As Honeywell notes in its Opposition at 40, the fact that there are differences in MPE measurements among the various methods of sample preparation is immaterial to whether the claims of the '976 patent "reasonably apprise those skilled in the art and are as precise as the subject matter permits." Hybritech, supra, 802 F.2d at 1385. Although Hyosung argues forcefully against this view by arguing that the '976 patent specification "is completely silent as to which method of sample preparation should be used even though several were well known in the published literature," and thus that "the subject matter permits" more precision than the '976 patent claims reasonably afford the skilled artisan (see Hyosung Reply at 19-20), the fact that more specificity could have been provided in the '976 patent is not, as current case law now stands, a fatal defect. See Exxon Research, supra, 265 F.3d at 1383; also see Certain Gel-filled Wrist Rests and Products Containing Same, Inv. No. 337-TA-456, Order No. 9 at 10 and 17 (January 2, 2002) (the standard for indefiniteness under Section 112, ¶ 2 is now "whether the claim language (in view of the specification) reasonably apprises those skilled in the art of the claimed invention, and thus whether the claim language is 'reasonably

precise,' given the nature of the claimed invention and its subject technology," bearing in mind, however, that "the courts will afford some latitude regarding the degree of precision required in drafting claims related to subject matter that is not subject to precise definition,"). Hyosung admits that a person of ordinary skill in the art would have known of several sample preparation techniques, that MPE results would vary, and therefore that several different techniques should therefore be used. Hyosung points to no evidence in the art that demonstrates that such a person would need more precision than what is found in the specification and claims of the '976 patent in order to know what to do to avoid infringement.⁷

Accordingly, the contentions of Hyosung and Staff that the specification and asserted claims of the '976 patent are invalid under 35 U.S.C. § 112, ¶¶ 1 and 2 as indefinite and non-enabling is rejected and Hyosung's motion for summary determination must be denied to that extent.

Hyosung's Non-infringement Contentions

In connection with Hyosung's additional allegations of non-infringement, the required analysis "entails two steps. The first step is determining the meaning and scope of the patent claims asserted to be infringed. The second step is comparing the properly

⁷ It is interesting to note in this regard that, in two prior art patent references discussed *infra* in connection with prosecution history estoppel that also have to do with processes for preparing PET yarn, there is some mention of determining PET yarn melting points but no mention at all of any particular sample preparation technique for such purpose. See Complaint, Prior Art References (U.S. Patent Nos. 4,414,169 (McClary, at col. 10:3-21) and 4,690,866 (Kumakawa *et al.*, at cols. 3:11-20 and 6:28-32).

construed claims to the device or process accused of infringing.” Dow Chemical Co. v. United States, 226 F.3d 1334, 1338 (Fed. Cir. 2000), citing Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), aff’d, 517 U.S. 370 (1996) (“Markman”). The first step is a question of law, whereas the second step is a factual determination. Markman, supra. Since the claims of a patent measure the invention at issue, the claims must be interpreted and given the same meaning for purposes of both validity and infringement analyses. Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343, 1351 (Fed. Cir. 2001). Thus, in order to prevail on a motion for summary determination of non-infringement, the movant must demonstrate by a preponderance of the evidence that the accused process or device does not infringe any of the properly construed claims of the patent, either literally or under the doctrine of equivalents. See Bayer AG v. Elan Pharmaceutical Research Corp., 212 F.3d 1241, 1247 (Fed. Cir. 2000) (“Bayer”).

There is no dispute that Hyosung’s cut method was well-known in the art before the earliest priority date of the 1976 patent. See Hyosung Statement of Uncontested Facts No. 6; Honeywell Response to Statement of Undisputed Facts No. 6; Staff Response to Statement of Undisputed Facts No. 6. It is also beyond dispute that the ball method was known in the art by that date, as Hyosung’s expert, Fornes, has admitted in his expert report. See Honeywell Opposition, Kraus Decl. ¶ 3 and Exhibit H (Fornes Expert Report ¶ 36). However, Honeywell treats the ball method as an internal, proprietary Honeywell procedure that it has never published. See Hyosung Motion at 22, Fues Decl. ¶ 4 and Exhibit D (Rule

30(b)(6) Deposition of Ronald A.F. Moore at 159:6-14 (November 6, 2001)); Staff Response at 14 n.7. The only available written version of the ball method that has been introduced in this investigation is a 1999 draft that has been designated by Honeywell as confidential business information under the Administrative Protective Order in this investigation. See Hyosung Motion at 22.

The claims and written description of a patent are “to be understood for what it meant to one having ordinary skill in the art at the time the application was filed.” In re Koller, 613 F.2d 819, 824 (CCPA 1977); accord, U.S. Steel Corp. v. Phillips Petroleum Co., 865 F.2d 1247, 1251 (Fed.Cir. 1989); also see Certain HSP Modems, Software and Hardware Components Thereof, and Products Containing Same, Inv. No. 337-TA-439, Initial Determination at 41 (October 18, 2001) (Commission review pending). Although Honeywell argues extensively in its opposition that Hyosung’s non-infringement allegations must fail because Hyosung has not demonstrated what knowledge of sample preparation methods a person of ordinary skill in the art would have had at the time the patent was filed (see Honeywell Opposition at 3-4, 6, 33, 42-43), the fact remains that the cut method was published, and it is publication that clearly makes up at least some of that knowledge. See Vitronics Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1584 (Fed.Cir. 1996) (“As compared to expert testimony, which often only indicates what a particular expert believes a term means, prior art references may also be more indicative of what all those skilled in the art generally believe a certain term means”).

