



ORAL ARGUMENT FOR IPR2025-01116

U.S. Patent No. 11,261,566

Patent Owner's Demonstratives

September 16, 2026

The Board Should Confirm the Challenged Claims



The '566 Patent describes novel woven fabric designs based on ratio attributes (LD/MDYD and loop density) disclosed in the patent



No reference discloses either claimed parameter



Petitioner cannot manufacture these claim elements using '566 patent as roadmap



Arbitrarily picks values of nonwoven array without explanation or modification for woven fabric (Lee, Ground 2)



Litigation driven analysis of unreliable pictures (Adanur, Ground 1; Rydin, Ground 3)

Fails to provide a prima facie showing of limitations, motivation to combine the disparate references and expectation of success

Petitioner's Arguments Fail to Render the Challenged Claims Obvious

- **The '566 Patent Background:** Addressed an unsolved seam problem through new and interrelated parameters (LD/MDYD and loop density)
- **Ground 2 (SUDRE + LEE + PENVEN) Fails:**
 1. Lee's values belong to a non-woven array with no application to Sudre's woven fabric
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 3. Petitioner's conventionality claim is unsupported
- **Grounds 1 (SUDRE + ADANUR) and 3 (SUDRE + RYDIN) Fail:**
 1. The references are silent; the photographs cannot reliably supply the parameters
 2. The Reply's new analyses are improper, and admittedly new
 3. Either way, Dr. Pastore's numbers straddle the claims
- **Secondary Considerations Support Nonobviousness:** The long-felt-need and industry-migration showings stand unrebutted

The '566 Patent Solved a Seam Problem for Woven Fabrics – Novel Balance & Design to Address Seaming Issues

'566 Patent

 US011261566B2	
(12) United States Patent Eberhardt et al.	(10) Patent No.: US 11,261,566 B2 (45) Date of Patent: Mar. 1, 2022
(54) CLOTHING FOR A MACHINE FOR PRODUCING A FIBROUS MATERIAL WEB	(58) Field of Classification Search CPC D21F 7/083; D21F 7/10; D21F 1/0036; D21F 1/0054
(71) Applicant: VOITH PATENT GMBH, Heidenheim (DE)	See application file for complete search history.
(72) Inventors: Robert Eberhardt, Ellwangen (DE); Susanne Klaschka, Cologne (DE)	(56) References Cited U.S. PATENT DOCUMENTS 6,189,577 B1 * 2/2001 Lee D21F 1/0036 139/383 A 2009/009425 A1 4/2009 Hawes et al. D21F 7/10 162/358.4 2009/0211722 A1 * 8/2009 Crook D21F 7/10 162/358.4 2017/0044718 A1 2/2017 Wich
(73) Assignee: Voith Patent GmbH, Heidenheim (DE)	FOREIGN PATENT DOCUMENTS EP 0425523 B1 3/1995 EP 3196357 A1 7/2017
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.	* cited by examiner <i>Primary Examiner</i> — Eric Hug <i>Assistant Examiner</i> — Matthew M Eslami (74) <i>Attorney, Agent, or Firm</i> — Laurence A. Greenberg; Werner H. Stemer; Ralph E. Locher
(21) Appl. No.: 16/980,449	(57) ABSTRACT A clothing, in particular a seam felt for a machine producing a fibrous material web, in particular a paper, paperboard, tissue or pulp web, includes a base structure including or formed of a two-layer laminate structure formed of one or more flat-woven fabrics. The laminate structure has MD threads forming seam loops at two end sides of the base structure, and the two layers of the laminate structure are connected to one another by the seam loops. The clothing is made endless by connecting the end sides by a seam. The seam is made by interengaging the seam loops of both end sides and introducing an insertion element. The diameter of the seam loops LD and the diameter of the associated MD threads MDYD have a ratio LD/MDYD of between 2.5 and 4, in particular between 2.7 and 3.6.
(22) PCT Filed: Mar. 11, 2019	
(86) PCT No.: PCT/EP2019/055955	
§ 371 (c)(1), (2) Date: Sep. 14, 2020	
(87) PCT Pub. No.: WO2019/175076	
PCT Pub. Date: Sep. 19, 2019	
(65) Prior Publication Data US 2021/0017708 A1 Jan. 21, 2021	
(30) Foreign Application Priority Data Mar. 15, 2018 (DE) 102018105956	
(51) Int. Cl. D21F 7/08 (2006.01) D21F 7/10 (2006.01)	
(52) U.S. Cl. CPC D21F 7/083 (2013.01); D21F 7/10 (2013.01)	



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ALBANY 1001

Firstly, these lie in the region of the seam. At the seam point, the properties differ from those of the remaining parts of the clothing. For example, the permeability for water and air is frequently higher here than in the rest of the clothing. As a result, it is possible for quality losses to occur as a result of markings in the paper.

EX1001, 1:58-63

SUMMARY OF THE INVENTION

It is the object of the present invention, therefore, to specify a clothing which can be produced and used quickly and economically and, at the same time, overcomes the quality deficiencies known from the prior art.

EX1001, 2:7-10

POR, 4.

The '566 Patent's LD/MDYD Ratio and Related Seam Loop Density Balances Four Woven Fabric Concerns



Strength



Closure



Marking



Permeability

Trials by the applicant have shown that, given the LD/MDYD ratios according to the invention, the seam produced is optimal from several points of view.

Firstly, it has a very high strength, without which a satisfactory use, for example as a seam felt, is not possible.

In addition, the closure of the seam is very simply possible. The seam of a seam clothing is normally closed in the paper machine itself by drawing in an insertion element, also called a pintle. This drawing-in is done by hand and can be a lengthy process, particularly in wide machines. The fact that the loop diameter does not become too small in relation to the MD thread diameter means that it is made easier to draw in the pintle. In addition to this ergonomic advantage, the time to draw in a new clothing is shortened, which offers economic advantages for the operator of the installation.

However, the diameter or the LD/MDYD ratio must also not become too large. Excessively large loops can firstly lead to mechanical markings in the paper in that the bends of the loops are impressed into the paper, for example when passing through a press nip. On the other hand, large loops would also mean that the seam area itself becomes comparatively large. Since this seam area differs structurally from the remainder of the clothing and, in particular, also has a changed permeability for water and/or air, there is the danger in the seam area of hydraulic marking of the paper because of different dewatering. For this reason, it is desirable to keep the seam area as small as possible.

The LD/MDYD range according to the invention of between 2.5 and 4, in particular between 2.7 and 3.6, has proven to be the optimum compromise here.

In particular, the applicant has recognized the fact that it is not the absolute loop diameter (in mm) but the relative value LD/MDYD that has to be used as the characteristic variable.

Besides the LD/MDYD ratio, it may also be advantageous for the properties of the seam area to match the "loop density" in the seam.

When determining the seam loop density, firstly the number of seam loops per unit length is ascertained. In a fabric having an MD thread density of 64 yarns/100 mm, the seam area has twice the number, i.e. 128 yarns/100 mm, as a result of the MD threads of the two ends interengaging. If the number of threads is multiplied by the diameter, then the seam loop density (statement in percent) is obtained as a measure of the coverage of the seam area by MD threads. If, in the above example, monofilaments having a diameter of 0.5 mm are used, then the result is a seam loop density of

$$\frac{128/0.5[\text{mm}]}{100[\text{mm}]} = 64\%$$

By means of this embodiment of the invention, it is therefore possible to implement a clothing with a seam which—as a result of the high loop density—has a low permeability and nevertheless—as a result of the optimal LD/MDYD ratio, can be closed easily. On the other hand, other known methods for reducing the seam permeability, such as the insertion of a flow-impeding element ("scrim") into the seam area, lead to more difficult closure of the seam.

In advantageous embodiments, the seam area of the clothing—following the closure of the seam by means of the insertion element—can have a permeability which corresponds to between 80% and 130%, in particular between 90% and 120%, of the permeability of the clothing in an area remote from the seam.

EX1001, 3:1-35

EX1001, 6:8-25; 7:15-28

POR, 4-6.

Claim 1 Requires One Fabric, with One MDYD, Satisfying Both Claimed Ranges Simultaneously

'566 Patent, Claim 1

1. A clothing or a seam felt for a machine for producing a fibrous material, paper, board, tissue or pulp web, comprising:

a base structure including a two-layer laminate structure formed of one or a plurality of flat-woven fabrics, said base structure having two end sides;

said laminate structure having MD threads being monofilaments with a round cross section forming seam loops at said two end sides of said base structure, said seam loops interconnecting said two layers of said laminate structure, said seam loops having a diameter LD and said associated MD threads having a diameter MDYD;

a seam interconnecting said end sides to make the clothing endless, said seam being formed by interengaging said seam loops of said two end sides and an insertion of an insertion element;

1 said seam having a loop density of between 64% and 90%; and

2 said diameter LD of said seam loops and said diameter MDYD of said associated MD threads having a ratio LD/MDYD of between 2.7 and 3.6.

EX1001, Claim 1

As established in §VI.A.2, *supra*, no prior art reference recognized the LD/MDYD ratio as a design parameter or identified any relationship between the ratio and seam performance—a deficiency that applies equally to Petitioner’s loop density alternative theory, which similarly fails to account for any integrated relationship between the two claimed parameters.

POR, 53



Dr. Pastore
Albany's expert

Q. And the Claim 1 requires a single fabric. Correct?

A. **Yes.**

EX2023, 98:2-4

Sur-Reply, 1, 14.

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a seam interconnecting said end sides to make the clothing endless, said seam being formed by interengaging said seam loops of said two end sides and an insertion of an insertion element;

1 said seam having a loop density of between 64% and 90%; and

2 said diameter LD of said seam loops and said diameter MDYD of said associated MD threads having a ratio LD/MDYD of between 2.7 and 3.6.

98:2-4, 103:16-104:6.) Because MDYD appears in both parameters, the shared attribute is arithmetic, not an added limitation.

Sur-Reply, 14

MDYD appears in both parameters

$$1 \quad \text{Loop Density} = \frac{\text{number of loops}}{\text{distance}} \times \text{MDYD}$$

$$2 \quad \text{LD/MDYD ratio} = \frac{\text{LD}}{\text{MDYD}}$$

EX1001, Claim 1

Sur-Reply, 1, 14.

Dr. Pastore Admitted the Two Claimed Parameters Are Interrelated



Dr. Pastore
Albany's expert

Loop Density Is Proportional to MDYD

- Q. ... [A]ssuming everything else the same, if the MD thread diameter increases, the loop density will increase. Correct?
- A. **Correct.**
- Q. So the **loop density is proportional to the MD thread diameter**. Correct?
- A. **In that sense, yes.**

EX2023, 105:16-24

LD/MDYD Ratio Is Inversely Proportional to MDYD

- Q. **The LD/MDYD ratio is inversely proportional to the MD thread diameter.** Correct?
- A. **Correct.**

EX2023, 108:2-5

- Q. ... If a fabric had a loop density of 91 percent and LD/MDYD ratio of 3.6, it would not satisfy Claim 1. Correct?
- A. **91 percent is greater than 90 percent.**
- * * *
- Q. Assuming everything else the same, including the loop diameter, if I used a smaller MD thread diameter to bring the loop density to 90 percent, then **the LD/MDYD ratio would increase its value of 3.6 percent.** Correct?
- A. **Assuming the loop diameter did not change, yes.**

*Decreasing MDYD to Reduce Density,
increases LD/MDYD Ratio*

EX2023, 108:6-12; 109:23-110:6

Sur-Reply, 14.

Petitioner's Expert Conceded That Only the '566 Patent Considered These Ratios



Dr. Pastore
Albany's expert

- Q. And without the '566 patent, there was no way you found to show that the approach of the '566 patent was conventional; correct?
- A. **There would be no reason to look for these ratios without the existence of the '566 patent.**

EX2012,
130:18-131:2

2 The LD/MDYD Ratio Is New

- Q. A ratio between the loop diameter and the yarn diameter is a different parameter than either one alone; correct?
- A. **Yes, a division of two numbers is different than either number alone. ...**
- Q. There's no explicit teaching, though, to a POSITA to relate these two physical features; correct?
- A. **There's nothing in the literature that suggests someone should divide one by the other.**
- Q. And that division creates a relationship between the loop diameter and the yarn diameter; correct?
- A. **Yes. ...**
- Q. But as you sit here, you cannot point to any prior art teaching that the LD/MDYD ratio affects seam performance though; correct?
- A. **There was nothing that specifies that ratio is important.**

1 The Loop-density Formula Is New

- Q. So every time you calculated the loop density in the prior art, you applied the '566 patent's loop density formula; correct?
- A. **Correct.**

EX2012, 370:9-371:17;
373:21-374:4;115:14-17

Sur-Reply, 1, 16, 19; POR, 18, 48-49.

Petitioner's Arguments Fail to Render the Challenged Claims Obvious

- **The '566 Patent Background:** Addressed an unsolved seam problem through new and interrelated parameters (LD/MDYD and loop density)
- **Ground 2 (SUDRE + LEE + PENVEN) Fails:**
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Ground 2 Fails Under Both of Its Theories

(1) THE “SPECIFIC EXAMPLE” THEORY

Lee’s non-woven “specific example” values, 9.45 yarns/cm and about 0.4 mm, carried into Sudre’s woven fabric

(2) THE “OVERLAPPING RANGES” THEORY

Lee’s non-woven 0.3 mm to 0.6 mm range said to overlap the claimed ranges

✗ Both theories rely on attributes of a non-woven array, not a woven fabric

✗ No reference discloses the LD/MDYD ratio or loop density, or any range for either

✗ No overlapping range presumption

✗ No explanation why a POSITA would carry array values into a woven fabric

✗ Lee teaches away from woven constructions

Both Ground 2 Theories Rest on One Flawed Premise: The Relied-Upon Lee Embodiments Are Not Woven

THE “SPECIFIC EXAMPLE” THEORY

Lee’s non-woven “specific example” values, 9.45 yarns/cm and about 0.4 mm, carried into Sudre’s woven fabric

THE “OVERLAPPING RANGES” THEORY

Lee’s non-woven 0.3 mm to 0.6 mm range said to overlap the claimed ranges

- Every Ground 2 theory is predicated on Lee’s diameter and density describing a woven fabric

249. In general, it is my opinion that a POSITA would have expected success in implementing a press felt such as Sudre’s using thread and loop dimensions based on the teachings of Lee and Penven because all three of these references pertain to papermachine clothing. More specifically, all three of these references pertain to seamable press felts formed from flat woven base fabrics, and with this common context, it is my opinion that a POSITA would have understood the applicability of Lee’s and Penven’s teachings to the generic press felt disclosure of Sudre.



Dr. Pastore
Albany’s expert

Q. ... [A] POSITA would have understood the applicability of Lee’s teachings to the generic press felt disclosure of Sudre because both Sudre and Lee pertain to seamable press felts formed from flat woven base fabrics; correct?

A. **Correct.**

EX1003, ¶249, quoted POR 28.

EX2012, 327:2-8



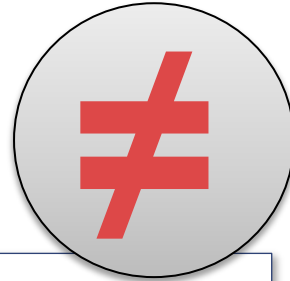
BUT the cited Lee disclosure concern “nonwoven, multiaxial fabrics”

Sur-Reply, 2-17; POR, 28-32.

It Is Undisputed That Lee's Non-Woven Array Values Are Distinct from Sudre's Woven Fabric

Lee:

- parallel yarns, not interlaced
- bonded by adhesive webs
- part of a two-structure system with a second non-woven fabric



In another aspect, the press felt is a nonwoven multiaxial press felt. The base fabric comprises a plurality of spirally wound turns of a first fabric structure, the first fabric

* * *

Preferably the yarns of the first array are single circular cross-sectional shaped monofilaments having a diameter of from about 0.3mm to 0.6mm and are preferably arranged to provide a yarn density of from 15 to 40 yarns/inch (5.9 to 15.7 yarns/cm).

* * *

the MD yarns at the CD fold areas at the opposing MD ends of the press felt. The term "array" refers to a generally planar group of mutually parallel yarns which are not interwoven or interconnected with one another by interlacing. The term "fibrous scrim"

Lee (EX1005), 11-12, 19

Sudre:

- a flat-woven base fabric;
- interlaced warp and weft threads

There are two basic methods whereby papermakers' fabrics are produced, either the fabric is woven "flat", and the free ends joined, or the fabric is woven "endless".

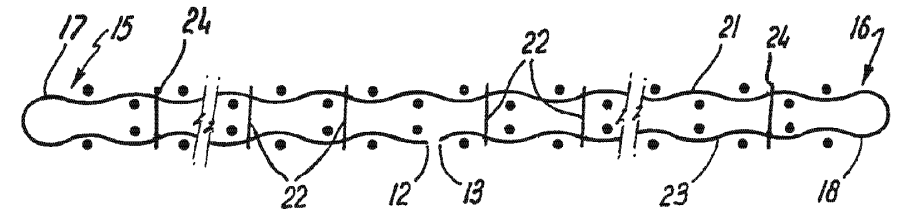


Fig. 2

Sudre, 3, Figure 2 (EX1004)

Sur-Reply, 3; POR, 28-32, 61-63.

