Multi-Color Corporation,
v.
Brook & Whittle Limited

PGR2025-00025

U.S. Patent No. 11,961,422

Petitioner's Demonstratives

August 7, 2026

Instituted Grounds

PGR2025-00025 ('422 Patent)			
Ground	**Claims Challenged**	**Basis**	**Applied References**
1	1-3, 5-19	§§ 102	Gatorade Label
2	4	§ 103	Gatorade Label and Knowledge of a POSITA, including Mitchell et al. (US 2017/0223879)
3	4	§ 103	Gatorade Label in view of the Febreze Label
4	1-19	§ 112	Indefiniteness

Patent Owner's Evolving Proposed Claim Construction

Patent Owner has offered the following proposed claim constructions for the term "recyclable":

PO initially explains that a label is recyclable if it is **"capable of being recycled without removing the label from a container before or during the recycling process."**

POPR (Paper 8), 12; POR (Paper 34) 13-14.

↓

PO then adds that recyclability **"would naturally *include* requiring the label includes inks that wash off the label such that the reusable resin can be reclaimed when the label and container are recycled together."**

POR, 13-14.

↓

PO next explained that its proposed construction is consistent with the construction entered in the EDTex litigation, being, **"the shrink label is capable of being recycled without separating the shrink label material from a PET container material before or during the recycling process."**

POR, 13-14.

↓

In its Sur-reply, PO explained that its recyclability construction requires **"inks that wash off the label such that the reusable resin can be reclaimed when the label and container are recycled together."**

Sur-reply (Paper 65), 2-3.

↓

Then again in its Sur-reply PO explained that **"A POSITA understands a label is recyclable if it results in reusable resin after the recycling process."**

Sur-reply, 21

The Gatorade Label Is APR Recognized and “Recyclable”

The Gatorade Label is a commercially sold recyclable shrink label that the APR recognized as **meeting or exceeding its Critical Guidance Protocol** for recyclability.

SKC Ecolabel™ sleeve

The Gatorade Label is an SKC Ecolabel™ sleeve label.

Petition at 31; EX1016; EX1013 ¶56

APR Critical Guidance recognition

The Association of Plastic Recyclers (APR) recognized this label as **meeting or exceeding** APR’s Critical Guidance Protocol for Clear PET Articles with Labels and Closures requirements.

Petition at 31; EX1018; EX1013 ¶56

Silver ink passes APR testing

The Watson Standard Technical Data Sheet demonstrates that the silver ink used with the Gatorade Label **passes recyclability / bleed testing** under the APR-established protocol.

Petition at 31; EX1019; EX1013 ¶57

The Gatorade Label

- SEM measurement puts the film at ~40–60 µm — the middle of the claimed range.
- Those measurements also identified the recited “first surface” and opposite “second surface” defining that thickness.

Petition, 17-20; EX1014, Appendix B; Reply, 4-5.