In order to meet its burden of proving infringement, Honeywell seeks to construe the claims at issue to require the use of its ball method of sample preparation exclusively. See Hyosung Motion at 15; Staff Response at 19; Hyosung Reply at 3. No other method of sample preparation achieves the result Honeywell seeks. In order to construe the claims of a patent, which is a matter of law, courts must look to the patent's intrinsic evidence consisting of the claims, the specification, and the prosecution history. Valmet Paper Machinery, Inc. v. Beloit Corp., 105 F.3d 1409, 1413 (Fed. Cir.), amended on rehearing, 112 F.3d 1169 (Fed. Cir.), cert. denied, 522 U.S. 1028 (1997). However, as all parties agree, there is no explicit mention of the ball method in the intrinsic evidence of the '976 patent. In such a case, extrinsic evidence of the meaning of certain terms may also be used to aid the court's understanding of the patent. Q.I. Corp. v. Tekmar Company, Inc., 115 F.3d 1576, 1581 (Fed. Cir. 1997); Markman, supra 52 F.3d at 979. "Extrinsic evidence consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." Markman, 52 F.3d at 980.

Consequently, Honeywell turns to extrinsic evidence to construe the claims in an effort to lead the person of ordinary skill in the art inexorably to the ball method, to the exclusion of all other methods known in the art at the time of filing of the '976 patent. To do so, Honeywell introduces the declaration of its expert, Dr. Weigmann. See Honeywell Opposition at 4 and 17-18. Weigmann attempts to show that "a person of ordinary skill would have understood that the ball method was not merely the preferred method for the

melting point test of the patent. It was the only method . . .” See id. (emphasis added); also see id. at 17-18.

In his declaration, Weigmann states his understanding that the patent claims are to be construed through the perspective of a person of ordinary skill in the art at the time of the ‘976 patent application, whom he perceives to have “at least (a) a Bachelor of Science degree in chemistry, physics, or mechanical engineering, plus appropriate experience in (one to five years) or equivalent knowledge of PET yarn manufacturing; or (b) appropriate experience (10-15 years) in or equivalent knowledge of PET yarn manufacturing.” See Honeywell Opposition, Declaration of Hans-Dietrich Weigmann, Ph.D. (“Weigmann Decl.”) ¶¶ 5-6. Weigmann further states that a person of ordinary skill in the art “would prepare a fiber sample for DSC testing using the method that obtained the most accurate, reproducible results possible.” Id. ¶ 7. Weigmann opines that a person of ordinary skill in the art would understand the claim term “melting point elevation” “to include preparing a yarn sample using only the ‘ball’ method” because it is “more practical and more reproducible than other methods.” Id. ¶ 12.

The passage in the specification from which Weigmann’s theory springs states as follows:

Regardless of which melting point characteristic is used, the differences in thermal response provide a direct quantitative measure of differences in internal morphological structure. It is felt that this unique morphological structure rather than melting point elevation per se gives rise to the desired improved performance.

See Fues Decl. Exhibit A ('976 patent, col. 5:41-46) (emphasis added). This statement in the specification of the '976 patent points to the ball method, in Weigmann's view, "because it provides a better indicator of the yarn's true morphological structure than the other sample preparation methods" Weigmann Decl. ¶ 12.

Weigmann further opines that the ball method "partially inhibits shrinkage of the [yarn] fibers by providing a *partial restraint*, provides adequate thermal contact, and avoids excessive deformation by minimizing the number of cuts to the sample." See Weigmann Decl. ¶ 14 (emphasis in original). Weigmann believes that a person of ordinary skill in the art would not consider the claim term "melting point elevation" to refer to the restraining method of sample preparation "because even though it may be the most reproducible, it was not possible to use the restraining method with conventional DSC equipment at the time of the '976 patent application." See id. ¶¶ 16 and 18. The coil method is also impractical, Weigmann states, because "the sample length [of PET yarn] may be shorter than that required for wrapping the yarn fully around the tips of the tweezers" as the coil method requires. See id. ¶ 21.

Finally, Weigmann dismisses the cut method "because of its obvious disadvantages, including that such a method is less reproducible and less practical than the ball method." See id. ¶ 22. In this connection, Weigmann opines that the cut method's "total lack of restraint" allows for "unmitigated shrinkage of the filaments to occur during the heating of the sample" which "alters the structure of the fibers, leading to results not

accurately reflecting the original structure of the fiber.” See id. ¶ 24. Weigmann also points to the “inherent difficulty in uniformly packing the tiny fiber snippets into the DSC pan without gaps between them that may result in poor thermal contact.” See id. ¶ 25. Further, in Weigmann’s view, “[t]he more extensively the fibers are cut and the shorter the fiber snippets” resulting from use of the cut method, “the more influence these altered structural regions will have on the overall thermal ‘fingerprint’ of the fiber sample structure, that is, the more the structure of the *sample* is altered by the sample preparation method, the less it reflects the original structure of the yarn produced by the process.” See id. ¶ 26 (emphasis in original).