Relied upon Lee Disclosure Describes a Different Fabric Structure than Sudre or the '566 Patent

1. Array Fabric Structure

2. Spiral Winding Fabric

3. Two Array Composition

Lee (EX1005)

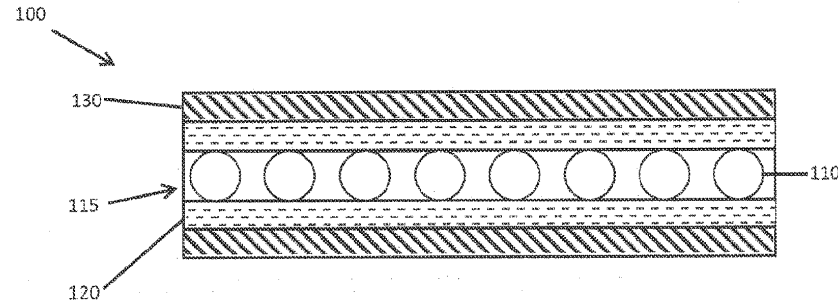


Figure 8

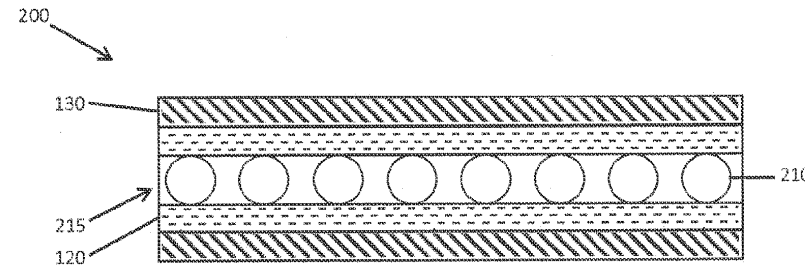


Figure 9

Figures 8 and 9 are illustrations showing the construction and composition of first and second generally planar yarn assemblies used in the nonwoven press felt base fabrics of the present invention;

Lee (EX1005), 16, Figs. 8, 9

Sur-Reply, 3; POR, 9-10, 28-32, 61-63.

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Lee (EX1005)

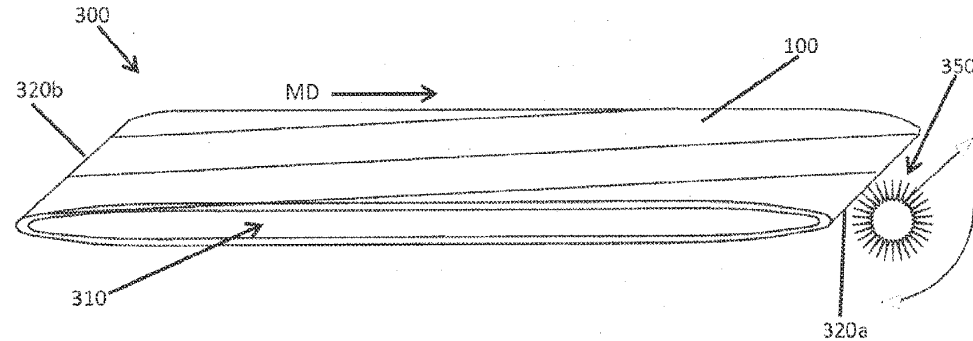


Figure 11 provides a schematic illustration of a double layer base fabric structure formed from the first fabric structure presented in Figures 7, 9 & 10 following a spiral winding process and prior to assembly with a generally planar yarn assembly; a translating device to remove scrim material from between the yarns of the first fabric structure at the seam region following spiral winding is shown at right;

Lee (EX1005), 16, Fig. 11,

Sur-Reply, 3; POR, 28-32, 61-63.

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1. Array Fabric Structure

2. Spiral Winding Fabric

3. Two Array Composition

Lee (EX1005)

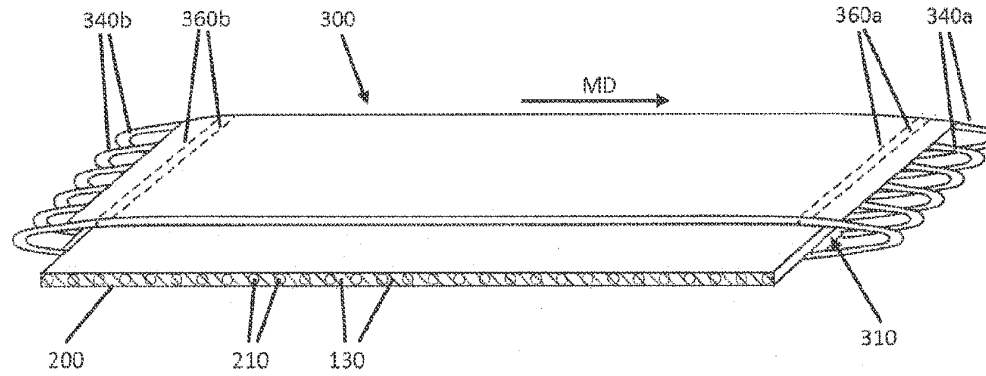


Figure 16

Figure 15 is a schematic representation of a perspective view of the double layer structure of Figures 11 to 14 in which the spirally wound continuous tube base fabric formed of the first fabric structure has been opened in the center area to accept a generally planar yarn assembly; the dotted lines indicate where stitching may occur to join the first fabric structure and yarn assembly;

Figure 16 is a perspective view of the first fabric structure of Figure 15 in which a generally planar yarn assembly (second fabric structure) is partially inserted into the open, flattened central area of the tube now formed by the first fabric structure in a first embodiment of the invention;

Lee (EX1005), 17, Fig. 16,

Sur-Reply, 3; POR, 28-32, 61-63.

Lee Teaches Its Relied-Upon Values Only for a Non-Woven Array

- Every relied-upon value (0.4 mm; 0.3 to 0.6 mm; 9.45 yarns/cm) is taught for the **non-woven array**, not for any woven fabric

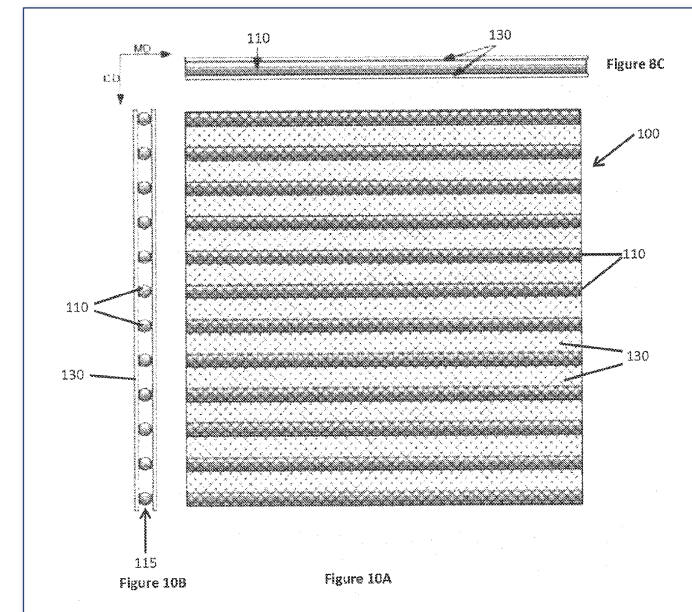
Lee (EX1005)

Preferably the yarns of the first array are single circular cross-sectional shaped monofilaments having a diameter of from about 0.3mm to 0.6mm and are preferably arranged to provide a yarn density of from 15 to 40 yarns/inch (5.9 to 15.7 yarns/cm).

* * *

yarns/cm). Also as shown, the size or diameter of the yarns 210 in the second array 215 is smaller than that of the yarns 110 in the first array 115; monofilaments having a circular cross-sectional shape and a diameter of about 0.4mm are presently preferred for this purpose when used in combination with larger yarns 110 in the first fabric structure 100. It would also be possible to use cabled monofilaments as the yarns 210 of the

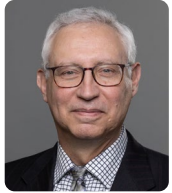
Lee (EX1005), 12, 28-29



Lee (EX1005), Figures 10A-10C

Sur-Reply, 4-6; POR, 28-32.

Dr. Pastore's Woven vs. Non-Woven Confusion Extended Into His Second Declaration



Dr. Pastore
Albany's expert

What Dr. Pastore Said It Was

Q. It's your testimony that Adanur's figure 4.11 shows a spiral **woven** fabric?

A. **Yes.**

EX2023, 188:19-22

What Adanur Says It Is

2. Spiral Fabrics

Spiral fabrics are not woven but are made with monofilament yarns (typically polyester) that are fabricated in spiral form. The spirals are linked together by monofilament cross yarns or pintles (Figure 4.11).

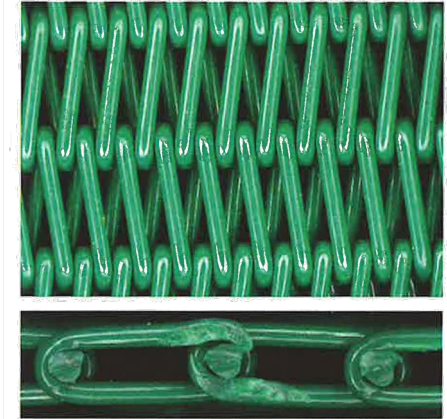


FIGURE 4.11. Spiral fabric. Coil: round PET, pintle: round PET.

Adanur (EX1061), 12

yarn. EX1053, ¶22. More importantly, Voith's assumption that all seams require aligned pairs of MD yarns is demonstrably incorrect: spiral woven press fabrics, for instance, do not possess paired, aligned MD yarns. EX1061, 12; EX1053, ¶23.

Reply, 6

Sur-Reply, 6; Reply, 6.

Lee's Woven 'Possibility' Comes with No Diameter, No Density, and No Dimension

Lee (EX1005)

including a seam. It would of course be possible to use a woven structure to form continuous tube 300. Such a structure would include both MD and CD oriented yarns; it would be necessary to remove a portion of the CD yarns adjacent the fold regions so as

Lee (EX1005), 35



“Obviousness concerns whether a skilled artisan not only *could* have made but *would* have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention.”

Virtek Vision Int'l ULC v. Assembly Guidance Sys., Inc.,
97 F.4th 882, 886 (Fed. Cir. 2024);
InTouch Techs., Inc. v. VGO Commc'ns, Inc.,
751 F.3d 1327, 1352 (Fed. Cir. 2014).

- No dimension. No diameter. No density
- Neither the Petition (Paper 2) nor Dr. Pastore's first declaration (EX1003) contains a single reference to Lee's woven embodiment of Figs. 18-27



**A possibility is not a disclosure,
and is not a motivation**

Sur-Reply, 4-7; POR, 54.

Lee's Non-Woven and Woven Designs Are Not Interchangeable; Different Embodiments and the Petition Only Relies on Non-Woven

- Lee's invention concerns the use of the elastic carrier material:

Lee (EX1005)

FIELD OF THE INVENTION

The invention generally concerns seamed press felts for use in the manufacture of paper and similar products in a papermaking or like machine. It is particularly concerned with multi-layer press felts which include a nonwoven yarn array bonded to an elastic carrier.

The novel construction assists to reduce batt shedding and sheet marking while maintaining high void volume, particularly with spirally wound press felts that include a seam region enabling the opposite ends of the press felt to be joined.

Lee (EX1005), 2

- No significance that elastic layer can be used with woven designs as well (Lee at 8, claim 10)
 - Petition not relying on any woven embodiments in Lee
 - No discussion of using non-woven attributes with woven embodiments

Following Sudre Raises Weaving Questions Lee's Array Cannot Answer



Dr. Pastore
Albany's expert

Q. So thread density, though, is a parameter that a designer of a woven fabric can select. Correct?

A. **Yes.**

* * *

Q. And a designer would understand the selection in the weaving, for example, how tightly or how loosely the fabric is, **has an effect on the thread density**. Correct?

A. **Yes.**

* * *

Q. So **a designer** following Sudre seeking a thread density that meets the intended end use in Sudre, **has to decide how tightly or loose to weave the fabric**. Correct?

A. **Yes, one of the parameters that needs to be considered.**

EX2023, 190:13-16;
190:17-21;
190:24-191:4

requirements.” Different **weave patterns** can have different “quantitative ratios” (Voith’s term), such as different thread densities. For instance, a **tightly woven fabric generally has a higher thread density than a more loosely woven fabric**. This justifies my reliance on Sudre’s “particular requirements” phrase as a general indication that Sudre’s teachings regarding its fabrics are generic to **the specific design of the fabric** (e.g., specific parameters such as thread size and thread density, among other parameters). *See* EX1003, ¶¶78-80.

Pastore Reply Decl. (EX1053), ¶8

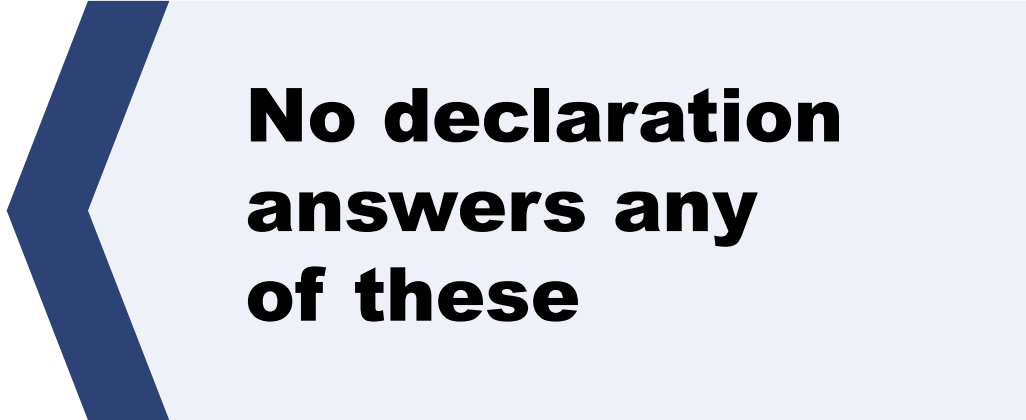
(EX1001, 9:61-62.) In a flat-woven fabric, MD yarns are interlaced with CD yarns in a particular weave pattern, **and that weaving directly affects yarn spacing, apparent yarn diameter in cross-section, and the geometric relationships that determine loop density and LD/MDYD ratio**. In Lee’s non-interlaced **arrays**, no such weaving configuration exists, and **yarn spacing is determined by the bonding architecture of the elastic carrier** — a fundamentally different geometric configuration. A POSITA would not treat yarn dimensions and densities from a non-woven, non-interlaced **array** as interchangeable with those of a flat-woven structure without a technical basis for doing so. **Dr. Pastore has provided no such basis.**

Brookstein Decl. (EX2011), ¶202

Sur-Reply, 4-7; Reply, 2.

Neither Pastore Declaration Analyzes How Interlacing or Weave Choices Affect the Selected Values

- ☐ How does interlacing change the usable thread density?
- ☐ What weave pattern would carry Lee's numbers?
- ☐ Why would a POSITA expect nonwoven array values to remain the same with weaving, needling, and heat-setting?



**No declaration
answers any
of these**

???

Neither Pastore Declaration Analyzes How Interlacing or Weave Choices Affect the Selected Values

Q. You're not saying you couldn't use a yarn of 0.3 to 0.6 in a woven fabric?

A. **Oh, no, you could use it, but you wouldn't get the same properties you would if it was planar assemblies. Planar assemblies are nonwoven. They're not interlaced. That's what I'm meaning there.**

Dr. Brookstein Dep. Tr. (EX1052), 145:1-7

- 
- Dr. Brookstein's explanation stands unrebutted
 - Reply doesn't address that interlacing creates defects, e.g., knuckles, which compact the fabric, create pressure points, and mark the paper

Lee (EX1005), 4-5; Sur-Reply, 6-8

No Reference Discloses the LD/MDYD Ratio, Under Either of Petitioner's Theories

(1) THE "SPECIFIC EXAMPLE" THEORY

Lee's non-woven "specific example" values, 9.45 yarns/cm and about 0.4 mm, carried into Sudre's woven fabric

1. The 0.4 mm describes Lee's second, loop-less array 
2. Reverse-engineered, only the '566 patent selects 0.4 mm from Lee 
3. Lee's preferred 0.5 mm yields 2.54, below the claimed floor 

(2) THE "OVERLAPPING RANGES" THEORY

Lee's non-woven 0.3 mm to 0.6 mm range said to overlap the claimed ranges

1. No reference discloses either claimed parameter as a range 
2. Every asserted span was computed for this litigation 
3. No prior-art range means no presumption 

Both theories fail: - They use Lee's non-woven array values without modification
- Borrow Penven's passageway, which is not a loop diameter, nor conventional

The “Specific Example” Does Not Work: Lee’s 0.4 mm Describes the Second, CD-Oriented Array, and Nothing Directs Its Selection

(1) THE “SPECIFIC EXAMPLE” THEORY

- Lee’s exact pair, 0.4 mm and 9.45 yarns/cm, describes its second, CD-oriented array, **not the loop-forming first array** (Lee, 28)
- Lee’s relied-upon embodiment gives the **first array different, larger yarns** (Lee, 28)
- Carrying second-array values to the first array rests on the unexplained “certain applications” sentence (Lee, 29)

this criterion. As shown in the construction presented in Figure 9, in a particularly preferred arrangement of the second array 215 for use with the preferred arrangement of the first array 115, the yarn density is 24 yarns/in (9.45 yarns/cm). Alternatively, the yarns 210 of the second array 215 may be provided at a density equal to, but not less than, the yarn density of the first array 115, i.e. 15 to 40 yarns/inch (5.9 to 15.7 yarns/cm). Also as shown, the size or diameter of the yarns 210 in the second array 215 is smaller than that of the yarns 110 in the first array 115; monofilaments having a circular cross-sectional shape and a diameter of about 0.4mm are presently preferred for this purpose when used in combination with larger yarns 110 in the first fabric structure 100. It would also be possible to use cabled monofilaments as the yarns 210 of the

certain applications. Also, certain applications may dictate that the yarn density and size in the second array 215 be equal to that in the first array 115. An alternative yarn

Lee (EX1005), 28-29

POR, 43-46; Sur-Reply, 9.