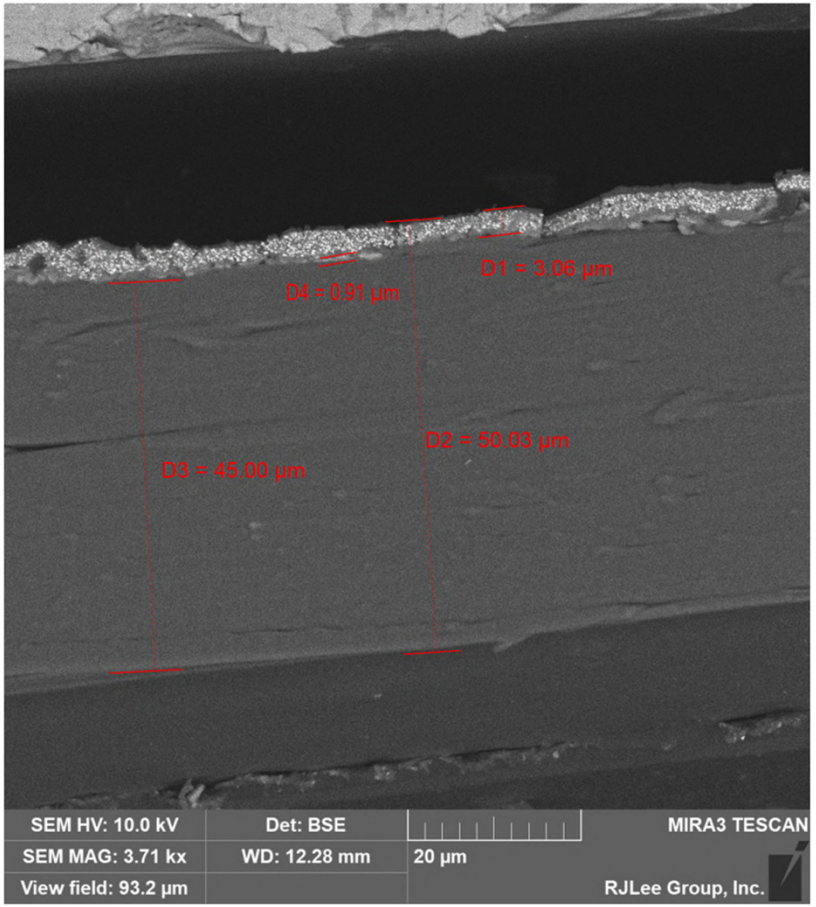


Figure 5c. SEM image of 3191167 cross section.

The Gatorade Label

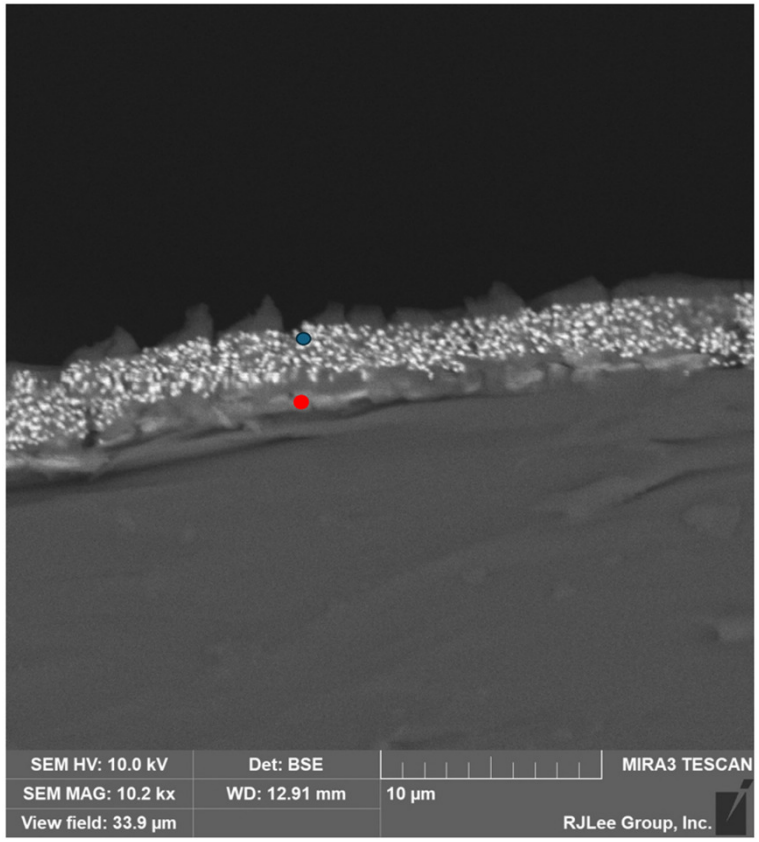


Figure 6c. SEM image of 3191167 cross section. Image is oriented such that the PET film is on the bottom of the image, and the surface at the top of the image is the surface that would contact the substrate.