Weigman offers what he calls a “[a] simple rule of thumb” that is applicable to the different types of sample preparation methods for the same type of yarn:

as the degree of physical restraint on the yarn sample increases, so does the value for melting point elevation. Therefore: (a) a fully restrained sample such as that in the restraining methods would consistently yield the highest value of melting point elevation; (b) a totally unrestrained sample such as that in the cut method would consistently yield the lowest value of the melting point elevation; and (c) a partially-restrained sample such as that in the coil or ball method would consistently yield a value of melting point elevation somewhere between the other two methods.

Weigmann Decl. ¶ 27. These differences in MPE, Weigmann concludes, “are only due to changes in sample preparation method and are not reflections of differences in the *original physical properties* of the yarn produced by the process.” See id. (emphasis in original).

Weigmann's above conclusion, however, does not stem from the passage in the patent specification that serves as the premise for his explanation. Rather, his conclusion is generated from other considerations regarding the relative merits of different MPE sample preparation techniques that have nothing to do with the specification itself.

For example, the choice of "melting point characteristic" referred to in the first sentence of the passage of the specification has to do with a choice mentioned earlier in the specification between the "melting point characteristic" represented by MPE and "[a]n alternate measure of melting point characteristic (Z) which is a more sensitive parameter than [melting point] for many samples of this invention." See id (col. 5:8-11). The remainder of the sentence and the next sentence of this passage point out that no matter which melting point characteristic is used, it quantitatively reflects differences in internal morphological structure and it is those internal differences, not MPE, that primarily govern the PET yarn's "improved performance."

It is difficult to comprehend what, if anything, this passage really means, but it is nevertheless apparent that Weigmann reads too much into these words as a way to derive his conclusion that one of ordinary skill in the art is lead inexorably by them to use the ball method of sample preparation over all other known techniques. On the one hand, the passage indicates that MPE and other "melting point characteristics" (such as the "Z" measure) quantitatively reflect internal structural differences in PET yarn. Yet, the passage also suggests that MPE is not critical to the invention's improved qualities. Whatever it

means, this contradictory passage does not imply that MPE is the best way to measure the improved performance of PET yarns, nor does it point to any particular way to prepare a PET yarn sample for MPE measurement.

In short, Weigmann's explanation of why the ball method is required by the claims of the '976 patent is too convoluted a stretch that does not flow logically from the foregoing passage of the specification. Rather, his explanation relies principally upon other conclusory, speculative assertions in his declaration about the comparative merits of the different methods of PET yarn sample preparation, none of which are supported or even suggested by the foregoing passage.⁸ This effort is not helpful to claim construction. See Dayco Products Inc. v. Total Containment, Inc., 258 F.3d 1317, 1325 (Fed.Cir.2001) ("Dayco Products") ("We find the teaching of the specification at most ambiguous regarding the degree of reception required to form a seal We cannot conclude from the [passage in the specification] that the patentees unambiguously limited the scope of the claimed invention to require complete reception. For us to do so here would be to impermissibly read an unclaimed (and arguably undisclosed) limitation into the claims.") (emphasis added).

In interpreting claim language, "[w]hat is disapproved of is an attempt to use extrinsic evidence to arrive at a claim construction that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution

⁸ The so-called "rule of thumb" that Weigmann derives from the different methods of sample preparation for thermal analysis purposes, rather than pointing invariably to the ball method as the only proper measure of measurement, serves more readily as a convenient guide for competitors to follow if they want to avoid infringing the patent altogether. See Weigmann Decl. ¶ 27.

history, in other words, with the written record of the patent.” Markman, 52 F.3d at 979. On summary determination where the non-movant relies upon an expert affidavit, “mere ‘theoretical speculations’ lacking a basis in the record will not create a genuine issue of fact. [Internal quotation marks and citation omitted]. Moreover, where an expert’s opinion is predicated on factual assumptions, those assumptions must also find some support in the record.” Novartis Corp. v. Ben Venue Laboratories, Inc., 271 F.3d 1043, 1051 (Fed.Cir. 2001) (“Novartis”). For purposes of summary determination, it is not necessary to credit expert testimony that proffers “no more than theoretical speculation raising, at best, a ‘metaphysical doubt as to the material facts.’” Id. at 1054.

In approaching claim construction, the Federal Circuit has held that “we must always be conscious that our objective is to interpret the claims from the perspective of one of ordinary skill in the art, [citation omitted], not from the viewpoint of counsel or expert witnesses retained to offer creative arguments in infringement litigation. One important consideration in claim construction is whether the patent has given adequate notice to the public of the proposed claim construction. [Citations omitted]. If an argument offered in support of a particular claim construction is so convoluted and artificial that it would not be apparent to a skilled artisan reading the patent and the prosecution history, the argument is simply unhelpful to the performance of our task.” Dayco Products, supra, 258 F.3d at 1324.