Lee's "Certain Applications" Sentence Presupposes the Two-Array Structure the Combination Removes

(1) THE "SPECIFIC EXAMPLE" THEORY

Lee (EX1005)

certain applications. Also, certain applications may dictate that the yarn density and size in the second array 215 be equal to that in the first array 115. An alternative yarn

Lee (EX1005), 29

- **BUT** Lee never identifies or explains those applications
- The proposed Sudre-Lee combination has one structure. The sentence describes circumstances with two. No other teaching in Lee



Dr. Pastore
Albany's expert

- Q. And the certain applications you quoted from Lee in Page 29, first paragraph, necessarily involve fabrics with a first structure and a second structure; correct?
- A. **Yes, that's what Lee is talking about.**

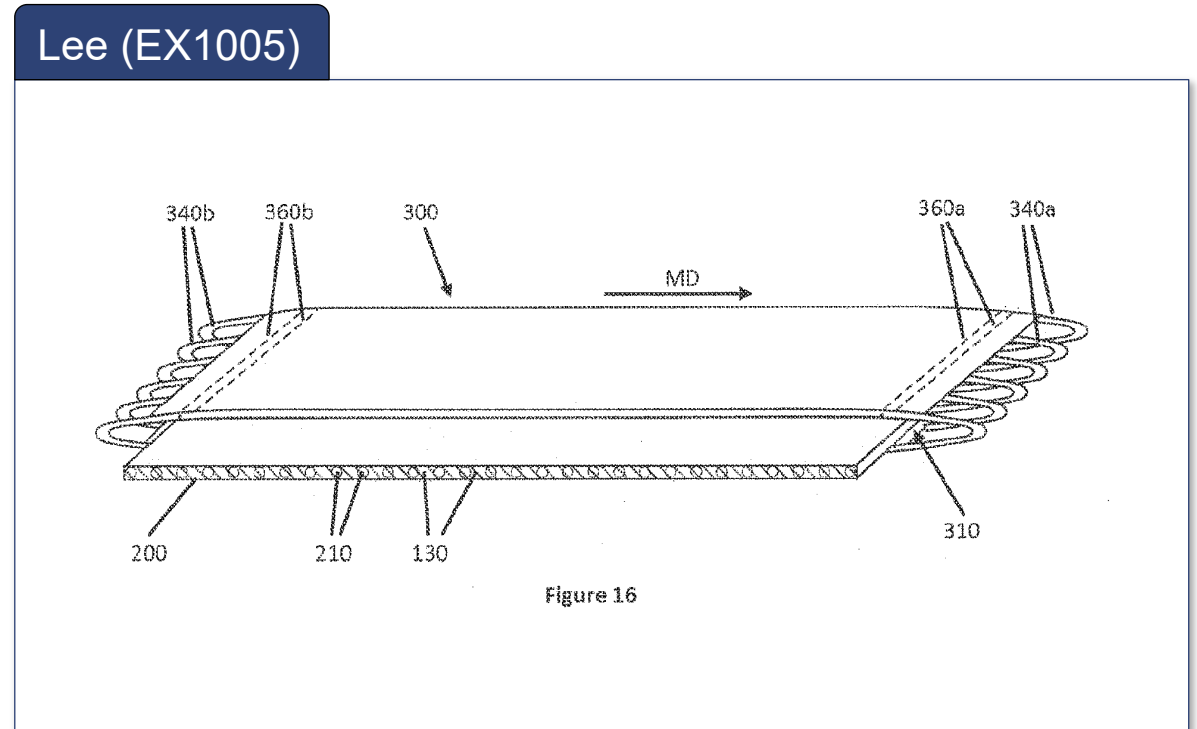
EX2012, 321:20-322:2

POR, 43-46; Sur-Reply, 9.

The Only Guide to 0.4 mm Is the '566 Patent Itself; Not the Prior Art

(1) THE "SPECIFIC EXAMPLE" THEORY

- Lee discloses 0.3 mm to 0.6 mm for its **first-array** thread diameter
 - Neither 0.3 mm nor 0.6 mm satisfies the claimed range
- Petitioner selected 0.4 mm but:
 - Nothing in Lee, Sudre, or the Petition's cited record supplies a reason to select 0.4 mm from that range
 - The only guide to 0.4 mm is the '566 patent itself (i.e the necessary ratios in claims)



Lee (EX1005), Fig. 16

Using the First Array's Preferred 0.5 mm Diameter Yields a 2.54 Ratio, Below the Claimed Floor

(1) THE "SPECIFIC EXAMPLE" THEORY

For this reason, the yarns 110 of the first fabric structure 100 are arranged as a first planar yarn array, and are preferably of a different size to those in the generally planar yarn assembly that forms the second fabric structure 200 and are preferably larger; monofilaments having a preferably circular cross-sectional shape and a diameter of from about 0.3-0.6mm are suitable; circular cross-section monofilaments having a diameter of 0.5mm are presently particularly preferred for this purpose.

Lee (EX1005), 26-27

$$\begin{array}{ccccc} 1.27 \text{ mm} & \div & 0.5 \text{ mm} & = & \text{Outside } 2.54 \\ \text{(Penven,} & & \text{(Lee, 12,} & & \\ \text{3:64-66)} & & \text{26-29)} & & \end{array}$$

**Even taking Petitioner's Incorrect Penven 1.27 mm figure at face value*

POR, 44; Sur-Reply, 16; Institution Decision, 12.

None of the Cited References, or Their Combination, Discloses the Required Loop Density: The 75.6% Figure Comes from an Array That Forms No Seam Loops

(1) THE “SPECIFIC EXAMPLE” THEORY

- The 75.6% figure for “loop density” is computed from Lee’s second array
- The second array does not have or provide seam loops—the seam loops are the first’s array
- Because the second array creates no loops, there is no loop density to rely upon



Equating the two arrays rests on the same unexplained “certain applications” sentence

The Overlapping-Ranges Theory Fails: No Reference Discloses the Seam Loop Density or LD/MDYD Ratio as a Range, and None Recognized the Ratio at All

(2) THE “OVERLAPPING-RANGES” THEORY



No reference recognized the LD/MDYD ratio as a design parameter, or any relationship between the ratio and seam performance



Every asserted span was computed for this litigation, not taught by the art



Recognition that individual component variables affect performance does not establish that the ratio is a recognized operative parameter



Lee's first-array diameter and density figures ranges do not teach which value to select to reach a LD/MDYD ratio of 2.7 to 3.6

The Overlapping-Ranges Theory Fails for Both Parameters: No Prior Art Teaches the Loop Density or the LD/MDYD Ratio

(2) THE “OVERLAPPING-RANGES” THEORY



LD/MDYD ratio

- No reference teaches an LD/MDYD value
- No reference teaches a method for deriving one
- Every span was computed for this litigation



Loop density

- The prior art teaches **thread** density, in yarns per centimeter
- The claimed loop density is dimensionless: thread density multiplied by thread diameter (uses other reference)
- No reference teaches that product, or any range for it



Dr. Pastore
Albany's expert

A. **There would be no reason to look for these ratios without the existence of the '566 patent.**

EX2012, 130:22-131:2

Sur-Reply, 12-16; POR, 38, 44-54.

No Prior-Art Range, No Presumption: *Janssen*

(2) THE “OVERLAPPING-RANGES” THEORY

- An “Overlapping Ranges” Presumption Requires a Disclosure of the Range in the Prior Art for the Claimed Feature

<i>Janssen Pharms., Inc. v. Teva Pharms. USA, Inc.</i> , 141 F.4th 1367 (Fed. Cir. 2025)	No presumption without a prior-art range for the claimed feature.
<i>In re Antonie</i> , 559 F.2d 618, 620-21 & n.4 (CCPA 1977)	Optimization requires prior-art recognition of the claimed ratio as the relevant variable; that recognition was “essential.”
<i>Sterlite Technologies Inc. v. AFL Telecommunications, LLC</i> , IPR2025-00127, Paper 12, 19-20 (PTAB Apr. 9, 2025):	Silence on the ratio as a design parameter is fatal to a result-effective-variable theory.

- Here: no reference discloses either claimed parameter or any range for it



Dr. Pastore
Albany’s expert

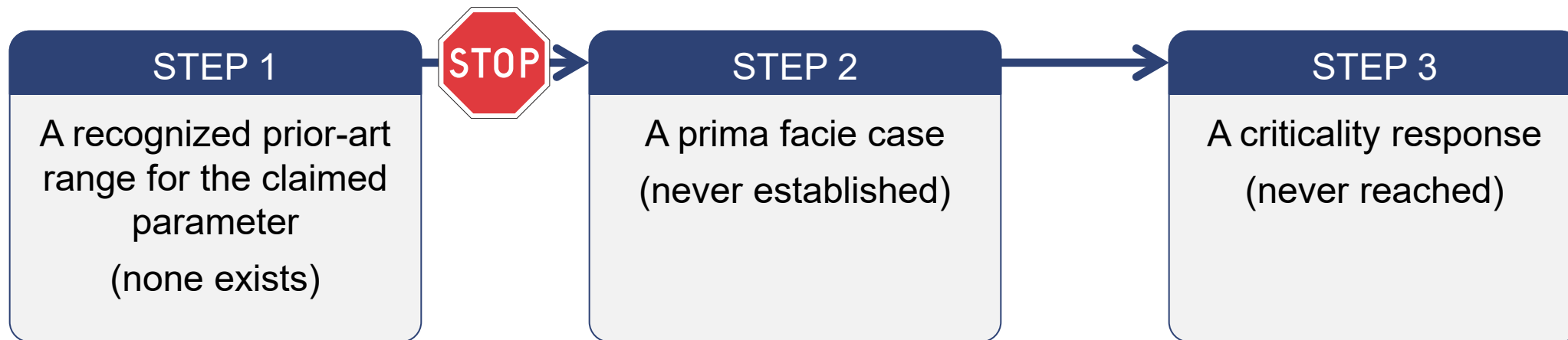
Q. And you are not aware of any published control study conducted before the filing date of the '566 patent that isolated the effect of the LD/MDYD ratio on seam performance; correct?	A. Not -- not in those words.
A. I'm not aware of anyone doing that calculation.	Q. There is no teaching that that relationship affects marking behavior or permeability; correct?
* * *	
Q. There is no statement in the prior art that the relationship between loop diameter and yarn diameter affects seam strength; correct?	A. There is no reference to that ratio.
	Q. Or the relationship between loop diameter and yarn diameter; correct?
	A. That's the ratio I meant.

EX2012, 367:19-368:2; 368:3-19

POR, 46-50; Sur-Reply, 12, 14-15.

Petitioner Never Reaches Criticality: No Prior-Art Range, No Prima Facie Case

(2) THE “OVERLAPPING-RANGES” THEORY



- *In re Peterson*, 315 F.3d 1325, 1329-30 (Fed. Cir. 2003).

Petitioner's Span Is a Litigation Calculation, Not a Prior Art Range, and It Includes Fabrics That Cannot Exist

(2) THE "OVERLAPPING-RANGES" THEORY

- Pairing every value in Lee's diameter and density ranges yields loop densities from 35% to 188%.

Petitioner's
computed span
(EX1003, ¶295)

295. Lee's disclosed thread density range (5.9 to 15.7 threads/cm) and MD thread diameter range (0.3mm to 0.6mm) together correspond to a loop density range of 35% to 188%. A POSITA would have understood that a loop density of greater than 100% can be regarded as non-physical, indicating that certain combinations of MD thread diameter and thread diameter within the disclosed ranges are not viable combinations. For instance, a POSITA would have understood that the combination of the largest MD thread diameter (0.6mm) and largest thread density (15.7 threads/cm), which would correspond to a loop density value of 188%, is an unrealistic choice because such large-diameter threads simply cannot be fit into such a high density arrangement of loops. That is, a POSITA would

Physically
Impossible

Claimed:
64% to 90%

Pastore Decl. (EX1003), ¶ 295

Sur-Reply, 15; POR, 53.

Petitioner's Arguments Regarding Penven Are Unsupported and Inconsistent with Other Grounds



Penven's disclosure is conclusory and insufficient

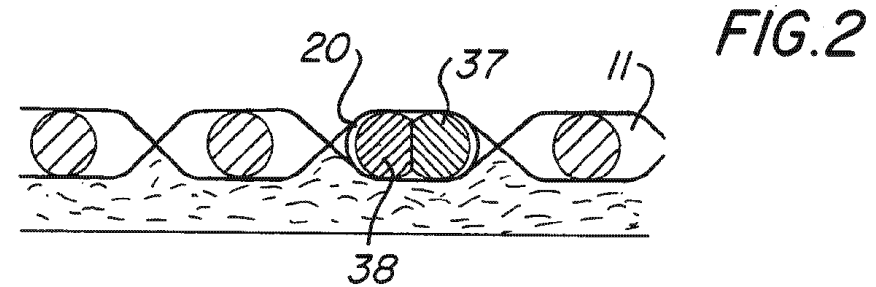


Penven is not conventional—its measurement is inconsistent with Petitioner's own arguments in Adanur



Penven describes different concepts: an "internal void diameter," not the claimed "loop diameter"

Penven (EX1006)



and 15 along the full length of the sea is desired. The pintle units 31 and 32 are provided with a long, relatively gradual taper so that a tight fit along the complete length of the pintle unit can be provided. For a typical seam in a papermaker's fabric having an internal void diameter of about 50 mils, a pintle unit having a taper of about 0.075 mil/inch is effective for felts up to about 300 inches in width.

Penven (EX1006), Fig. 2, 3:61-67



Without Penven, all of Petitioner's Ground 2 Again Fail

Petitioner's Arguments Regarding Penven Are Inconsistent with Other Grounds

1. Penven does not say “50 mils” is conventional; gives example of “seam” and what pintle size would be in such an example
2. 1.27 mm in Penven is inconsistent with Petitioner's claims of 0.96 mm “industry standard” loop diameter in Adanur
3. Using the Adanur value, the LD/MDYD ratio falls outside the scope of the claims (2.4)

Penven (EX1006)

and 15 along the full length of the sea is desired. The pintle units 31 and 32 are provided with a long, relatively gradual taper so that a tight fit along the complete length of the pintle unit can be provided. For a typical seam in a papermaker's fabric having an internal void diameter of about 50 mils, a pintle unit having a taper of about 0.075 mil/inch is effective for felts up to about 300 inches in width.

Penven (EX1006),
3:61-67

Notably, Penven's loop size is consistent “the industry standard” fabrics described by Adanur, and indeed, Penven's loop size was conventional. EX1022; see EX1006, 3:64-66; EX1003, ¶264. A POSITA would have been motivated to implement this standard seam loop size for compatibility with conventionally sized pintles. EX1003, ¶264.

Petition, 80

$$\begin{array}{ccccccc} 0.96 \text{ mm} & \div & 0.4 \text{ mm} & = & 2.4 \\ \text{(Adanur “measurement”} & & \text{(Lee, 12, 26-} & & \text{Outside} \\ \text{Petition at 15)} & & \text{29)} & & \end{array}$$

POR, 39-43, 60-61; Reply at 12-13.