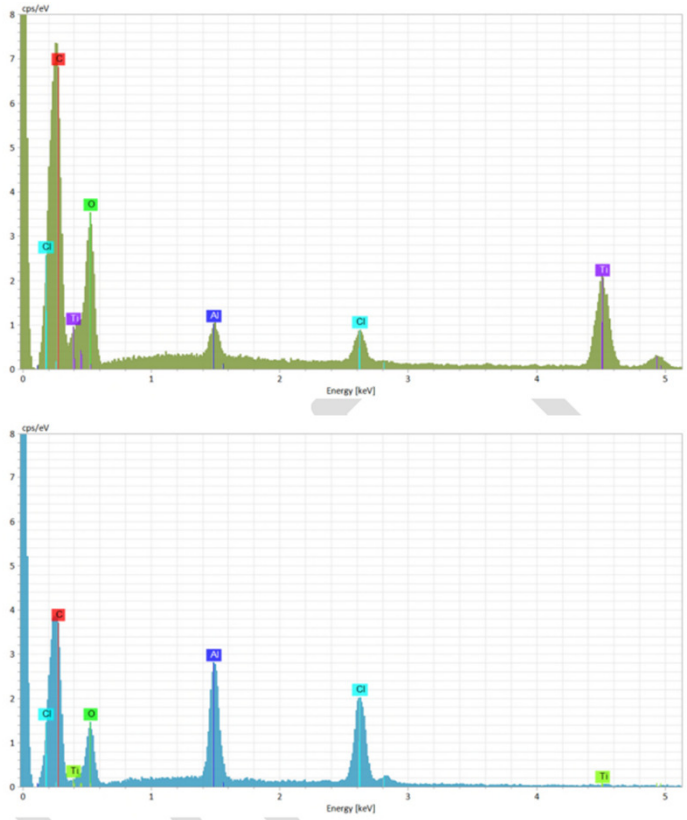


Figure 6c (cont). Top: EDS analysis of 3191167 collected from the area of the green circle, showing titanium dioxide high opacity layer. Bottom: EDS analysis of 3191115 collected from the area of the red circle, showing aluminum light blocking layer.

The Gatorade Label

- Figure 5C measures PET film thickness (D3) from the first surface to the opposite second surface.

Reply, 4-5.; EX1046, ¶15.

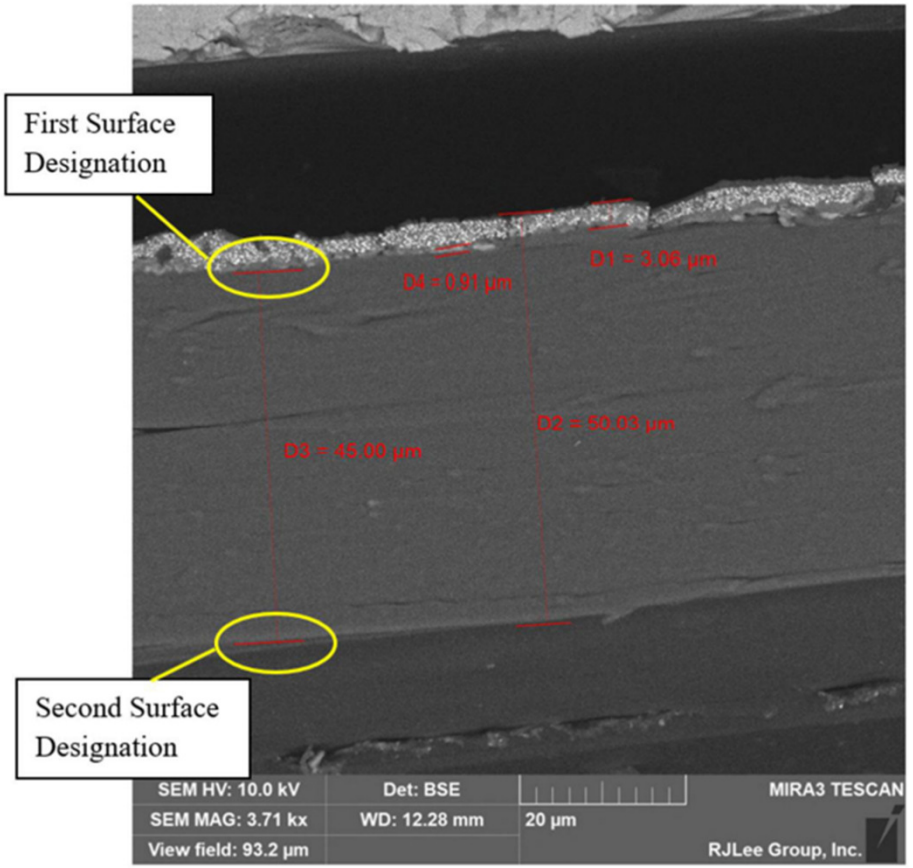


Figure 5c. SEM image of 3191167 cross section.