Weigmann’s exegesis of the claim term “melting point elevation” fails to pass muster under the foregoing case law. Even assuming that it were true that the ball method

is “more practical and more reproducible than other methods” as Weigmann opines, the details of the ball method that Honeywell advocates have not been published and remains proprietary to Honeywell. Weigmann merely assumes that a reasonable competitor of Honeywell’s could learn the details of that method by some means other than becoming embroiled in an infringement suit with Honeywell and signing onto the protective order, or by going to work for Honeywell. This Hobson’s choice does not satisfy the “public notice” requirement for patents.

A non-moving party cannot defeat summary determination “simply by insisting that a genuine dispute exists or even by proffering some evidence; in any case, the non-moving party (provided that this party bears the ultimate burden of proof . . .) must produce evidence that a reasonable jury could find *sufficient* to prove. e.g., that the accused device contains all the limitations set forth in the patent claims.” Smith & Nephew, Inc. v. Ethicon, Inc., __ F.3d __, 2001 WL 1590040 at *12 (Fed.Cir. 2001) (emphasis in original). Here, Honeywell cannot be permitted to avoid summary determination of non-infringement against Hyosung by proffering expert speculation that attempts to inject into the claims of the ‘976 patent limitations made up of “secret” details that only Honeywell knows.

The Weigmann declaration does not adequately create a genuine dispute about the material fact that the ‘976 patent does not expressly limit the practitioner to any particular method of PET yarn sample preparation in order to measure MPE. Accordingly, the term “melting point elevation” in the asserted claims of the ‘976 patent should be

construed, consistently with the earlier findings herein on the patent's validity, to permit the measurement of melting points by means of any sample preparation method known to persons of ordinary skill in the art as of the earliest priority filing date of the '976 patent, which would include the cut method used by Hyosung.

Hyosung presents evidence to demonstrate that, using the cut method of sample preparation, tested samples of its accused undrawn PET yarn products⁹ have average MPE levels (in °C) of [

] See Hyosung Motion at 16-17 and 17 n.11, Fues Decl. Exhibit I. Hyosung also states that the MPE for [

] See id.

Honeywell presents its countervailing evidence, using the ball method, to demonstrate that tested samples of Hyosung's accused drawn and undrawn PET yarn products fall within the identified ranges and levels of one or more of the asserted claims. See Honeywell Opposition at 21 (Table I) and Declaration of John Cuculo, Ph.D. ("Cuculo Decl.") ¶¶ 5-6 and Exhibits B (TRI Report at 5) and C. However, in view of the fact that

⁹ Honeywell accused the following Hyosung PET yarns of infringement: [

] See Hyosung Motion at 14 n.8; Honeywell Opposition at 21 (Table I).

the claims, as properly construed, do not require the use of the ball method of sample preparation over the use of the cut method, Honeywell cannot meet its burden of proving that Hyosung's products literally infringe any of the asserted claims of the '976 patent. See Novartis, supra, 271 F.3d at 1046 ("Summary judgment must be granted against a party who has failed to introduce evidence sufficient to establish the existence of an essential element of that party's case, on which the party will bear the burden of proof at trial.").

In patent litigation, "where the parties do not dispute any relevant facts regarding the accused product . . . but disagree over possible claim interpretations, the question of literal infringement collapses into claim construction and is amenable to summary judgment." Rheox, Inc. v. Entact, Inc., ___ F.3d ___, 2001 WL 1682950 at *4 (Fed.Cir. 2002). Accordingly, in view of the claim construction arrived at above and the material facts as to which there is no genuine dispute among the parties, summary determination that Hyosung does not literally infringe any of the asserted claims of the '976 patent is appropriate.

Concerning infringement under the doctrine of equivalents, Hyosung asserts in its motion that the doctrine of prosecution history estoppel precludes Honeywell from arguing that Hyosung's accused PET yarn products are equivalent to what is claimed. See Hyosung Motion at 20. Hyosung argues that Honeywell amended its claimed range of MPE for drawn yarn from a range of 9°C-14°C to a range of 10°C-14°C to avoid prior art references during prosecution of the applications that eventually matured into the '976

patent. See id. and Fues Decl. Exhibit J ('976 Patent Prosecution History, October 7, 1991 Examiner Interview Summary Record). Hyosung also contends that Honeywell distinguished a prior art yarn having an undrawn MPE of 1°C. See id. Therefore, Hyosung argues that Honeywell is estopped from encompassing within its claims a drawn yarn having an MPE below 10°C or an undrawn yarn having an MPE below 2°C. See id. Similarly, Staff contends that “[i]n addition to disclaiming coverage for temperature increases less than 3°C, the applicants also disclaimed coverage for yarns that demonstrated temperature increases greater than 10°C during prosecution of the Application No. 810,600. *See*, November 18, 1992 Amendment, at 5-6.” See Staff Response at 20 n.8.