Shrinking the Thread to Bring a 91% Loop Density Inside the Claimed Range Drives the Ratio Above the Claimed 3.6



Dr. Pastore
Albany's expert

- Q. Now, if I used – let's start my hypothetical again. If a fabric had a loop density of 91 percent and LD/MDYD ratio of 3.6, it would not satisfy Claim 1. Correct?
- A. **91 percent is greater than 90 percent.**
- Q. Assuming everything else the same, including the loop diameter, if I used a smaller MD thread diameter to bring the loop density to 90 percent, then the LD/MDYD ratio would increase its value of 3.6 percent. Correct?
- A. **Assuming the loop diameter did not change, yes.**
- Q. So changing the value of the loop density to satisfy the claimed ratio **resulted in a value for the LD/MDYD ratio that is outside of the claimed range of 2.7 and 3.6** in my hypothetical. Correct?
- A. **In your theoretical fabric where the loop diameter is independent of the yarn size, yes.**

EX2023, 109:14-110:15

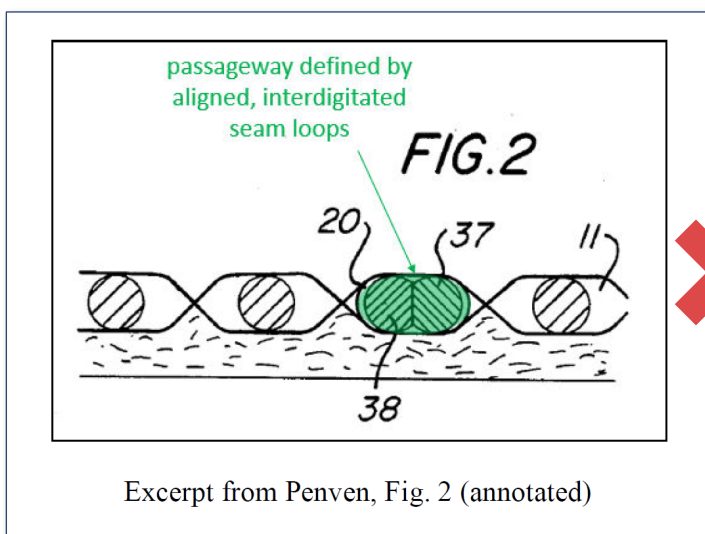
Loop density:
forced down to move inside
the range

LD/MDYD:
results in this driven up,
outside the range

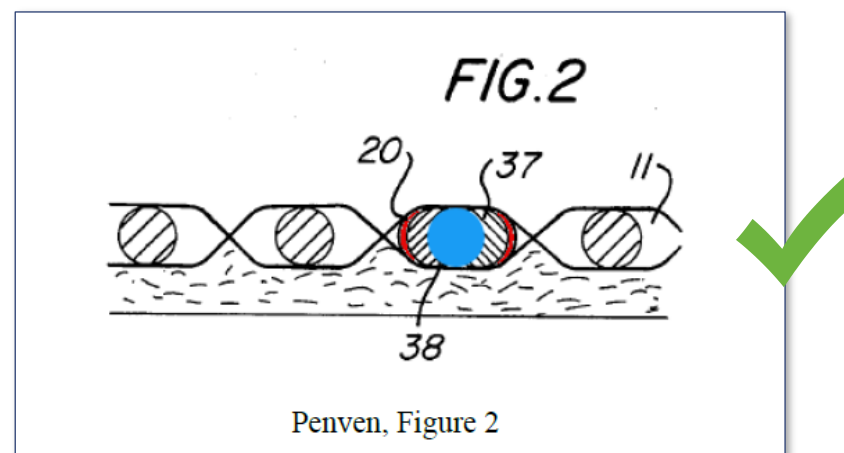
Penven's Passageway Is Not a Loop Diameter; It is the Tubular Void Formed by Many Intermeshed Loops

the clothing. To determine the LD/MDYD ratio, a circle is inscribed in the seam loop 42. This is the largest circle which can be inserted completely into the seam loop 42. The

EX1001, 9:21-23



Dr. Pastore Decl. (EX1003), 131



Dr. Brookstein Decl. (EX2011), 126

267. This geometry confirms that Penven's "diameter of seam passageway 20" captures the horizontal span (diameter) of the assembled interdigitated woven channel. That is, Penven's "internal void diameter" corresponds to the wider, laterally-open dimension, not the tightest vertical constraint that would govern the largest inscribable circle (annotated blue) within a *single* uninterdigitated loop.

Dr. Brookstein Decl. (EX2011), ¶267

POR, 39-43.



Dr. Pastore
Albany's expert

A. The passageway is formed of multiple loops, yes.

EX2023, 201:21-22

The “Smallest Individual Loop” Opinion Is New to the Second Declaration, and That Declaration Disclaims Its Basis



New, and admitted new



Dr. Pastore
Albany's expert

Q. And the fact that the continuous void diameter being necessarily dictated by the smallest individual loop is an opinion you offer in your second declaration. Correct?

A. **Yes.**

Q. This opinion was not offered in your first declaration. Correct?

A. **Correct.**

EX2023, 193:9-17



But disclaimed by his own assessment

56. As an initial matter, I would like to reiterate that my reliance on Penven, in the Sudre-Lee-Penven combination, was based on my understanding of Penven as describing dimensions of a “typical seam.” EX1006, 3:64-66; *see* EX1003, ¶242. I did not rely on the specific geometry of Penven’s pintle system or the shape of the passageway created by this pintle system.

Nevertheless, I note that Voith has asserted two technically incorrect characterizations of Penven that I would like to address.

57. First, Voith claims that Penven’s void diameter refers to “the combined geometry of multiple loops” rather than an individual seam loop. POR, 40. This is a misrepresentation of seam geometry. A seam channel is formed by aligned seam loops. *See* EX1006, 1:19-23. The continuous “void diameter” visible along the length of the channel is necessarily dictated by the smallest individual loop. I note that Dr. Brookstein confirmed this structure in his deposition. *See* EX1052, 41:8-42:1. Thus, a POSITA would have understood Penven’s void diameter to correspond to the diameter of that limiting smallest seam loop.

Pastore Second Decl. (EX1053), ¶¶ 56-57

POR, 39-43; Sur-Reply, 12-13.

Petitioner's Ground 2 Stated Only Conventionality and a Cross-Reference to Ground 1A

(a) *Warp thread size and density*

A POSITA would have been motivated to use warp threads sized based on Lee, and warp thread density based on Lee, and would have expected success in doing so, at least as discussed for Ground 1A. EX1003, ¶¶251-261; *KSR*, 550 U.S. at 415-421.

Notably, Lee's warp thread diameters and warp thread densities are consistent with "the industry standard" fabrics described by Adanur; indeed, Lee's warp thread diameters and densities were conventional. EX1022; *see* EX1016, 6:59-64; EX1024, 2:1-2; EX1003, ¶259. A POSITA would have been motivated to use Lee's thread size and density consistent with that standard practice, *e.g.*, for compatibility with standard processing. EX1003, ¶¶251-261.

Petition, 79-80

(b) *Seam loop size*

A POSITA would have been motivated to implement, for example, the seam loops of the combination fabric based on Penven's teachings, and would have reasonably expected success in doing so, at least as discussed for Ground 1A. EX1003, ¶¶262-266; *KSR*, 550 U.S. at 415-421.

Notably, Penven's loop size is consistent "the industry standard" fabrics described by Adanur, and indeed, Penven's loop size was conventional. EX1022; *see* EX1006, 3:64-66; EX1003, ¶264. A POSITA would have been motivated to implement this standard seam loop size for compatibility with conventionally sized pintles. EX1003, ¶264.

Petition, 80



**Nothing else in the cited record supplies the reason
to transfer Lee's dimensions into Sudre**

Sur-Reply, 11-13

Petitioner's Ground 2 Conclusory Conventionality Motivation Fails

1. Lee and Penven do not describe themselves as conventional
2. Even if Lee did, Lee is describing a non-woven array
3. Dr. Pastore's only "corroborators" did not survive cross-examination:
 - ✗ Xu counts the wrong yarns—Dr. Pastore admitted error
 - ✗ Goetemann discloses hollow monofilaments, not Lee's solid yarns
 - ✗ Walkenhaus discloses yarn density without a yarn diameter
4. Lee taught away from conventionality of woven fabrics, because it taught using multiaxial spiral-wound non-woven fabric instead

Petitioner's Own Cited Art Agrees: Adanur Calls Seam-Loop Formation on a Multiaxial Base "A Different Process"

- Petitioner's conventionality arguments are undermined by Petitioner's own cited art

Adanur

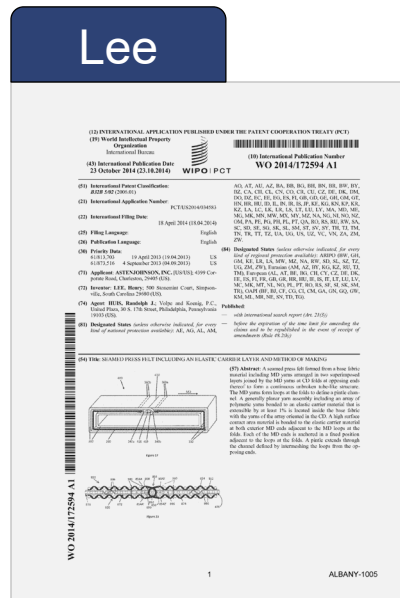
Forming the seam loops on a multiaxial base is also a different process compared to conventionally woven seamed felts. The seam loops on multiaxial products are not formed during the weaving process. After the base structure is completely bonded, the loops are formed by the removal of CD yarns on two opposite ends (180° apart) of the base. This leaves an opening in the weave pattern where the MD yarns can mesh together to form the loop. The number of CD yarns removed is dependent upon the desired length of the loops; longer loops if faster installation is the papermaker's top priority and smaller loops if mark resistance is more important (Figure 3.11).

Adanur (EX1021), 12



Lee's nonwoven arrays in a multiaxial fabric are not conventional woven fabrics

Lee Targets Sudre-Type Full-Width Flat Weaving as a Problem Its Invention Replaces



- ▶ Full-width flat weaving requires that “the base fabric be woven to the full width and length of the machine”
- ▶ Lee calls that “a time-consuming process” requiring “high capital investment in wide industrial looms”
- ▶ Lee offers its multi-axial spiral-wound fabric as the solution, “to reduce manufacturing time and costs”



- Every dimensional parameter relied on in Lee is disclosed for that multi-axial, spiral-wound construction
- A POSITA reading Lee would have understood Lee as teaching the art to move away from Sudre-like structures, not toward their dimensional refinement

Dr. Pastore Admitted He Was Wrong In Relying on Xu Which Counts Weft Yarns, Not the Loop-Forming Warp Yarns



paragraph). For instance, Xu describes a warp yarn density of 8 yarns/cm.

See EX1016, 9:4-9. Walkenhaus, also describing press felts, describes a

Pastore Reply Decl. (EX1053), ¶ 55



Dr. Pastore
Albany's expert

Q. In the sentence in Xu that talks about a knocking of about 8 yarns per centimeter, does that correspond to the warp or the weft monofilaments?

A. **I may have made an error here.**

* * *

Q. So Xu does not corroborate whether Lee's thread density value is conventional. Correct?

A. **Xu does not confirm that there is a warp yarn density of 8 yarns per centimeter in the invention.**

EX2023, 224:5-9; 224:21-225:3

Xu

then the aforementioned benefits can be obtained. In one preferred embodiment, when the above mentioned yarn order is employed, satisfactory results are obtained when the weft yarn knocking is about 9.4 yarns/cm (23.9 yarns/in.) of fabric length. As used herein, the term "knocking" refers to numbers of weft yarns per unit length of woven fabric.

* * *

single strand polyamide monofilaments of circular cross section with diameter of about 0.4 mm woven according to a plain weave pattern at a knocking of about 8 yarns/cm (20 yarns/in.), which is typical for these fabrics. At this yarn

Xu (EX1016), 6:2-7, 9:6-9

POR, 59-61; Sur-Reply, 11.

Goetemann's Diameter Range Is for Hollow Monofilaments, with "no discussion of hollow or solid" in Transferring It to Lee



Dr. Pastore
Albany's expert

- Q. ...Goetemann says that for each polycarbonamide materials a greater degree of interlocking and rigidity than with solid monofilaments with the same material. Correct?
- A. **Yes.**
- Q. So this is the comparison that Goetemann itself draws between hollow and solid monofilaments of the same material. Correct?
- A. **Yes, that's Goetemann's claim.**
- Q. And nothing in Lee describes the yarns of it's .3 to .6 millimeter range as hollow. Correct?
- A. **Correct.**
- Q. And does paragraph 54 convey any analysis of transferring Goetemann's hollow yarn disclosure to the yarns that are solid monofilaments?
- A. **There's no discussion of hollow or solid.**

EX2023, 220:25-221:22

Goetemann

ing, and the results reported in Table II. Those fabrics having the **hollow monofilament** of the present invention generally exhibited substantially fewer strand breaks during weaving and provided more filling strands from a given warp tension level than the solid strands. This should permit lower tension weaving and further reduction in break frequency.

Goetemann (EX1024), 3:14-21

POR, 59-61; Sur-Reply, 12.

Walkenhaus Supplies a Thread Density with No Thread Diameter, and a Span “Much Bigger Than What The Patent Claims”



Dr. Pastore
Albany's expert

Q. And you only specify the thread density in Walkenhaus. Correct?

A. **Yes.**

Q. You don't specify the thread diameter. Correct?

A. **Correct.**

Q. And the loop density calculation that you perform requires thread density and a thread diameter of the same thread. Correct?

A. **Yes.** So applying Walkenhaus to known yarn diameters gives us a very broad range of loop density. **Certainly much bigger than what the patent claims.**

EX2023, 225:13-226:2



- Loop density cannot be calculated
- Under *Janssen*, a very wide prior-art range itself makes the presumption inapplicable

POR, 59-61; Sur-Reply, 12.

Lee's Own Criticism of Woven Fabric Undercuts Petitioner's Transfer Theory

Lee: Time-consuming, costly, defect-prone weaving

Although spirally wound woven press felt base fabrics formed in the manner illustrated in Figures 1 to 5 have proven successful in many applications, they suffer from several disadvantages.

First, despite the fact that the component strips are narrow structures woven using a high speed loom, producing them is time consuming and costly. Weaving defects and other non-uniformities are often introduced during the production process because the weaving is often intermittent, requiring frequent process interruptions for feed-yarn resupply. These interruptions impart non-uniform areas into the woven material.

Lee (EX1005), 4



**Petitioner never explains why a
POSITA would build the very
structure Lee criticizes**

Lee: Knuckle compaction degrades void volume, permeability, dewatering

Second, the “knuckles” formed by the interwoven yarns in the component strip as they crimp about one another will become flattened due to the repeated passage of the fabric through the press nip(s), thus compacting the fabric. This compaction will affect dewatering performance over time as these fabrics typically have a “break-in” period during which they slowly adjust to their environment before they reach a steady state of performance. During this break-in period, their dewatering performance, void volume, permeability and other physical properties will change and it is generally necessary for the paper manufacturer to run the machine more slowly than would otherwise be desired and with frequent adjustment until a steady state of performance is reached. In addition, the interwoven yarns pass into and out of the surface planes in the weave structure, which ultimately reduces contact between the batt surface and paper sheet, and provides only a fraction of the yarn surface for planar sheet support. Such localized pressure points of the exposed crimped yarn knuckles can produce undesirable paper sheet marking. It will be apparent that such irregularities are undesirable as the base fabric and batt together should provide uniform planar support to the sheet for effective water removal and sheet smoothness.

Lee (EX1005), 4

Sur-Reply, 8; POR, 61-63; EX2011, ¶¶ 244-257.

Lee's Criticism of Woven Fabrics Goes to Performance, Not Merely Cost

Lee: Uneven water removal, sheet marking, fiber shedding, non-uniform fabric

Third, because the entire spirally wound fabric is woven according to the same weave pattern, interference patterns appear at locations where the warp and weft yarns from the opposing sides of the double layer tubular structure are not in exact alignment. Interference patterns are created because regions of relatively low and high yarn densities are formed as a result of the misalignment of the crimped yarns in the two opposing sides (i.e. they are not in exact registration with one another and move in and out of a horizontal plane as they nest between one another). If this situation is not addressed in some manner, the resulting press felt will also have areas of low and high yarn density which will be regularly spaced in both the length and width direction. This creates several problems, including: uneven water removal and sheet marking due in part to non-uniform batt adhesion. Batt fibers adhere more aggressively to base fabric regions where yarn densities are relatively high in comparison to areas where they are lower, resulting in fiber shedding where anchorage is comparatively poorer. This in turn will affect the uniformity of the fabric and thus its overall ability to evenly dewater the sheet without marking it.

Lee (EX1005), 5

Lee: Manufacturing non-uniformities

Fourth, there are several seam related issues in the known seamed press felts. These include the lack of uniformity in the loops used to form the seam resulting in an uneven channel size, making the insertion of a pintle more difficult. Further, the physical characteristics in the seam area should, to the greatest extent possible, be the same as the remainder of the fabric. As the base fabric and any batt attached to it must usually be cut to install the seam, the physical properties of the seam region, including its surface uniformity, resistance to abrasive wear, and its overall dewatering and resiliency characteristics, are frequently the source of sheet marking or fabric failure. The seam region is thus usually recognized as the most critical area of the finished fabric.

Lee (EX1005), 5



“A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not *criticize*, *discredit*, or *otherwise discourage investigation* into the invention claimed.”

Galderma Lab'ys, L.P. v. Tolmar, Inc.,
737 F.3d 731, 738 (Fed. Cir. 2013)

Sur-Reply, 8; POR, 61-63; EX2011, ¶¶ 244-257.

The Reply's Added Motivations Are Not in the Petition's Ground 2

Petitioner's Argument (Reply)

motivation-to-combine analysis. The Petition demonstrated—and Dr. Brookstein confirmed—that thread diameter and density contribute to mechanical and water management advantages. Petition, 79-81; EX1052, 26:19-27:5. And the Petition detailed seam strength and paper quality benefits that flow from using appropriately sized loops. Petition, 22-24, 80.

Petitioner's Reply (Paper 29), 11

What's Actually in the Record

- The water-management and quality rationale appears in the Petition only for Ground 1's Adanur combination (Petition, 18-25.)
- The Ground 2 combination adds only conventionality plus the cross-reference; nothing explains selecting Lee's non-woven array values for Sudre's woven base (Petition, 79-81.)



Goals true of every press felt say nothing about using Lee's non-woven numbers in Sudre's woven fabric.

Sur-Reply, 9-11; Reply, 11; Petition, 18-25, 79-81.