The Gatorade Label

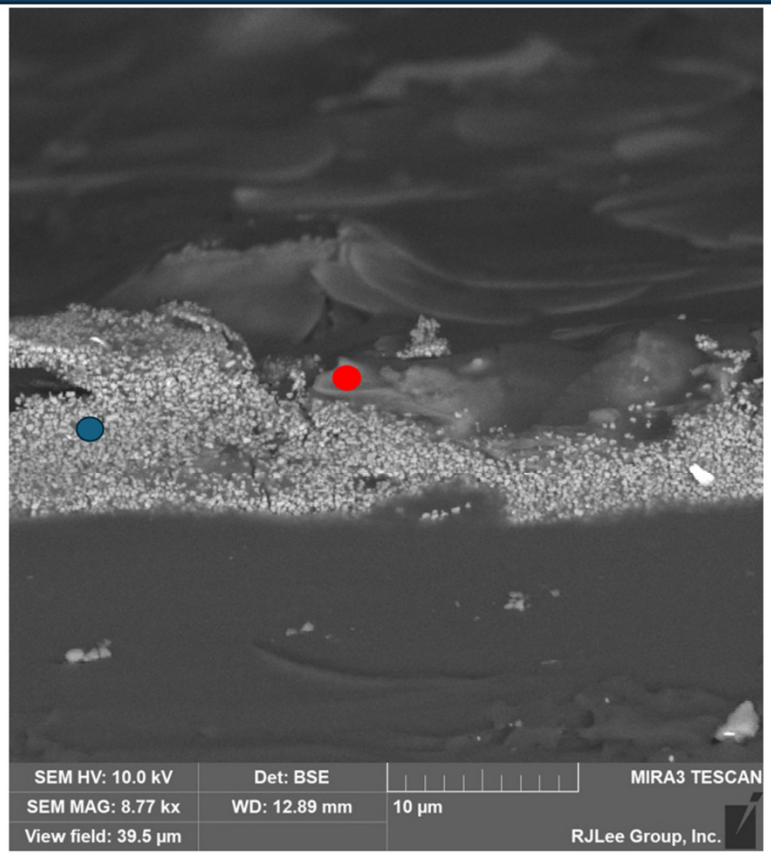


Figure 6a. SEM image of 3191115 cross section. Image is oriented such that the PET film is on the bottom of the image, and the surface at the top of the image is the surface that would contact the substrate.

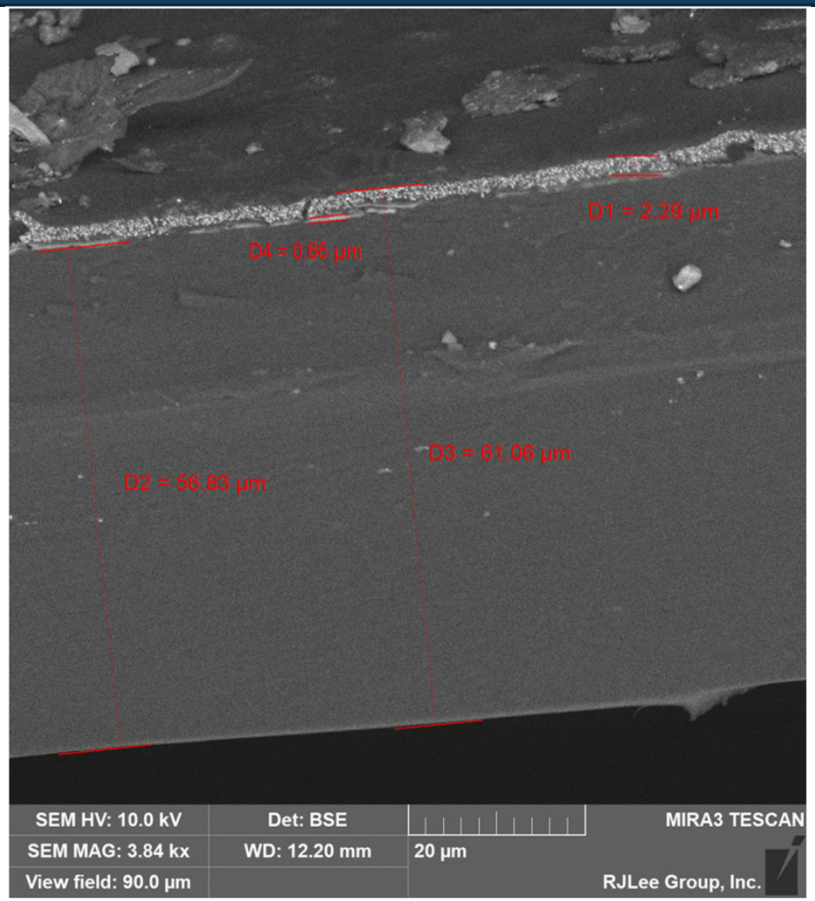


Figure 5d. SEM image of 3191176 cross section.

Examiner Determined that Re-Orientation is Obvious

The Examiner cited Mitchell et al. (US 2017/0223879) during prosecution of the application that issued as the '422 patent. The Examiner determined:

> *"[i]t would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to provide the metallization layer (high opacity layer) such that it is positioned between the printing (indicia layer) and the third layer/skin (7; light blocking layer) to ensure the printing is visible and provide (sic) a metallic look to the label."*
>
> *EX1002, 239.*

Ground 4: Indefiniteness

Independent claims 1 and 19 each recite "wherein the recyclable shrink label is recyclable."