All of the claims of the '976 patent at issue are process claims. The original patent application contained ten product claims (application claims 7-16) as well as six process claims (application claims 1-6). See Complaint ('976 Patent Prosecution History, Original Patent Application at 24-25 (July 5, 1988). Two of the ten product claims (specifically, application claims 7 and 8) included as elements a melting point elevation range for drawn yarn with a lower limit of 9°C. See id. The process claims all identified MPE ranges for undrawn yarn of either 2°C-5°C or 2°C-10°C. See id.

Subsequent to the filing of the original application and initial rejection of the claims, the PTO Examiner held an interview with the applicant's patent attorney in which three prior art references were discussed -- the Kumakawa, McClary and Buyalos patents. See Fues Decl. Exhibit J ('976 Patent Prosecution History, October 7, 1991 PTO Examiner

Interview Summary Record). According to the Summary Record, the Examiner and the applicant “discussed the differences in the melting point elevation of the claimed yarn and the yarn of the references” See id. The charts and tables attached to the Summary Record indicate that the MPE for undrawn yarn in the Buyalos reference was in the range of 0°C-1°C, the same as comparative examples I-A and II-A in the patent application. See id.; compare with Complaint (‘976 Patent Prosecution History, Original Patent Application at p. 18, lines 6 and 23). They also show that the MPE for drawn yarn in the McClary and Buyalos references came to 7°C for both. See id.

The original application was subsequently abandoned and refiled as a divisional application. All of the product claims of the original application were cancelled by the applicant in the divisional refiling. See Complaint (‘976 Patent Prosecution History, Application Serial No. 810600, Division Application Transmittal Form ¶ 2 (December 17, 1991)). The remaining process claims (original application claims 1-6) maintained their original MPE ranges for undrawn yarn of either 2°C-5°C or 2°C-10°C.

In a subsequent amendment following a PTO Examiner’s Office Action rejecting the remaining process claims as unpatentable over the prior art Kumakawa patent (U.S. Patent No. 4,690,866), the applicant amended application claim 1, cancelled application claims 4-6, and added new process claims 17-29. See Complaint (‘976 Patent Prosecution History, Application Serial No. 810600, Amendment at 1-4 (November 18, 1992)). Amended application claim 1 and all of the new claims identified the same undrawn

yarn MPE ranges of 2°C-5°C and 2°C-10°C, like the original process claims. See id. Application claims 1-3 were ultimately rejected by the Examiner, but claims 17-29 were allowed and eventually became issued claims 1-13 of the '976 patent. See id. (PTO Office Action (Paper No. 8) (February 19, 1993)).

It was not until two abandonments and continuations later that a continuation application raising the claims that ultimately became claims 14-17 of the '976 patent finally emerged. See Complaint ('976 Patent Prosecution History, Application Serial No. 200853, Preliminary Amendment at 1-2 (February 22, 1994)). Those process claims, like the earlier abandoned product claims, included an element directed to an MPE range for drawn yarn, but modified that range from the earlier 9°C-14°C to a range of 10°C-14°C. See id. at 2. These claims were subsequently allowed by the Examiner.

Although it is true that the applicant, over the course of the prosecution history, narrowed the claimed MPE range for drawn yarn by changing its lower limit from 9°C in the original product claim to 10°C in the ultimately issued process claim, it is unclear why the change was made given that the McClary and Buyalos references mentioned in the Examiner interview were already several degrees below the range that was originally claimed.¹⁰ This unexplained narrowing amendment creates a rebuttable presumption that

¹⁰ The prosecution history indicates that the applicant found “[s]upport for the lower limit of melting point elevation of 10°C for the drawn yarn . . . at page 21 Table V line 17 for example II-CD, with a 10°C melting point elevation reported.” See Complaint, '976 Patent Prosecution History (Application Serial No. 200853, Preliminary Amendment at 2 (February 22, 1994)), corresponding to Fues Decl. Exhibit A ('976 patent, col. 12:33). However, there are lower MPEs for drawn yarn

(continued...)

the change was for a “reason related to patentability” and, under the doctrine of prosecution history estoppel, forecloses any range of equivalents below the claimed range. See Warner-Jenkinson, supra, 520 U.S. at 33; Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd., 234 F.3d 558, 569 (Fed.Cir. 2000) (en banc), cert. granted, __ U.S. __, 121 S.Ct. 2519 (2001) (“Festo”) (“When a claim amendment creates prosecution history estoppel with regard to a claim element, there is no range of equivalents available for the amended claim element. Application of the doctrine of equivalents to the claim element is completely barred.”). Hence, absent Honeywell’s rebuttal of the presumption, claims 14-17 of the ‘946 patent have no range of equivalents for the MPE of drawn yarn below the claimed range of 10°C-14°C.