Petitioner's Own New Motivation Is a Reason Not to Combine: The Combination Deletes Lee's Water-Management Structure

Petitioner's Argument (Reply)

combination the Petition never advanced. The Petition does not “bodily incorporate[]” Lee’s two-fabric architecture into Sudre. *See In re Keller*, 642 F.2d 413, 425 (C.C.P.A. 1981). It imports solely Lee’s thread dimensions and density. Petition, 77 (“the diameter of the MD (warp) threads and the warp thread density are based on Lee”).

Petitioner's Reply (Paper 29), 14-15

This Incorporation Undermines the Motivation

- In Lee’s relied-upon embodiment, water management comes from the second fabric’s void reservoir; the combination deletes that structure, and with it the rationale



- A water-management motivation cannot justify copying numbers from a structure whose water-management solution the combination throws away
- Petitioner never shows why dimensions taught for that structure fit woven one

POR, 58-59; Sur-Reply, 7-8, 10-11; Reply, 14-15.

Lee Separately Distinguishes Its Two-Fabric Reservoir Structure from Single-Structure Woven Fabrics Like Sudre

- Lee identifies the press felt's primary function as a “reservoir to transport water expressed from the paper sheet” and contrasts two ways to provide the void volume.

The single-structure approach Lee distinguishes

- “provided...by the weave structure of the base fabric.”

Lee's own invention

- “at least one additional fabric structure,”
- a “generally planar yarn assembly” bonded to an “elastic carrier material.”

- **Lee's dimensional parameters specify a two-component system; they are not general values for any press felt seam.**
- **Sudre is precisely the single-structure flat-woven fabric that Lee distinguishes.**

Four Speculative Leaps, Not One Reasonable Expectation

No Reasonable Expectation of Success

Read a single line from Sudre about flat-woven fabrics as an invitation to consult a non-woven reference



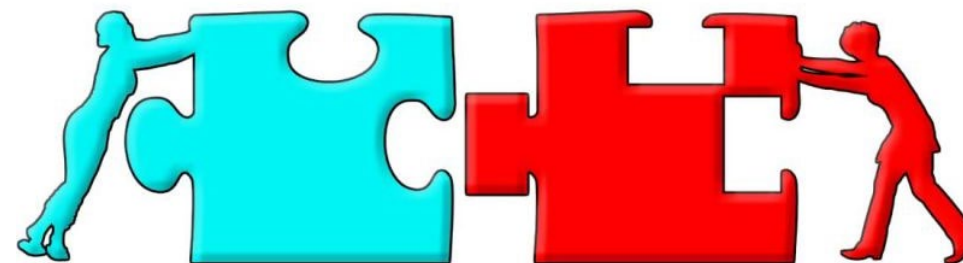
Disregard Lee's explicit teaching against flat-woven constructions



Selectively extract just the right attributes from Lee's disclosure



Treat Penven's "typical seam" approximation as a design specification for loop diameter



Where, however, a defendant urges an obviousness finding by 'merely throw[ing] metaphorical darts at a board' in hopes of arriving at a successful result, but 'the prior art gave either no indication of which parameters were critical or no direction as to which of many possible choices is likely to be successful,' courts should reject 'hindsight claims of obviousness.'

In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig., 676 F.3d 1063, 1070-71 (Fed. Cir. 2012)

POR, 63-65; Sur-Reply, 2-7, 11-13.

Converting Lee's Non-Woven Array into a Woven Structure Would Change the Very Numbers Petitioner Imports

No Reasonable Expectation of Success

- Lee supplies no woven example using its non-woven dimensions
- No declaration explains how array values survive weaving, needling, and heat-setting
- Lee's values are designed, pre-treatment numbers
 - Petitioner made no shrinkage adjustment
 - the only shrinkage discussion it borrows is the '566 patent's own
- The selection lands inside the claims only because the claims supplied the target

Petitioner's Arguments Fail to Render the Challenged Claims Obvious

- **The '566 Patent Background:** Addressed an unsolved seam problem through new and interrelated parameters (LD/MDYD and loop density)
- **Ground 2 (SUDRE + LEE + PENVEN) Fails:**
 1. Lee's values belong to a non-woven array with no application to Sudre's woven fabric
 2. No presumption of overlapping range as Lee does not disclose these ranges
 3. Petitioner's conventionality claim is unsupported
- **Grounds 1 (SUDRE + ADANUR) and 3 (SUDRE + RYDIN) Fail:**
 1. The references are silent; the photographs cannot reliably supply the parameters
 2. The Reply's new analyses are improper, and admittedly new
 3. Either way, Dr. Pastore's numbers straddle the claims
- **Secondary Considerations Support Nonobviousness:** The long-felt-need and industry-migration showings stand unrebutted

Grounds 1 and 3 Fail Three Times Over

1. The references are silent

1. Neither Sudre, Adanur, or Rydin discloses the loop density, the ratio, or any method of computing them;
2. The parameters exist only in the '566 patent and Dr. Pastore's litigation analysis.

2. The numbers come from scanned photographs, and that fails three ways

1. They are improper as a matter of law;
2. They are generated using the '566 patent as the roadmap;
3. They are unsupported and unreliable.

3. The Reply then replaced the Petition's analysis

1. Dr. Pastore conceded the measurements are new;
2. The replacements should be stricken or fail on their own errors.

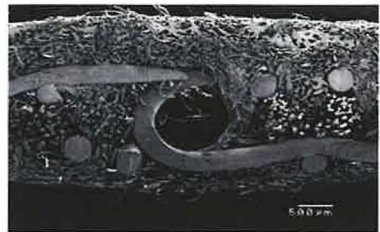
Neither Adanur nor Rydin Discloses the Claimed Loop Density or the Claimed LD/MDYD Ratio

- The claimed loop density and LD/MDYD, and the methods of computing them, exist only in the '566 patent and in Dr. Pastore's litigation analysis.

Adanur – Ground 1



← CD →



← MD →
Seamed felt with
MD yarns forming the loops

FIGURE 3.15. Cross-sections of finished press fabrics.

Adanur (EX1021), Figure 3-15

Rydin – Ground 3



Figure 2. Comparison
between two seam halves
using old and new

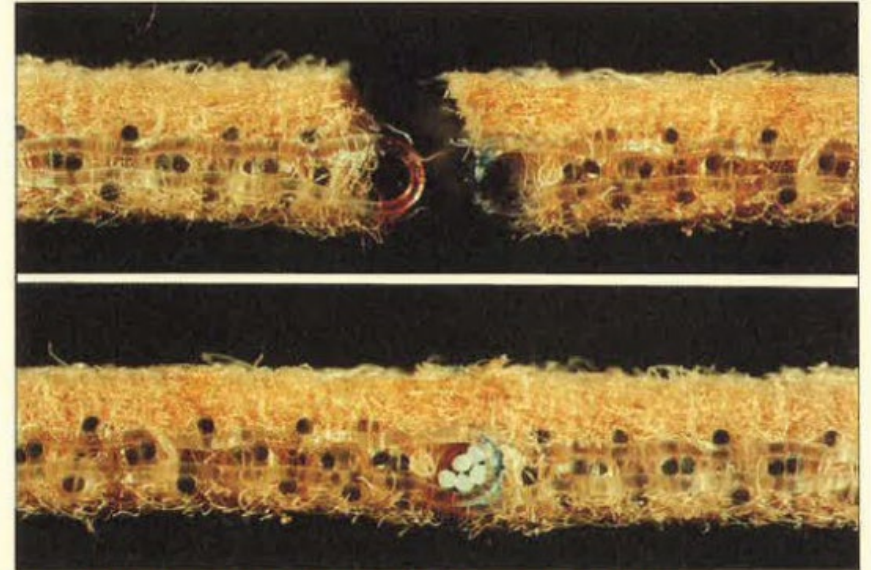


Figure 3. The felt in its finished form. The batt-like yarn is barely visible.

Rydin (EX1028), Figures 2,3

POR, 9, 14; Sur-Reply, 17-18.

By His Own Admission, the Claimed Range Exists Nowhere in the Prior Art, and No One Ever Computed the Ratio



Dr. Pastore
Albany's expert

Q. None of the prior art references disclose that 2.7 to 3.6 is an optimal range; correct?

A. **Correct.**

Q. That numeric range appears only in the '566 patent; correct?

A. **Correct.**

* * *

A. **There was nothing that specifies that ratio is important.**

* * *

A. **I never saw anyone do that calculation.**

EX2012, 123:7-13; 374:3-4; 373:8-9

Sur-Reply, 15-16, 18; POR, 47-49, 77.

The References Are Silent, and These Images Cannot Reliably Supply the Missing Numbers



Patent drawings and figures “may not be relied on to show particular sizes if the specification is completely silent on the issue.”

Hockerson-Halberstadt, Inc. v. Avia Group International, Inc.,
222 F.3d 951, 956 (Fed. Cir. 2000)



“[A]rguments based on measurement of a drawing are of little value.”

In re Wright, 569 F.2d 1124, 1127 (CCPA 1977).

Here: Adanur and Rydin are silent on every claimed parameter, so there is nothing in either reference for measurement to reveal.

Unlike Valve, Nothing Here Is Verifiable by Eye



“[W]e credit Dr. Rempel’s analysis of the photographic evidence, *which comports with our own independent review...*”

Valve Corp. v. Ironburg Inventions Ltd., IPR2017-01928, Paper 53, 35 (PTAB Jan. 26, 2023)

What made <i>Valve</i> work	In <i>Valve</i> ✓	Here X
A quite broad claimed range	“quite broad, 5 to 90 degrees”	Narrow windows: 64-90% loop density; 2.7-3.6 ratio
A known-size object	controller size “relatively well known”	No known-size object; boundaries cut, obscured by batt, or out of the imaged plane
The Board could check the images itself	“comports with our own independent review”	Nothing verifiable by eye; every pixel value measured on files outside the record
No rebuttal evidence	Patent Owner “cites no evidence to rebut”	The parties dispute the very pixel counts, and his results land on both sides of the claims

- Petitioner’s images lack everything that made Valve’s verifiable

Sur-Reply, 20; Reply 6.

Dr. Pastore Executed the '566 Patent's Instructions on the Prior Art; That Is Improper Hindsight

- Multiplying thread density with thread diameter *to obtain loop density* comes from the patent.
- Inscribing a circle *to determine the LD/MDYD ratio* comes from the patent, not from Adanur or Rydin.
- He was executing the '566 Patent's instructions on prior art that never gave them.

Dr. Pastore
Albany's expert



'566 Patent

When determining the seam loop density, firstly the number of seam loops per unit length is ascertained. In a fabric having an MD thread density of 64 yarns/100 mm, the seam area has twice the number, i.e. 128 yarns/100 mm, as a result of the MD threads of the two ends interengaging. **If the number of threads is multiplied by the diameter, then the seam loop density (statement in percent) is obtained as a measure of the coverage of the seam area by MD threads.** If,

* * *

the clothing. To determine the LD/MDYD ratio, **a circle is inscribed in the seam loop 42.** This is the largest circle which can be inserted completely into the seam loop 42. The

EX1001, 6:11-18; 9:21-23

- Q. And you applied the '566 patent's definitions and formulas to the prior art to see whether the prior art satisfied the patent's claim limitations; correct?
- A. **I used the definitions from '566 to see if they were novel or something that was just standard in the industry. . . .**
- Q. So it was never called out before using an inscribed circle to define the seam loop diameter; correct?
- A. **Correct. . . .**
- Q. And you also used the formulas of the '566 patent to the prior art in order to see whether the prior art itself satisfied the patent claims -- the patent claim limitations; correct?
- A. **Yes, again, to see if those ranges were anticipated.**

EX2012, 124:17-125:1; 125:9-13; 125:21-126:4

Sur-Reply, 18-19, 25; POR, 18.

Dr. Pastore Executed the '566 Patent's Instructions on the Prior Art; That Is Improper Hindsight

- Applying the thermal method steps to recalculate the loop density due to shrinkage comes from the '566 patent

'566 Patent

It should be noted at this point that the seam loop density of a clothing can change during the production process. For example, thermal method steps can lead to shrinkage of the clothing in the transverse direction. Therefore, the seam loop density before the first thermal method step is normally lower, usually between 55% and 80%, while in the finished clothing it is then higher. The values of the seam loop density indicated in this application relate to the finished clothing, if not otherwise specified.

EX1001, 6:27-35

Dr. Pastore
Albany's expert



Q. None of the prior art references you analyzed state that their loop density should be recalculated using the '566 patent's shrinkage discussion; correct?

A. **Correct.**

Q. Adanur did not instruct that analysis; correct?

A. **Adanur did not say anything about that analysis.**

Q. Lee also did not say anything about that analysis; correct?

A. **Correct.**

Q. Rydin did not instruct that analysis either; correct?

A. **Correct.**

EX2012, 119:7-120:4

Sur-Reply, 18-19, 25; POR, 18, 54.

Dr. Pastore Measured Adanur's Seam Loop Without Removing the Batt He Identified as Obscuring Its Top

GROUND 1



Dr. Pastore
Albany's expert

Q. So there's no way of understanding whether the top portion of the red circle corresponds to actually the bottom point of an MD thread in Adanur's picture; correct?

A. **There's no way of knowing if it corresponds to the bottom.**

* * *

Q. But you did not, in your methodology to find the seam loop diameter, you did not remove the batt that you've identified as obscuring the top portion of the seam loop; correct?

A. **Correct.**

EX2012, 202:4-10; 301:5-9

Adanur



Batt obscuring the top portion of the "seam loop"

Adanur (EX1021), Figure 3-15 detail (as-filed resolution); EX2008, 2

Sur-Reply, 19-20; POR, 20-26.

On Rydin, Dr. Pastore Could Not Tell the Yarn from a Batt Fiber

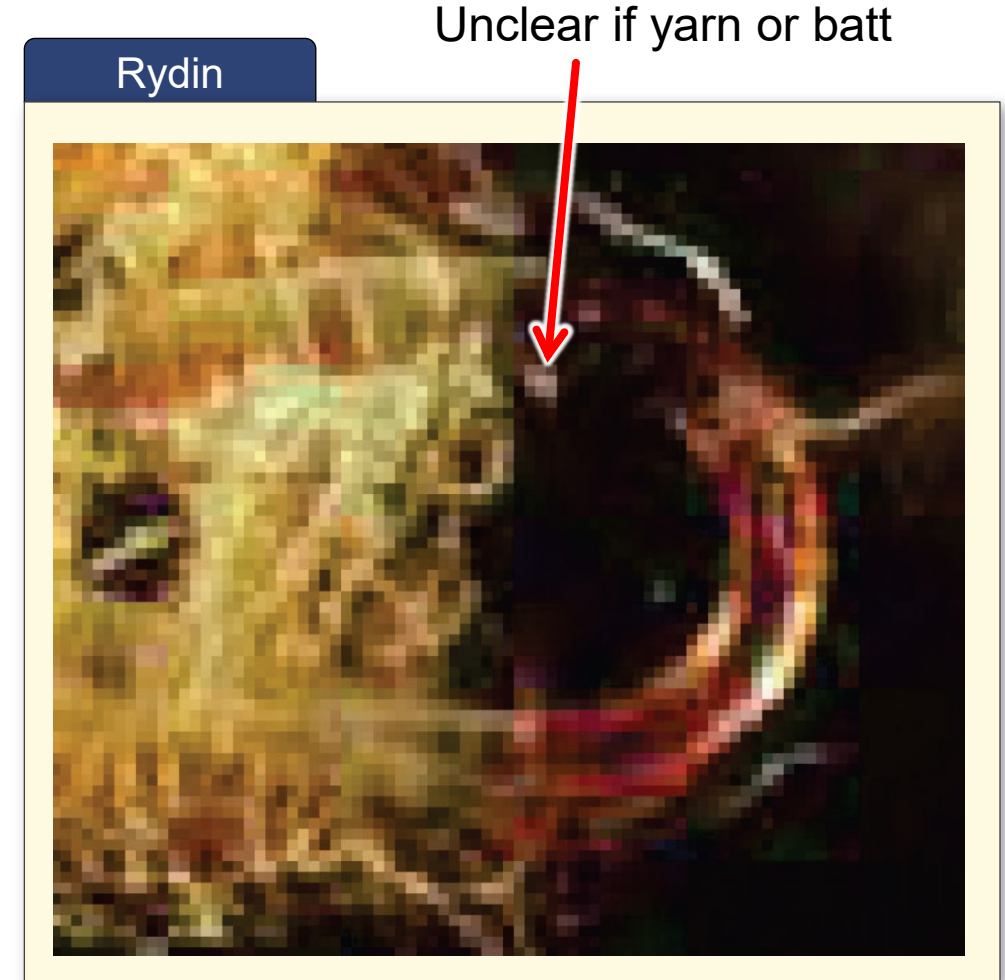
GROUND 3



Dr. Pastore
Albany's expert

- Q. So you don't know whether what you identified as the part of the yarn is actually the yarn itself or fiber from the batt; correct?
- A. **I can't know for certain --**
- Q. Okay.
- A. -- in this image, but I can follow the arc of the loop and that is a nice, smooth arc that appears to be part of the continuous filament. I tried to do what a POSITA would do, which would be working with some ambiguity and trying to get the best measurement possible.
- Q. And did you quantify that amount of ambiguity?
- A. **No, no.**
- Q. You can't say you're a hundred percent certain; correct?
- A. **I said approximately, I believe, every time I put a measurement in there.**

EX2012, 232:16-233:14



Rydin (EX1028), Figure 3 detail (as-filed resolution); EX2006, 2

Sur-Reply, 20; POR, 20-26.

The Fabric Cut Is Destructive, Can Misalign Paired Yarns, and Shows the Structure Only as It Exists on the Cut Plane

GROUND 1

- Every measured image is a photograph of a cut fabric and cutting changes what the photograph shows.
- Adanur's Figure 3-15, the source of every Ground 1 measurement, is exactly such a cut cross-section.



Dr. Pastore
Albany's expert

This is an unreasonable criticism. In reality, cutting a fabric to reveal a cross-section is a destructive process. The act of cutting a fabric can easily damage or misalign a yarn that was previously aligned into a pair. That a

Pastore Reply Decl. (EX1053), ¶22

Q. Why is cutting a fabric a destructive process?

A. **Well, the cutting part is a clue there. We've got a piece of fabric and we cut it. So we have destroyed that fabric. And we may affect the internal structure as well.**

* * *

Q. So after a fabric is cut, two yarns that were previously aligned into a pair can be easily misaligned. Correct?

A. **Yes.**

* * *

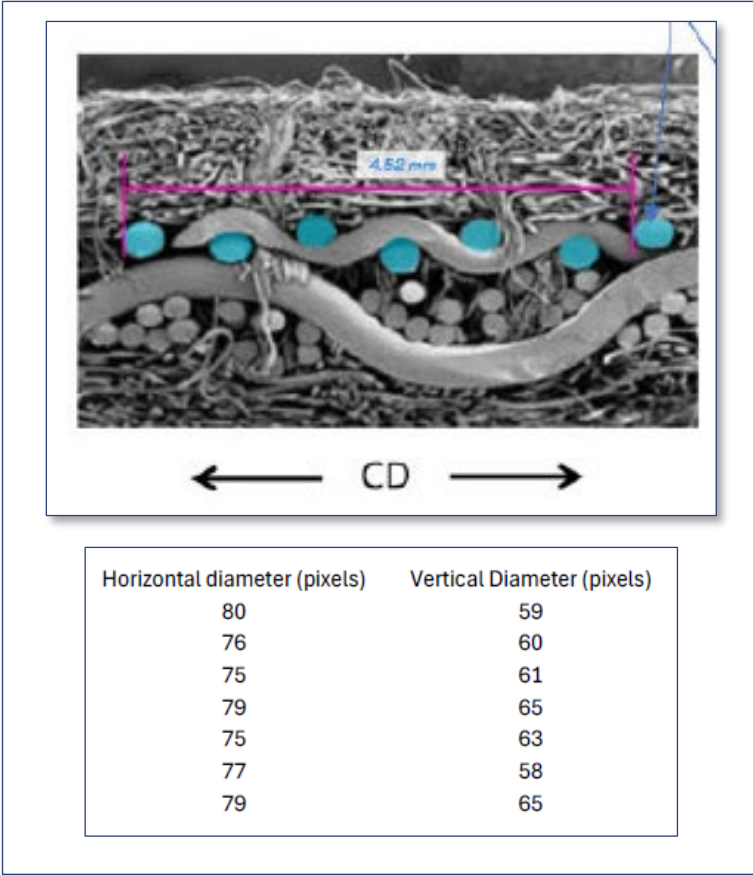
A. **It shows us the structure as it exists on a plane that was generated by the cut through the fabric.**

EX2023, 166:23-167:5; 169:7-10; 170:9-11
Sur-Reply, 19-20.

A Slanted Cut Can Make a Circular Yarn Appear as an Oval

GROUND 1

- Adanur’s MD yarn cross-sections can appear as “ovals” because of a slanted cut of the fabric.



Q. So as a result of a slanted cut, a circular yarn can show up in the picture as an **oval**. Correct?

A. **Yes.**

EX2023, 181:2-5

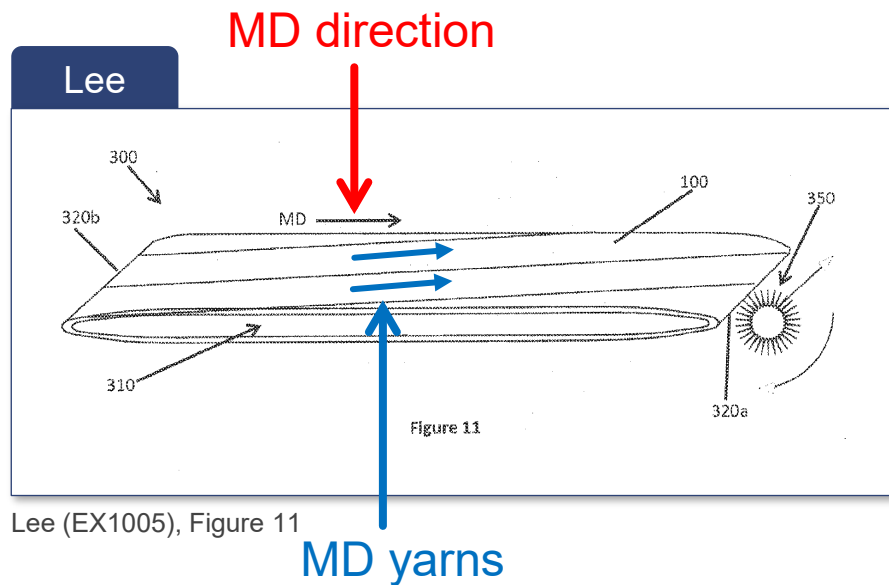
Adanur (EX1021), Figure 3-15;
Pastore Decl. (EX1003), pp. 39-40

A Vertical Cut of an Angled Fabric Can Make a Circular Yarn Appear as an Oval, and Dr. Pastore Does Not Know if Adanur's Fabric Is Angled

GROUND 1

- The oval Dr. Pastore measured may be the result of an angled yarn direction, and he cannot rule that out for Adanur.

Dr. Pastore
Albany's expert



Lee (EX1005), Figure 11

Q. Can you turn to figure 11 of Lee.

A. **Yes.**

Q. The MD yarns in this fabric are at an angle compared to the MD direction. Correct?

A. **Yes, they are.**

Q. If you assume that the MD yarns have a circular cross-section and there is a vertical cut to the fabric perpendicular to the MD direction. Do you have that in mind?

A. **Yes.**

Q. And if I take a picture of that cut at the direction of the MD direction, the image would show the MD yarn cross-section as an oval. Correct?

A. **Yes.**

* * *

Q. And you do not know if the MD yarns are placed at an angle compared to the MD direction in Adanur's fabric. Correct?

A. **Correct.**

EX2023, 182:21-183:14; 183:21-25

Sur-Reply, 20.

The Claim Requires the Same Fabric; Dr. Pastore Said Different Fabrics Would Not Change His Analysis

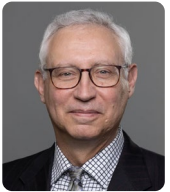
FOUNDATIONS 1 & 3

- Claim 1's loop density and loop diameter describe one seam of one fabric.

'566 Patent, Claim 1

said seam having a loop density of between 64% and 90%; and
said diameter LD of said seam loops and said diameter MDYD of said associated MD threads having a ratio LD/MDYD of between 2.7 and 3.6.

EX1001, Claim 1, 10:9-13



Dr. Pastore
Albany's expert

Q. So you've considered whether the press fabric shown in the two pictures do not correspond to the same fabric?

A. **I considered that as a possibility, but it didn't change my analysis.**

Q. Your analysis would still be **accurate** if the two pictures did not depict the same fabric?

A. **Yes.**

EX2012, 272:3-12

An analysis that stays "accurate" either way is not measuring what the claim requires.

POR, 21; Sur-Reply, 22-23.

The Petition's Reasons to Combine Sudre and Rydin Fail

GROUND 3

Reason as Stated in Petition	Where it Points	Why it Fails
“For many of the same reasons discussed above in Grounds 1A-1E” (Petition 100; EX1003 ¶¶ 373, 375)	The Sudre-Adanur motivation section (Petition 18-24): reasons for adopting Adanur’s measured values as “industry standard.”	Every incorporated reason is specific to Adanur’s millimeter values; none mentions Rydin, and none can attach to Rydin’s unscaled pixels (42.6 px; 0.0091 threads/px; 167/53 px), which cannot be checked against any millimeter range.
Sudre is silent on parameters, so a POSITA “seeking the ‘particular requirements’” would look to Rydin (Petition 100; EX1003 ¶ 373)	A single half-sentence: Sudre 6:14-17. The full sentence names the requirements: “requisite lengths of base fabric woven in any desired weave pat[t]ern may be cut from a stock supply” (Sudre, 6:11-17)	Mischaracterizes Sudre: the “particular requirements” are fabric length and weave pattern, not seam geometry or any ratio, and the “warp thread size and spacing” requirements were made-up. Sudre’s silence supplies no reason.
Rydin “describes PMC of a well-known manufacturer ... and describes many desirable improvements” (Petition 100-101; EX1003 ¶ 374)	Rydin’s stated improvements are homogeneity at the seam and batt anchorage (EX1028, 1)	The named improvements say nothing about loop density, loop diameter, or any ratio; The photographs are qualitative with no scale or calibration. Petitioner offered no articulated reason a POSITA would turn to Rydin and extract pixel-based measurements to modify Sudre.
Reasonable expectation of success “in dimensioning Sudre’s PMC using Rydin’s information” (Petition 100; EX1003 ¶ 374)	The “information” is Rydin’s Figures 2 and 3, the only source of every Ground 3 parameter (Petition 98-99)	Two photographs of different fabrics at different fabrication stages: Figure 2 the unfinished underlying seam, Figure 3 the finished, needled felt.

POR, 16-17, 65-67, 72-73; Petition, 97-101; Sur-Reply, 17-18, 25

The POR Showed No Motivation to Combine, and the Reply Never Answered

GROUND 3

Sudre and Rydin. Sudre and Rydin address different technical problems. Sudre is directed to methods of forming seamable fabrics and structural formation of loops. (Sudre, 1:2-9.) It does not address loop density optimization or loop diameter ratios. On the other hand, Rydin addresses a different technical problem. Rydin focuses on reducing marking, improving batt anchoring, and integrating batt-like yarns. (Rydin, 1.) Rydin does not disclose loop density as a design parameter, LD/MDYD ratio, or any dimensional optimization. (EX2011, ¶¶319-321.)

Petitioner argues that Rydin provides “parameters.” (Petition, 98-101.) But Rydin does not present dimensional data. Instead, Rydin’s images are qualitative, not quantitative, and there is no reference in Rydin that suggests extracting dimensions from photographs. Thus, Petitioner offered no articulated reason a POSITA would turn to Rydin, and extract pixel-based measurements to modify

POR, 72

A. Whether Rydin’s Parameter Values are Sourced from a Single Seam is Irrelevant

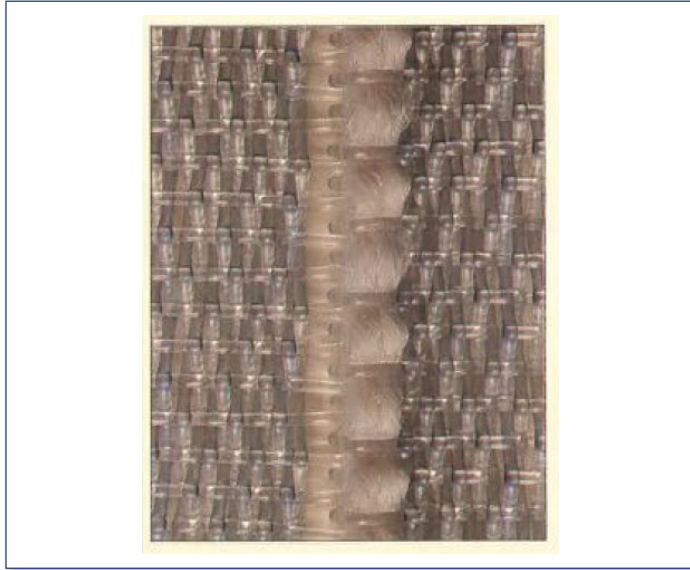
Voith’s objection to the Petition’s reliance on “different structures” (POR, 66) or “different seams” (POR, 67) in Rydin also fail for reasons similar to those discussed above. See §§II.B.2-2, *supra*. It ignores the distinct motivations to incorporate each of thread density, loop diameter, and thread diameter into the combination fabric. Petition, 100-101. Since each of these motivations stand on their own, whether the measurements are sourced from the same seam (or same fabric) is irrelevant. See §§II.B.2-2, *supra*.

Reply, 24

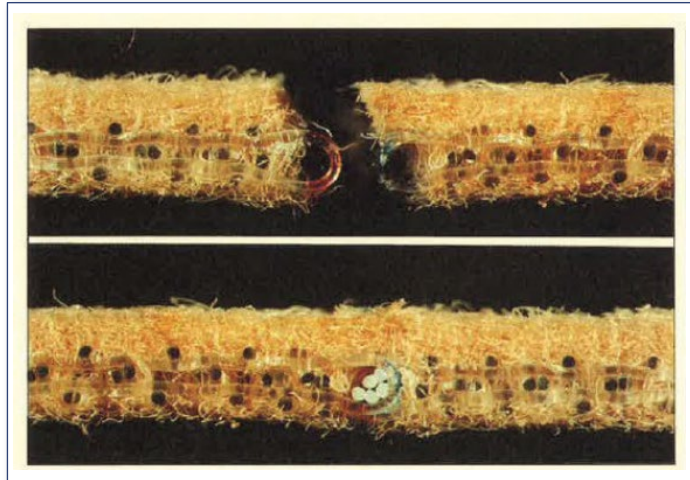
Petition pages 100-101 contain no per-parameter motivations for Rydin. The per-parameter structure of MD thread size, density, and loop size exists only in Ground 1, at pages 18-24, for Adanur’s values. The Reply defended Ground 3 by citing pages that do not say what the Reply says they say, and it never answered the different-technical-problems argument at all.

POR, 72-73; Reply, 24; Petition, 100-101; Sur-Reply, 17-18.

Rydin's Two Photographs: An Unfinished Base Fabric and a Finished Felt



Rydin (EX1028), Fig. 2



Rydin (EX1028), Fig. 3

- Different structures, different fabrication stages:
 - Fig. 2 is an unfinished woven base fabric with no batt;
 - Fig. 3 is a finished, needled felt with batt incorporated; needling alters yarn spacing, loop configuration, and thickness.
- The Petition knew:
 - “To the extent that the seam in Fig. 2 has not been thermally treated...” and bridged the gap with the '566 patent's own pre-thermal 55-80% disclosure using the patent as roadmap.
- The claim requires one fabric but Dr. Pastore admitted:
 - Same-seam correspondence “was not necessary to do the calculations I performed” (EX2012, 190:1-6);
 - “[N]o basis in Rydin” to conclude the figures show the same fabric;
 - Possibly “different fabrics” (EX2023, 100:16-101:4).

Dr. Pastore Admitted the Same-Seam Requirement “Was Not Necessary” to His Ground 3 Calculations

GROUND 3

- Claim 1 requires the loop density and the loop diameter to describe the same seam.

'566 Patent, Claim 1

said seam having a loop density of between 64% and 90%; and
said diameter LD of said seam loops and said diameter MDYD of said associated MD threads having a ratio LD/MDYD of between 2.7 and 3.6.

EX1001, Claim 1, 10:9-13



Dr. Pastore
Albany's expert

- Q. In your analysis it wasn't a requirement that the seam of the fabric in Figure 2 was the same as the seam of the fabric in Figure 3; correct?
- A. **It was not necessary to do the calculations I performed.**

EX2012, 190:1-6

An analysis that does not need the claim's own condition cannot satisfy the claim.

POR, 67; Sur-Reply, 25.

Opinions Built on Unproduced Data, Without Calibration, Uncertainty, or Repeatability, Are Entitled to Little or No Weight

GROUNDS 1 & 3

- The source files, the workbook, the extracted JPEG, and the screenshots exist but were never filed.



“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”

37 C.F.R. § 42.65(a)



Dr. Pastore
Albany's expert

Q. There is no way to confirm that what you actually measured using your tools corresponds to what the tool reproduced. Correct?

A. **Yes.**

EX2023, 214:3-7

Sur-Reply, 21; POR, 23, 67.

Every Adanur and Rydin Pixel Value Was Measured on Files Outside the Record

FOUNDATIONS 1 & 3

- Dr. Pastore's own footnotes concede that the exhibits as filed yield different counts.



Dr. Pastore
Albany's expert

Q. The measured file you used for the first declaration is outside the record. Correct?

A. **In the sense that I have not submitted it as evidence, yes.**

EX2023, 118:17-23

² I acknowledge that the pixel counts for the digital Adanur file that I analyzed for my First Declaration **are different than the pixel counts** for the Adanur file that was obtained for me from the P-TACTS system.

Pastore Reply Decl. (EX1053), ¶35 n.2

³ I acknowledge that the pixel counts for the digital Rydin file that I analyzed for my First Declaration **are different than the pixel counts** for the Rydin file that was obtained for me from the P-TACTS system.

Pastore Reply Decl. (EX1053), ¶67 n.3

Sur-Reply, 20-21; Motion to Strike, 1.

Asked to Defend the Reply's New Theories, Dr. Pastore Contradicted His Original Assessments and Compounded the Errors



Inconsistent with his original assessments



No fewer than six errors



Built on material outside the record

Rather than Defend the Petition’s Analysis, the Reply Replaces It

GROUND 1

- Dr. Pastore does not use one consistent MDYD, and the claims require one.