Moreover, inasmuch as the applicant during the Examiner interview distinguished the claimed ranges for undrawn yarn of 2°C-5°C and 2°C-10°C, which were never amended, from the Buyalos reference having an MPE range for undrawn yarn of 0°C-1°C and the disclosed but unclaimed comparative examples I-A and II-A identified in the patent application, prosecution history estoppel may also apply to MPE levels for undrawn yarn below the ranges and levels identified in claims 1, 2, 4, 5, 7, 10, 13 and 15 of the ‘976

¹⁰ (...continued)

that are also disclosed in the tables of the patent specification, including MPEs of 7°C (Table V, example II-AD), 8°C (Table II, example I-AD), and 9°C (Table II, example I-BD). See Fues Decl. Exhibit A (‘976 patent, cols. 11:32-34 and 12:32). Thus, these assertions in the amendment do not explain why the lower limit of the range for drawn yarn was raised either.

patent, unless Honeywell can show otherwise.¹¹ Southwall Technologies v. Cardinal IG Co., 54 F.3d 1570, 1583 (Fed.Cir.), cert. denied, 516 U.S. 987 (1995) (“Clear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel.”); also see Canton Bio-Medical, Inc. v. Integrated Liner Technologies, Inc., 216 F.3d 1367, 1371 (Fed.Cir. 2000). For Honeywell to demonstrate that estoppel does not apply in this context, “[t]he legal standard for determining what subject matter was relinquished is an objective one, measured from the vantage point of what a competitor was reasonably entitled to conclude, from the prosecution history, that the applicant gave up to procure issuance of the patent.” Hoganas, supra, 9 F.3d at 952.

As Hyosung notes in its Reply, however, Honeywell does not even attempt in its Opposition to respond to the estoppel contention that Hyosung makes in its motion. See Hyosung Reply at 15. Instead, Honeywell argues that the “melting point elevation” elements can be disregarded altogether in order to find infringement by equivalents. See Honeywell Opposition at 24-28. Honeywell asserts that Hyosung practices the equivalent of the “withdrawing” step of the claims, and the differences between the claimed step and the accused Hyosung processes are so insubstantial as to be equivalent. See id. at 24.

¹¹ Although claim 15 was added later and claimed a minimum MPE for undrawn yarn of “at least 3°C” instead of an MPE range having a lower limit of 2°C, the arguments made to avoid prior art MPE levels of 1°C or less estop equivalents for undrawn PET yarns having MPEs at or below 1°C that are accused of infringing claim 15 just as they do for the claims that have MPE ranges with 2°C lower limits.

Specifically, concerning independent claim 1, Honeywell contends that the “melting point elevation” limitation “is but one limitation in a claim step that includes many limitations.” See id. at 25. That “withdrawing” step, Honeywell argues, includes other limitations concerning the state of the yarn (“solidified”), the speed of formation (“sufficient”), its physical properties (“crystalline, partial oriented”) and certain numerical values (“crystallinity” and “melting point elevation”), and “[t]o focus on one particular limitation within the claim is improper.” See id. at 26. Hyosung’s step for withdrawing the solidified yarn, Honeywell argues, is equivalent because it performs substantially the same function in substantially the same way to obtain substantially the same result in connection with all of the other parameters and “[r]egardless of the testing method used for melting point elevation, the values would still reflect the actual morphology of the yarn.” See id. Honeywell further asserts that Hyosung’s own tests show that Honeywell’s own PET yarn shows the same results. See id. at 27. Honeywell asserts the same equivalency argument in connection with independent claims 7 and 14. See id. at 28.

The MPE elements, however, cannot be ignored in this way. See Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 520 U.S. 17, 29-30 (1997) (“Warner-Jenkinson”) (doctrine of equivalents “is not allowed such broad play as to effectively eliminate [an] element in its entirety”). To do so would impermissibly eviscerate those claim elements altogether. See Hogan AB v. Dresser Industries, Inc., 9 F.3d 948, 954-55 (Fed.Cir. 1993) (“Hoganas”) (Patentholder “is not entitled to a range of equivalents which

would erase ‘meaningful structural and functional limitations of the claim on which the public is entitled to rely in avoiding infringement,’” and cannot deem an accused product feature to be equivalent to a claim limitation in a way that “would eviscerate the plain meaning of that phrase” of the claim.)

“Summary judgment may be granted on the factual question of equivalency when the nonmovant cannot prevail, even when resolving disputed facts and drawing all factual inferences in its favor.” Talbert Fuel Systems Patents Co. v. Unocal Corp., ___ F.3d ___, 2002 WL 21739 (Fed.Cir. 2002); citing EMI Group v. Intel Corp., 157 F.3d 887, 891 (Fed.Cir.1998). Having failed to rebut the presumption in Hyosung’s favor that there is no range of equivalents below the MPE range for drawn yarn identified in claims 14-17, having further failed to show that it did not surrender MPE levels for undrawn yarn below the ranges and levels identified in claims 1, 2, 4, 5, 7, 8, 10, 11, 13 and 15 of the ‘976 patent during prosecution, and having offered instead only a theory of infringement under the doctrine of equivalents that is contrary to law, Honeywell is precluded from prevailing on summary determination by resorting to the doctrine of equivalents.