Stage	MDYD Convention
The Petition (first declaration)	One convention: 1. The average of horizontal and vertical diameters from Adanur’s CD image:
The Reply (second declaration)	Three conventions: 1. Horizontal-only diameters; 2. An average value; 3. A never-before-seen “equivalent diameter.”

- Voith has moved to strike the new analyses (Paper 34).

Three Conventions, Three Answers: Above the Ceiling, Below the Floor, and Inside

GROUND 1

- Claim 1 requires one fabric with one MDYD. Petitioner never used the equivalent-diameter convention in any Petition calculation, and its conventions cannot all describe the same fabric; either way, Petitioner fails.

Convention	Loop Density Result	Versus the Claims
Horizontal-only diameters	Above 90%	outside claim 1, and “above the stated range” of claim 12
Vertical-only diameters	70.8%	below claim 12’s 72% floor
“Equivalent diameter”: the circle with the same area as the yarn’s cross-section	inside	a construct appearing nowhere in EX1003 or the Petition

Sur-Reply, 22-23; POR, 22.

Granted or Denied, the Substitution Concedes the Petitioner's Methodology Could Not Carry Petitioner's Burden

GROUND 1

If the new analyses are struck

- The Petition's original analysis, which took its numbers from two different photographs, stands alone, and it already failed.

If the new analyses are considered

- They concede the originals could not carry the burden;
- They introduce a 12% inconsistency, past his own 10% cap;
- Their results straddle the claimed ranges.

Sur-Reply, 21-25; POR, 19-25.

Dr. Pastore Abandoned the Petition's Fourteen-Number Average so the Magnification Problem Could Be Ignored

GROUND 1

First deposition admission:
one magnification, or the ratio fails.

Q. ... You couldn't use the pixel measurements for the MD thread if they were done at a different magnification compared to the pixel measurements for the loop diameter; correct?

A. **The measurements have to be done at the same magnification, or from the same picture**, of course, is one way to accomplish that.

Q. And if they were not made at the same magnification, then those pixel measurements would not provide useful results in your analysis; correct?

A. **Not for that ratio calculation, no.**

EX2012, 195:15-196:4



Dr. Pastore
Albany's expert

Second deposition admission:
a new method to "completely ignore" it

Q. [I]s this the reason that you changed your methodology, because you weren't feeling assured with the numbers across the CD and the MD image as you were for your first declaration measurements?

A. **I introduced this method so that you wouldn't harass me about the difference between the potential magnifications. ... So we can completely ignore the question of magnification, or are they the same fabric.**

EX2023, 156:25-157:15

The new analysis rejects the original

Sur-Reply, 22; POR, 22.

Applying the Reply's Own Method to His Own First-Declaration Numbers Yields 95.9 Percent, "Clearly Over 90 Percent"

GROUND 1

The Reply's method × His first-declaration numbers = **95.9%**, "*clearly over 90 percent*"
(EX1053, ¶39) (EX1003)



Dr. Pastore
Albany's expert

- Q. ... [I]f you perform the calculation you did in paragraph 39 of your second declaration on the numbers that you reported in your first declaration, the loop density calculation value would be 95.9 percent.
- A. **If you say.**
- Q. And **95.9 percent is clearly over 90 percent.** Would you say that?
- A. **Yes...**

EX2023, 76:16-25

Sur-Reply, 22.

One Fabric, One MDYD: Dr. Pastore's Numbers Cannot All Be Right

GROUND 1



Dr. Pastore
Albany's expert

Q. I'm talking about the MDYD variable. The physical fabric has threads that have a single MDYD diameter value. Correct?

A. **It appears that way, yes.**

* * *

Q. So between your first and your second declaration, you present a value of 85 percent, 90 percent, and 80 percent for the same loop density variable of the same seam. Correct?

A. **Yes.** ...

EX2023, 86:4-9; 89:7-12

Sur-Reply, 23.

Dr. Pastore Does Not Use One Consistent MDYD, and the Claims Require One

- Dr. Pastore's loop density and LD/MDYD calculations use different thread diameters (MDYD)



Dr. Pastore
Albany's expert

Q. The last sentence [of ¶49] reads, "Because of this relationship, it is appropriate to treat [horizontal and vertical] diameters as non-independent and to collectively average them together." Can you explain what you mean?

A. ... **They are not independent values.** They depend upon each other. You cannot increase one without decreasing the other. So they are not independent values.

* * *

Q. Okay. In ground 1, for the calculation of the LD/MDYD ratio, you only considered the vertical diameter of the MD thread. Correct?

A. **Yes. Because that's what's visible in the image.**

Q. ... [S]o the MDYD value that you used to calculate the loop density number of Claim 1 is different from the MDYD value you used to calculate the LD/MDYD ratio in grounds 1 and 3. Correct?

A. **Yes.**

EX2023, 79:21-80:4; 81:3-8; 90:6-12

Sur-Reply, 22, 24-25.

One Claimed Loop Density: Different Images, Different Conventions, Different Values

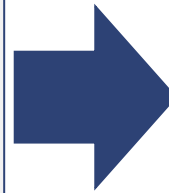
GROUND 1

PETITION
(first declaration)

Adanur CD image

Fourteen-
number
Average → ~85%

Petition, 37-38; EX1003



REPLY
(second declaration)

P-TACTS files

Three
conventions → Reported “0.90 = 90%”;
→ Corrected input 90.35%
→ 70.8%;
→ 80%.

EX1053, ¶¶35-52 (¶39); EX2023, 68:11-69:5; Sur-Reply, 22-24

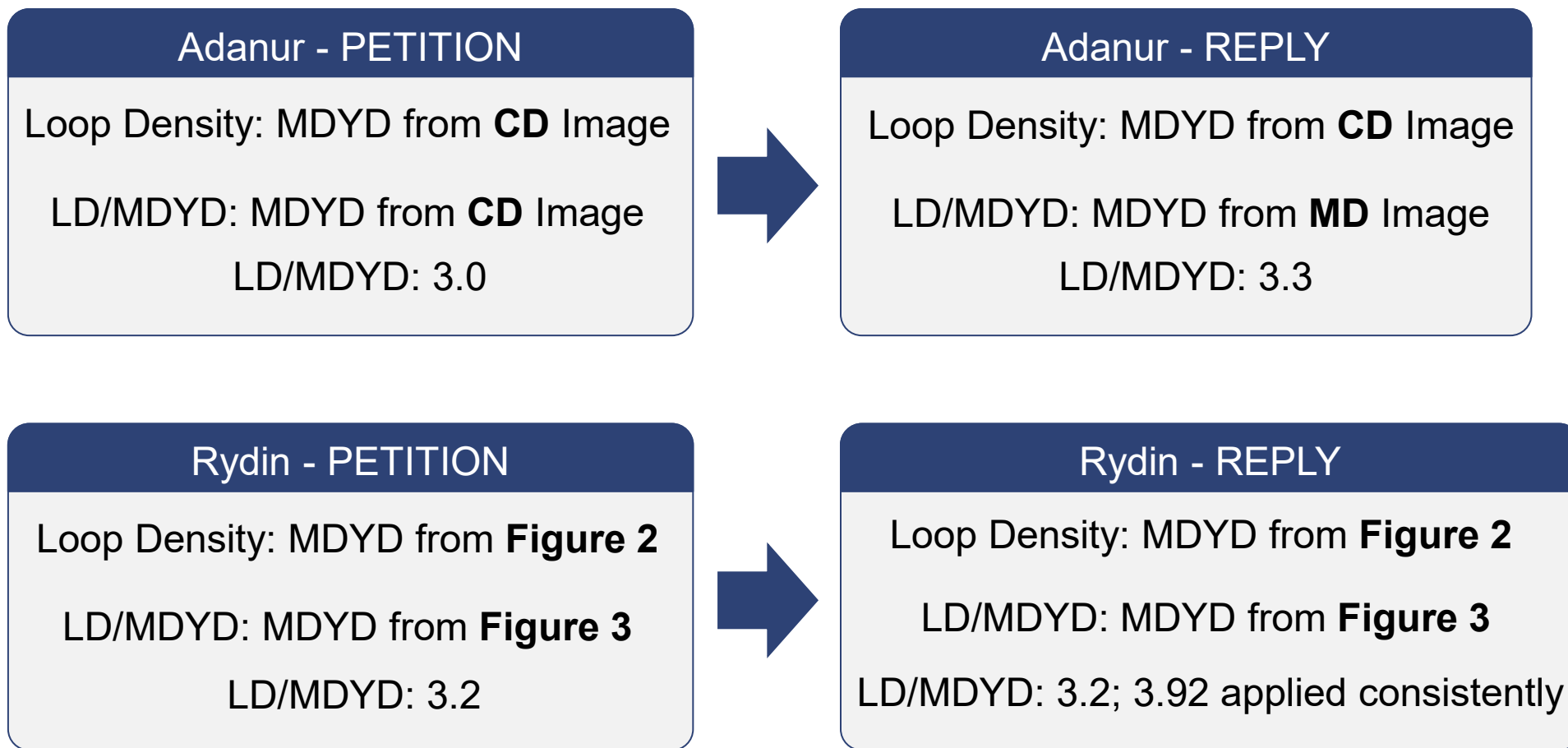
Between the two declarations he presented 85 percent, 90 percent, and 80 percent for the same loop density variable of the same seam. (EX2023, 86:4-9; 89:7-12.)

Sur-Reply, 21-25; POR, 20-26; Motion to Strike (Paper 34).

One Claimed Variable, One Fabric: Petitioner's Calculations Used Different Images, Different Conventions, and Different Values

FOUNDATIONS 1 & 3

- Claim 1 feeds one MDYD into both limitations. (EX1001, Claim 1, 10:9-13.)



Sur-Reply, 21-25; POR, 20-26; Motion to Strike (Paper 34).

During Cross-examination, Dr. Pastore Took Conflicting Positions On Where MDYD Comes From

THE MDYD INCONSISTENCY

- Dr. Pastore first testified: on cross, the patent “is not clear”; on redirect, an equal-area definition he never used; either way, Petitioner fails.



Dr. Pastore
Albany's expert

Q. ...[W]hen you look at the fraction of the seam width that is occupied by threads, the relevant diameter of the thread is the horizontal diameter. Right?

A. **Difficult to say. The patent instructs us to take 2 times the diameter. But does not specify what they mean by diameter for a yarn that is not perfectly circular.**

* * *

A. **So it's not clear what is the proper diameter to use from the teachings of the patent.**

* * *

A. **The patent is not clear on what diameter means in this sense.**

* * *

A. **I'm saying that the patent is not clear on what diameter means in the case of a noncircular filament.**

EX2023, 72:10-20; 73:2-4; 73:15-16; 73:20-23

Sur-Reply, 23.

On Redirect He Embraced a Definition He Never Used: Equal Area Does Not Appear in His First Declaration or Petition

THE MDYD INCONSISTENCY



Dr. Pastore
Albany's expert

Q. Okay. And does the patent teach you to use for calculating the diameter of that monofilament 1 millimeter?

A. **No, it tells us to use the equivalent diameter, the 1.12 millimeters.**

* * *

A. **That's what the patent appears to say in column 2.**

Q. And that's your understanding. Correct?

A. **Yes.**

EX2023, 231:5-11; 233:21-25

'566 Patent

For monofilaments which deviate from the round shape, or else for threads twisted from multiple monofilaments, the diameter of the thread should be understood to be the diameter of that circle which has **the same area** as the cross section of the thread or as the sum of the cross sections of the individual monofilaments.

For a monofilament having a square cross section and 1 mm edge length, the following diameter D would thus result:

$$A = 1[\text{mm}^2] = \pi r^2 \Rightarrow r = \sqrt{\frac{1}{\pi}} [\text{mm}] \Rightarrow D = 2r \approx 1.12[\text{mm}]$$

EX1001, 2:31-44

Sur-Reply, 24.

Either Way Petitioner Fails: The Reply Does Not Use the Equal-area Diameter for the LD/MDYD calculations

THE MDYD INCONSISTENCY

If The Patent Leaves The Measurement Open

- He supplied his own conventions, without any basis.
- Even then, his choices land outside the claimed boundaries.

If MDYD Is The Equal-area Diameter

- His first declaration never used it; every Petition calculation used something else.
- The photographs cannot supply it for the LD/MDYD ratio: Neither the MD image (Adanur) nor Figure 3 (Rydin) shows a cross section.

Sur-Reply, 24.

Paragraph 39 Reports “0.90 = 90%” to Two Significant Digits, and a Loop Density Greater than 90 Percent Falls Outside the Claimed Range

39. This resulted in the calculation of a loop density of approximately:

$$\frac{2 \times 6 \times 43.0}{573} = 0.90 = 90\%.$$

* * *

41. This is consistent with my initial measurement of the loop density as approximately 85% (EX1003, ¶130), and it still falls within the claimed loop density range of 64-90%.

Pastore Reply Decl. (EX1053), ¶¶ 39, 41

$$\frac{2 \times 6 \times 43.00}{573} = 0.9005 > 90\%$$

Correct calculation

Q. A loop density value of less than 64 percent falls outside the claimed loop density range. Correct?

A. It would be below the claimed loop density range, yes.

Q. A loop density value greater than 90 percent falls outside the claimed loop density range. Correct?

A. Right. Those two values would encompass the claimed range. If they were presented.

* * *

A. ... These numbers are estimates. The calculations are presented with a certain resolution, in this case two significant digits. And within two significant digits, it is equal to 0.90.

Q. So when you performed the actual calculation, you were aware that this number is greater than .9000?

A. I believe I had -- I believe I did this in Excel and had it set to two decimal points.

* * *

Q. But the claim language doesn't say approximately 90. Correct?

A. I don't think it does, no.

Q. And I asked you before, a number greater than 90 would fall outside of claims. Correct?

A. A number greater than 90 would in fact be greater than 90, yes.

Pastore Dep. Tr. (EX2023), 54:11-21; 58:13-18; 59:18-60:3

Sur-Reply, 24.

“Not a single one” of EX1053’s Table Averages Is Correct, After Dr. Pastore Testified He Checked Them All



Dr. Pastore
Albany’s expert

Q. Did you perform the numeric calculations in your declaration?

A. **Yes.**

Q. Did you check them before signing your declaration?

A. **Yes.**

* * *

Q. So the values that you recorded on table 50, not a single one of that values for the average values are correct?

A. **That’s right.**

EX2023, 11:13-18; 66:25-67:4

50. One way to handle ellipses is by calculating their equivalent diameter

($d_{eq} = 2 \sqrt{r_a r_b}$). This would not have changed my conclusion, as shown in the table below.

	Yarn widths (pixels)				Different between width and equivalent diameter
	width	height	equiv	avg	
	44	37	40.3	40.5	0.15
	44	31	36.9	37.5	0.57
	42	31	36.1	36.5	0.42
	44	34	38.7	39	0.32
	43	34	38.2	38.5	0.26
	41	36	38.4	38.5	0.08
	44	33	38.1	38.5	0.39
average	43.00	33.83	38.12	38.42	0.30
st. dev.	1.21	2.29	1.35	1.24	

51. This shows that by simply averaging the width (horizontal) and height (vertical) diameters, I obtain an average diameter of 43 pixels. Using the equivalent circle method, I obtain a 38.12 pixel diameter. The error is less than 1%.

Pastore Reply Decl. (EX1053), ¶¶ 50-51

Sur-Reply, 24.

With the Corrected Input, the Loop Density Reported as “0.90=90%” Becomes 90.35%, Above the Claimed Ceiling

GROUND 1

$$\frac{2 \times 6 \times 43.14}{573} = 90.35\% > 90\%$$



Dr. Pastore
Albany's expert

Q. ...If you used the right number for the average horizontal diameter, the number you'd get would be 90.35 percent. I represent that to you.

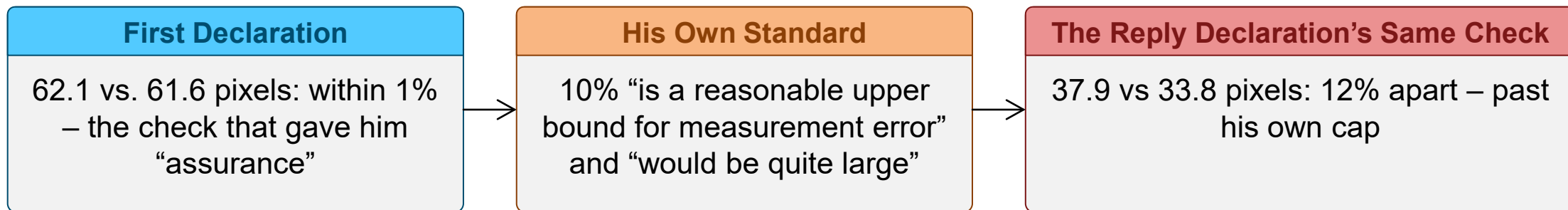
A. **Yes, that sounds right.** Of course it would still be 90 percent. But yes, I think you are correct.

EX2023, 68:18-25

Outside

Sur-Reply, 24.

1% Became 12%: Past the 10% Bound He Called “Quite Large”



EX2023, 127:20-128:2



Dr. Pastore
Albany's expert

- Q. The absolute pixel counts do not matter. A ratio between two measured dimensions will remain the same regardless of the absolute numbers of pixels. Correct?
- A. **Correct.**
- Q. ...[I]f absolute pixel counts do not matter and you're taking the ratios, how come a consistency of less than -- of less than 1 percent by performing the new measurements went all the way up to 12 percent?
- A. Because the images extracted from the P-TACTS downloaded system had a lower resolution than what I used in declaration 1. And lower resolution is going to result in a coarser measurement, more measurement error. . . .
- Q. ... So it's because of your -- it's because of the measurement error that your consistency from less than 1 percent is going all the way to 12 percent?
- A. **Apparently.**
- Q. Apparently.
- A. **Yes.**

EX2023, 142:18-23; 154:4-16; 155:12-20

Sur-Reply, 24-25.

Applied Consistently, His Own Rydin Values Yield a 3.92 Ratio, Outside the Claimed Range



Dr. Pastore
Albany's expert

Q. The basis that made you conclude or at least offer an opinion that the fabrics in Adanur may be the same fabric are because they are included in the same figure. Correct?

A. **Correct.**

Q. There is no basis in Rydin to make the same conclusion. Correct?

A. **Correct.**

EX2023, 100:20-101:4

- Dr. Pastore used two different diameters for the one claimed variable, taken from figures he admitted may be “different fabrics”.

$$\text{LD 167 px} \div \text{MDYD 42.6 px} = 3.92 \rightarrow \text{outside the claimed 2.7 to 3.6}$$

- The Reply's “confirming” 3.2 remeasured his own annotated first-declaration screenshot, not the Rydin exhibit.

Sur-Reply, 25.

Petitioner's Arguments Fail to Render the Challenged Claims Obvious

- **The '566 Patent Background:** Addressed an unsolved seam problem through new and interrelated parameters (LD/MDYD and loop density)
 - **Ground 2 (SUDRE + LEE + PENVEN) Fails:**
 1. Lee's values belong to a non-woven array with no application to Sudre's woven fabric
 2. No presumption of overlapping range as Lee does not disclose these ranges
 3. Petitioner's conventionality claim is unsupported
 - **Grounds 1 (SUDRE + ADANUR) and 3 (SUDRE + RYDIN) Fail:**
 1. The references are silent; the photographs cannot reliably supply the parameters
 2. The Reply's new analyses are improper, and admittedly new
 3. Either way, Dr. Pastore's numbers straddle the claims
- **Secondary Considerations Support Nonobviousness:** The long-felt-need and industry-migration showings stand unrebutted

Secondary Considerations Support Non-Obviousness: a Long-Felt Unmet Need, Unexpected Results, and Nexus



Long-felt, unmet need:

the seam's known weaknesses went unaddressed until the '566 patent, and others pursued alternatives instead (POR § VIII.B, 74-75)—**UNREBUTTED**



Unexpected results:

the invention identified a previously unrecognized controlling variable, and the claimed range achieves a non-predictable balance of competing seam objectives (POR § VIII.C, 75-77).



Nexus:

the ratio and its range are expressly claimed and directly tied to the improved results (POR § VIII.C.4, 77).

Claim 14 - Petitioner Conflates Two Distinct Structures in Lidar's Batt Layer: Nonwoven Batt Fibers and Reinforcing Yarns

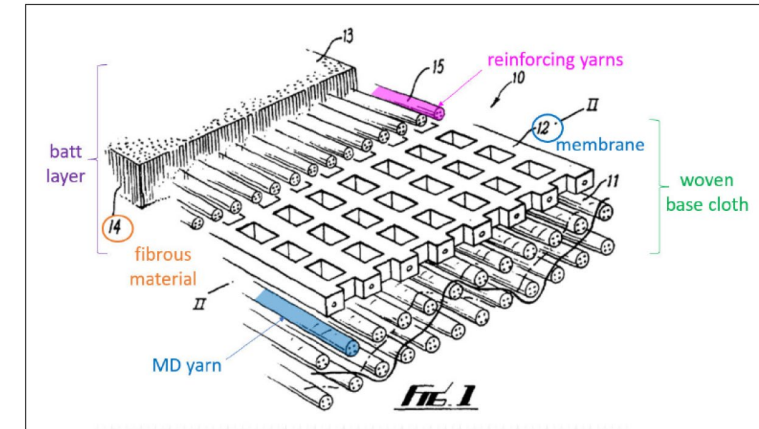
'566 Patent, Claims 13-14

13. The clothing according to claim 1, which further comprises one or a plurality of layers of nonwoven fibers disposed at least on an upper side of the clothing for contacting the web.

14. The clothing according to claim 13, wherein at least some of said nonwoven fibers include or are formed of an elastomer or a polyurethane.

EX1001, Claim 14, 10:55-57

Fibers and yarns are distinct structures:
Elastomeric/polyurethanic materials are associated exclusively with reinforcing yarns (15); the batt fibers (14) are never described as elastomeric/polyurethanic.



Lidar, Figure 1 (Petitioner Annotated)

The reinforcing yarns in the batt preferably comprise a monofilament, multifilament, or twisted cabled yarn (monofilament and/or multifilament component) which may be at least partially encapsulated in and/or may be at least partially impregnated with polymer. Twisted monofilament yarns are preferred. This polymer preferably comprises one or more of the following: polyurethane (e.g. thermoplastic polyurethane), polyester or copolyester, polyamide or copolyamide, silicone or thermoplastic elastomer. The yarns of the non-woven array are preferably coated with an elastomeric polymer, particularly when the optional thermoplastics mesh layer is not present.

Lidar, (EX1014), 2:19-30, Figure 1

POR, 26-27; Sur-Reply, 25-26.

The Reply's Claim 14 Case Rests on Evidence Appearing Nowhere in the Petition, and Even That Evidence Confirms Fibers Are Not Yarns.

V. LIDAR RENDERS CLAIM 14 OBVIOUS

The Petition established the obviousness of claim 14, in all three sets of grounds, based on the elastomeric reinforcing yarns of Lidar's batt layer. Petition, 66-68. Voith's argument that yarns are not fibers (POR, 27) relies on an artificially restrictive—and uncorroborated—definition. In the textile arts, a fiber is simply the “fundamental component that is used in the assembly of textile yarns and fabrics.” EX1063, 3; EX1053, ¶¶73-74. A yarn (*e.g.*, Lidar's elastomeric reinforcing yarns) is merely a structural arrangement of one or more fibers. EX1061, 9-11; EX1062, 2:2-9; EX1053, ¶¶73-74. Voith's attempt to impose a false dichotomy between fibers and yarns collapses.

Reply, 26

fiber 1. The fundamental component that is used in the assembly of textile yarns and fabrics. 2. (Specific) A unit

EX1063, 3

- Every authority is post-Petition; it should be disregarded
- Petitioner's own definition makes fibers the components that assemble into yarns — two different structures — so calling Lidar's reinforcing yarns elastomeric does not make the batt's nonwoven fibers elastomeric.

A definition that makes fibers the components of yarns confirms they are not the same thing

POR, 26-27; Sur-Reply, 25-26; Reply, 26.

Every Route to the Claimed Parameters Runs Through Dr. Pastore's Litigation-Generated Numbers and Fails

Lee's array values into Sudre's weave	No motivation; no woven values
Lee conventionality corroborators	None discloses the claimed parameters
The calculated spans	Not prior-art ranges; impossible fabrics included
Adanur pictures	Straddle: above 90%, 70.8%, or a construct in no paper
The MDYD definition	Three conventions, three answers; only the unbriefed construct lands inside
The Reply's corrected arithmetic	90.35%, above the ceiling
Rydin: his own values, applied consistently	3.92, outside the range

The Board Should Confirm the Challenged Claims

-  Lee's numbers belong to a glued, non-woven array. Nothing in the record carries them into Sudre's weave, and taken at face value they yield 2.54, outside the claimed range.
 -  No reference discloses either claimed parameter. Every number in the case was generated for this litigation, and Dr. Pastore's own conventions land on both sides of the claims.
 -  Claim 14's elastomer is in the wrong structure, on evidence the Petition never presented.
-  **Patent Owner requests that the Board confirm the patentability of claims 1-15.**

BACKUP SLIDES

Appendix Index

Topics	slide(s)
Public accessibility of Adanur and Rydin	100-101
Whether Voith preserved the overlap dispute	102
Recognition of LD/MDYD as a result-effective variable	103
Motion to strike: overview and the rule limiting reply evidence	104-105
The three categories of new material: (1) the 3.3 ratio; (2) the replacement measurements; (3) the Rydin measurements	106-108
Prejudice from the late disclosure	109
Every measurement made on files outside the record	110

The Petition's Entire Showing: A Single 20-Word Line and Two Never-Explained Declarations

- It is Petitioner's burden to prove Adanur and Rydin were publicly accessible prior art.
- The Petition's entire printed-publication showing:

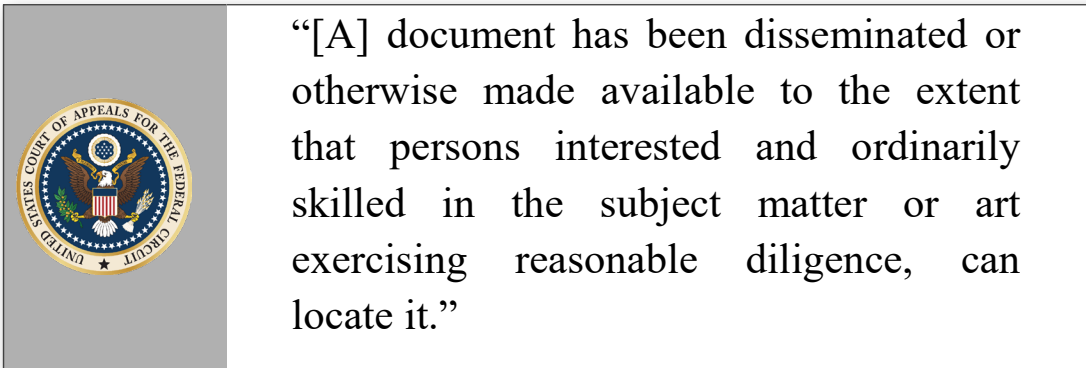
Adanur (EX1021) and Rydin (EX1028, EX1027) were publicly available as of 2017 and 1992, respectively. *See* EX1030 ¶¶9-11, EX1031, ¶¶6-9.

Petition, 3

- Arguments may not be incorporated by reference
– 37 C.F.R. § 42.6(a)(3); POR, 78-79.

Public Accessibility Requires More than Technical Accessibility

- What the law requires:



SRI Int'l, Inc. v. Internet Sec. Sys., Inc.,
511 F.3d 1186, 1194 (Fed. Cir. 2008)

- What Petitioner's evidence shows:

- The Munford declarations “merely describe catalog record creation processes and the declarants' opinions as to receipt dates.” (POR, 79.)
- Nothing ties catalog searchability to any date before March 15, 2018. (POR, 79-80.)



Could an interested searcher actually find it?

- “Public accessibility requires more than technical accessibility.”
 - *Guardian Alliance Techs. v. Miller*, IPR2020-00031, Paper 23, *8 (PTAB Mar. 26, 2020)

Voith Disputed the Overlap, in Both Papers

E. Petitioner's Calculated Spans Are Not Disclosed Prior-Art Ranges.

Contrary to Petitioner's claims, Voith disputes that the Sudre-Lee-Penven combination teaches a range encompassing the LD/MDYD ratio. (Reply, 17, 20.)

No reference teaches the claimed feature in an overlapping amount.

Sur-Reply, 13

- The Response likewise argued that no cited reference disclosed the required ratio, and that extrapolating it from partial ranges is guesswork. (POR, 37, 46.)

POR, 37, 46.

The Art Never Recognized LD/MDYD as a Variable at All

- No reference prints an LD/MDYD value or a method of deriving one.
- Recognition of the variable was “essential” to *Antonie*’s optimization rule.



Dr. Pastore
Albany’s expert

Q. There’s no explicit teaching, though, to a POSITA to relate these two physical features; correct?

A. **There’s nothing in the literature that suggests someone should divide one by the other.**

Q. You didn’t find any specific example that discusses the ratio of LD/MDYD; correct?

A. **Correct. I never saw anyone do that calculation --**

The Motion to Strike Should Be Granted, and Either Way the Grounds Fail

1. **Granted:** the newness is not disputed; it is admitted
 - EX1053's own paragraphs and footnotes concede the analyses are new. (Paper 34, 1, quoting EX1053, ¶¶35, 67 and nn.2-3.)
2. **Even considered:** the replacement analyses were run on files never made of record and carry admitted errors. (Sur-Reply, 20-25.)
3. **Either way:** Grounds 1 and 3 retain the same deficiencies. (Papers 34, 36; Sur-Reply, 21-25.)

A Reply May Respond; It May Not Proceed in a New Direction to Complete a Prima Facie Case



“A reply may only respond to arguments raised in the corresponding ... patent owner response.”

37 C.F.R. § 42.23(b)



A reply may explain how the petition was correct; it may not advance “an entirely new theory of prima facie obviousness absent from the petition.”

Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc., 853 F.3d 1272, 1286 (Fed. Cir. 2017);



The bar applies “even if the new theory is responsive to the patent owner’s response or the Board’s institution decision.”

Corephotonics, Ltd. v. Apple Inc., 84 F.4th 990, 1008 (Fed. Cir. 2023)

Here the newness is not merely beyond dispute; it is admitted.

Motion to Strike, 1-4; 37 C.F.R. § 42.23(b).

The Reply's Single-Image 3.3 Ratio Is a New Theory That Contradicts the Petition

(1) THE NEW 3.3 RATIO (EX1053, ¶¶9-15)

The Petition:

- LD from the MD image;
- MDYD from the CD image;
- Ratio 3.0.
- (Petition, 37-38; EX1003, ¶135.)



The Reply:

- A ratio of 3.3 “derived solely from Adanur’s MD image,” appearing for the first time in EX1053, ¶13. (Reply, 3.)

Petitioner says the 3.3 ratio just confirms the Petition. But it contradicts the Petition’s own method and its 3.0 ratio result. A confirmation that contradicts is a new theory. (Papers 34, 36).

Dr. Pastore measured Adanur’s LD solely from the MD image. EX1003, ¶¶68-69. Moreover, while he utilized MDYD measurements from the CD image for statistical robustness, diameters measured from the MD image (62.1 ± 3.0 pixels) agreed with diameters measured from the CD image (61.6 ± 2.8 pixels). *Id.*, ¶71. Using the CD image diameter measurements, Dr. Pastore calculated an LD/MDYD of 3.0, squarely within the claimed 2.7-3.6 range. EX1003, ¶135. The result is the same when the MD image measurements are used—a ratio 3.3 that still satisfies the claimed range. EX1053, ¶¶9-13. Whether the two images are of the same fabric is irrelevant.

Reply, 3-4.

Motion to Strike, 1-3; Sur-Reply, 21-22; Reply, 3-4.

The Replacement Measurements Failed Their Own Author's Standards

(2) THE REPLACEMENT MEASUREMENTS (EX1053, ¶¶35-52)

■ The Petition:

- Fourteen diameters averaged;
- Assurance check within 1%



■ The Reply:

- New measurements of downloaded files;
- Three conventions;
- Check off by 12%



Replacement data offered after errors were discovered “exceeded the proper scope of a reply.”

Corning, IPR2013-00052, Paper 88, 11-14, as quoted in Paper 34

Albany calls this responsive validation. Replacing data after errors were found is exactly what *Corning* forbids. (Paper 34, 3-4.)

Sur-Reply, 24-25.

The Reply's Rydin Measurements Are New, and They Measured Files Outside the Record

(3) THE NEW RYDIN MEASUREMENTS (EX1053, ¶¶67, 69-70)

■ The Petition:

- Measured screenshots that were never filed;
- Calculated a 3.2 ratio;
- Used two different diameters for one claimed variable. (EX1003, ¶381; Sur-Reply, 25.)



■ The Reply:

- “My new measurements” of a downloaded file, with pixel counts Dr. Pastore admits are different.

Either version fails -- the two figures may be “different fabrics,” and one diameter used consistently gives 3.92, outside the range

Petitioner's New Arguments Unduly Prejudice Voith

- Voith could not answer with evidence; the rule bars new sur-reply evidence except cross-examination transcripts.
 - 37 C.F.R. § 42.23(b).
- Cross-examination does not cure the late disclosure.
 - *In re NuVasive, Inc.*, 841 F.3d 966, 970-73 (Fed. Cir. 2016).
 - *Dell Inc. v. Acceleron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018).

Every Measurement in the Case Was Made on a File Outside the Record

Measurement	What was Actually Measured	Filed?	Testimony
First Declaration (Adanur)	A screenshot of a digital copy of Adanur	Not filed	EX2023, 118:17-119:24
Second Declaration (corrections)	An extracted JPEG (an extraction he never confirmed matches the filed exhibit's resolution) , measured with his own tools; opening the record PDF directly might yield numbers “off by a little bit or a lot”	Not filed	EX2023, 22:10-21
The Reply's Rydin “confirmation”	His own annotated first-declaration screenshot, reused	Not filed	EX2023, 129:25-135:9
The filed exhibits themselves	His footnotes concede the exhibits as filed yield different counts	—	EX1053, ¶¶ 29, 35, 67 nn.1-3
Workbook and calibration data	Never produced	—	EX2023, 161:16-162:20; 214:3-7



“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”

37 C.F.R. § 42.65(a).

Sur-Reply, 19-21.