Accordingly, since the preponderance of the evidence demonstrates that Hyosung’s accused PET yarn products have MPE levels [

] those products do not infringe any of the asserted

claims of the '976 patent either literally or under the doctrine of equivalents and Hyosung is entitled to summary determination in its favor.¹²

Findings of Uncontroverted Material Fact

Accordingly, the undersigned finds that there is no genuine dispute as to the following material facts:

1. Complainant Honeywell International Inc. ("Honeywell") has accused Respondents Hyosung Corporation and Hyosung (America) Inc. of infringing certain claims of United States Patent No. 5,630,976 ("the '976 patent") for the manufacture, importation and sale of certain polyethylene terephthalate ("PET") yarn products and products containing the same.
2. The claims of the '976 patent relate to processes to produce PET yarns having specified characteristics, including high tenacity and dimensional stability. Fues Decl., Exhibit A at cols. 13-14
3. The '976 patent is directed to a process for production of drawn PET yarn. Kraus Decl., Exhibit A at cols. 13-14. The '976 patent has 17 claims. Of these, claims 1, 2, 4, 5, 7, 8, 10, 11, 13, 14, 15, 16, and 17 are asserted against Hyosung and all contain the disputed claim term "melting point elevation." Claims 1, 7 and 14 are independent claims while claims 2, 4, 5, 8, 10, 11, 13, 15, 16, and 17 are dependent

¹² Since all of Hyosung's accused PET yarn products fall [] limits of the claimed ranges, it is not necessary to address Staff's argument that prosecution history estoppel also precludes any range of equivalents [] limits of the claimed ranges. See Staff Response at 20 n.8.

claims. Each independent claim contains a specific limitation referring to melting point elevation. Claims 1 and 7 specify an MPE range of 2°C to 10°C for the undrawn yarn, while claim 14 specifies an MPE range of 10°C to 14°C for the drawn yarn. Kraus Decl., Exhibit A at col. 13-32-14:58.

4. The '976 patent defines melting point elevation as “the difference between the specimen melting point (M.P.) and the melting point (M.P.Q) of a specimen after subsequent rapid liquid nitrogen quenching of an encapsulated DSC sample from the melt.” Kraus Decl., Exhibit A at col. 5, line 2-6; Weigmann Decl. at ¶ 8.
5. The specification of the '976 patent discloses the type of testing equipment (“Differential Scanning Calorimeter”) needed for determining the melting point elevation, and also discloses the brand (“Perkin-Elmer”) of the testing equipment. Kraus Decl. Exhibit A at col. 4, lines 64-65; Weigmann Decl., at ¶ 9. The patent also discloses other details of determining MPE such as sample weight (“2 mg”), rate of temperature increase (“20°C per minute”) for performing the test, and instructions on how to determine the value of MP (“the temperature of the highest temperature peak of the DSC trace”) that include examples of DSC traces with the correct peaks identified (Figs. 9A-9E). Kraus Decl. Exhibit A at col. 4, line 64-col. 5, line 6; Weigmann Decl. ¶ 9. However, no method of sample preparation of the PET yarn for presentation into the DSC is explicitly disclosed in the specification of the '976 patent. Fues Decl. Exhibit B (Deposition Transcript of Hans-Dietrich Weigmann

dated November 13, 2001 at 82:23-83:3, 120:24-121:9); Fues Decl. Exhibit C (Deposition Transcript of John A. Cuculo dated November 19, 2001 at 108:25-109:7, 189:15-21); Fues Decl. Exhibit D, Rule 30(b)(6) Deposition Transcript of Ronald A.F. Moore dated November 6, 2001 at 145:23-146:6). The details of DSC testing disclosed in the patent are only those that may differ from the conventional practices or common knowledge of a person of ordinary skill in the art. Weigmann Decl. ¶ 10. The unspecified parameters used in DSC testing that would be known by a person of ordinary skill in the art include: (a) sample preparation; (b) starting and ending temperature; (c) length of time at the ending temperature; (d) the length of time between first heat and quenching; (e) the length of time for quenching; (f) the length of time between quenching and second heat; (f) the purge gas used. Weigmann Decl. ¶ 11.

6. Prior to the earliest priority date for the '976 patent, July 5, 1988, several methods of sample preparation for thermal analysis of PET yarn in the DSC were known in the art. Such methods included cutting the sample, coiling the sample and restraining the ends of the PET yarn. Fues Decl. Exhibit B at 77:3-78:6; Fues Decl. Exhibit C at 104:19-22; Fues Decl., Exhibit F at 721.
7. Prior to the earliest priority date for the '976 patent, July 5, 1988, it was known to those of skill in the art that different PET yarn sample preparation methods resulted

in different melting point results for the identical yarn sample. Fues Decl., Exhibit B at 77:3-78:6; Fues. Decl., Exh F at 728, Fig. 10 (see also p. 724, Fig. 7).

8. Hyosung's expert, Dr. Raymond E. Fornes, identified in his expert report four separate sample preparation methods that Hyosung alleges to have been known in the art at the time of the invention: the ball method (which Fornes refers to as the "tight ball method"), the "coil" method, the "restraining" method, and the "cut" method. Kraus Decl. Exhibit H at ¶ 36. However, Honeywell's preferred "ball method" (also referred to as the "twist/crimp method") for PET yarn sample preparation in the DSC was not published in the literature and the only written evidence of it that has been introduced in this investigation is set forth in an internal Honeywell confidential document. Fues Decl. Exhibit K; Fues Decl. Exhibit D at 159 6-14.
9. MPE testing conducted by Honeywell prior to the issuance of the '976 patent demonstrated that MPE values for PET yarn, including Honeywell's [

] varied depending upon the sample preparation method used to present the PET yarn in the DSC. Fues Decl Exhibits E, G and H.
10. Hyosung's MPE testing conducted by SGS and using the cut method of sample preparation has determined that the MPEs for Hyosung's accused PET yarns are [

] Fues Decl. Exhibit I. Honeywell's MPE testing conducted by TRI and using the ball method of sample preparation has determined that the MPEs

for Hyosung's accused PET yarns are [

] Cuculo Decl.

Exhibit B.

11. Independent claim 1 of the '976 patent is directed to a process for producing a drawn PET yarn that includes steps: (A) extruding a molten melt-spinnable PET through a shaped extrusion orifice having a plurality of openings to form a molten spun yarn and step; (B) solidifying the spun yarn gradually by passing the yarn through a solidification zone; (C) withdrawing the solidified yarn at sufficient speed to form a crystalline, partially oriented yarn (the crystalline, partially oriented yarn has a crystallinity of 3 to 13% and a melting point elevation of 2°C to 10°C); and, (D) hot drawing the yarn to a total draw ratio between 1.5/1 and 2.5/1. Kraus Decl. Exhibit A at col. 13:32-49.
12. Independent claim 7 of the '976 patent is directed to a process very similar to the one recited by claim 1. Claim 7 steps (a) - (d) are identical to those of claim 1 except that: (1) the range of crystallinity is slightly broader; and (2) a terminal modulus value of at least 20 g/d is required for the drawn yarn. The melting point elevation for the undrawn yarn is the same as claim 1, that is 2° to 10°C. Kraus Decl. Exhibit A at col. 13:58-67.
13. Independent claim 14 of the '976 patent is also directed to a process similar to that described in claims 1 and 7. One difference, however, is that there is no MPE

limitation with respect to the undrawn yarn, rather it is the drawn yarn that must have a certain melting point elevation (10° to 14° C). Kraus Decl. Exhibit A at col. 14:38-55.

14. With respect to the asserted dependent claims of the '976 patent, all have a melting point elevation limitation. Either the dependent claim has such a limitation by virtue of the corresponding independent claim (a dependent claim contains all of the limitations of the independent claim from which it depends) or the dependent claim specifies a melting point elevation limitation that further narrows the range of MPE values.
15. In preparing a yarn sample using Honeywell's unpublished, proprietary "ball method," a sample (a length of yarn consisting of many individual fibers) of proper weight is obtained. Weigmann Decl. ¶ 13; Fues Decl. Exhibit D (Rule 30(b)(6) Deposition of Ronald A.F. Moore at 159:6-14 (November 6, 2001)). Using one hand, a pair of tweezers is used to grasp the sample and the sample is twisted between the fingers of the other hand to start rolling the sample into a ball. Weigmann Decl. ¶ 13. The sample is then released from the tweezers and completely rolled into a ball with the fingers. Id. When the yarn sample is sufficiently rolled into a ball, it is placed onto a scale and weighed to ensure the proper weight of 2 mg, as called out in the '976 patent specification. Id. After verifying the proper weight, a sample pan

is loaded into the crimper and the sample is placed inside the pan. Id. A lid is then crimped onto the DSC pan and the sample is ready for DSC testing. Id.

16. In performing the “coil method,” a yarn sample of 2 mg is grasped using a pair of tweezers and the sample is fully coiled around the tips of the tweezers. The tweezers are then withdrawn from the sample as the resulting coil is deposited in the DSC pan for testing. Weigmann Decl. ¶ 20.
17. In performing the “cut method,” a yarn sample of 2 mg is cut into tiny snippets with a razor blade or scalpel and then placed into the DSC pan prior to securing the lid. Weigmann Decl. ¶ 23.

Conclusions of Law

In view of the foregoing, the undersigned determines that the asserted claims of the ‘976 patent are not invalid under 35 U.S.C. § 112, ¶¶ 1 and 2. Further, the undersigned determines that Hyosung is not liable for infringement of any of the asserted claims of the ‘976 patent.

Accordingly, Motion No. 457-049 is granted in part and denied in part.

Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission unless a party files a petition for review of the Initial Determination pursuant to 19 C.F.R. § 210.43(a), or the Commission, pursuant to 19 C.F.R.

§ 210.44, orders on its own motion a review of the Initial Determination or certain issues herein.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions may be made by facsimile and/or hard copy by the aforementioned date.

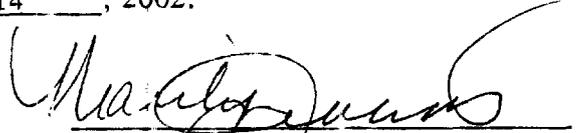
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SO ORDERED.


Delbert R. Terrill, Jr.
Administrative Law Judge

CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached ORDER was served upon, Juan S. Cockburn, Commission Investigative Attorney, and the following parties via first class mail and air mail where necessary on February 14, 2002.



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**CERTAIN POLYETHYLENE TEREPHTHALATE YARN
AND PRODUCTS CONTAINING SAME**

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