Claim 1

1. A recyclable shrink label comprising:
a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface, the heat shrink film having a thickness from 15 μm to 100 μm; and
a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, wherein the light blocking component comprises a particulate having a particle size of 0.1 μm to 100 μm, wherein the particulate comprises metal, metal oxide, a reflective pigment, carbon black, mica, or a combination thereof, and
wherein the recyclable shrink label is recyclable with a PET container.

EX1001

Claim 19

19. A recyclable shrink label comprising:
a heat shrink film comprising polyethylene terephthalate (PET) and having a first surface and a second surface opposite of the first surface, the heat shrink film having a thickness from 15 μm to 100 μm;
a light blocking layer disposed adjacent the first surface and comprising a light blocking component, the light blocking layer being constructed for the recyclable shrink label to block at least 80% of incident light having wavelengths in a range of 200 nm to 900 nm, and
a high opacity layer comprising a white pigment,
wherein the recyclable shrink label is recyclable with a PET container.

EX1001

Indefiniteness: The *Nautilus* Standard

Both parties' experts confirm that "recyclable" has multiple possible meanings making it impossible for a POSITA to determine a definitive meaning and thus the scope of the claims.

> *A claim is indefinite if its language "might mean several different things and no informed and confident choice is available among the contending definitions."*
>
> *Nautilus, 572 U.S. at 911 n.8 (2014); Petition at 53*

> *The public-notice function: a patent must be "precise enough to afford clear notice of what is claimed," thereby "apprising the public of what is still open to them."*
>
> *Nautilus (quoting Markman v. Westview Instruments, 517 U.S. 370 (1996)); Petition at 58*

The ’422 Patent Describes “Recyclable” in Several Disparate Ways

The ’422 patent provides several guidelines for “recyclable” without identifying which one governs.

1. No inks retained after caustic wash

   EX1001 at 6:61–65

2. APR PET-CG-02 compliance

   EX1001 at 11:29–53

3. SORT-B-01 (NIR sorting), SORT-B-03, “or both”

   EX1001 at 11:29–53

4. “Recyclable” and Fully recyclable”

   EX1001 at 11:29–53

5. Washable inks + reusable resin

   POR, 75, 80

6. Free / “substantially free” of non-washable inks

   EX1001 at 11:29–53

7. Free / “substantially free” of unrecyclable colored plastics

   EX1001 at 11:29–53

Patent Owner's Expert Cannot Say What "Recyclable" Requires

Patent Owner's declarant, Dr. Phillips, could not identify any governing test, threshold, or authority for determining recyclability.

Is complete ink wash-off sufficient?	**A:** *"**It is not sufficient** for -- to determine that it's recyclable."*	*Phillips Dep. Tr. (EX1048) 91:16–92:1; 122:7–17*
Is PET-CG-02 sufficient? Is APR recognition required?	**A:** "*No, because there are other APR documents as guidance for testing for the recyclability of labels with PET containers.*"	*Phillips Dep. Tr. (EX1048) 99:15–20; 103:10–16; 97:7–11*
What are the quantitative criteria?	**A:** ***"I don't know the benchmarks. Those are dictated by the manufacturers."***	*Phillips Dep. Tr. (EX1048) 92:17–93:9; 43:14–18*
Who decides?	**A:** ***"Well, I guess I don't know who ultimately makes that determination."***	*Phillips Dep. Tr. (EX1048) 31:10–20*
What do the guidance criteria mean?	**No opinion** on "good results," "poor results," the flow diagram, wash-water thresholds, or the APR submission contents.	*Phillips Dep. Tr. (EX1048) 166:22–168:6; 157:2–10; 156:1–7*

The ’422 Patent Says PET-CG-02 Certifies Recyclability — PO’s Expert Disagrees

Dr. Phillips disagrees that satisfying PET-CG-02 alone is sufficient to certify recyclability.

THE ’422 PATENT:

“[T]he labels of the present disclosure can meet certain industry standards, including for example the Association for Plastic Recyclers (APR) Critical Guidance Protocol for Clear PET Articles with Labels and Closures (PET-CG-02), which ***can be considered as certifying that the film is fully recyclable*** *with the container or bottle.”*

EX1001 at 11:29–53; Petition at 54–55

Dr. Phillips Disagrees

Dr. Phillips:

Q: “Okay. Is it your opinion that if a label meets PET-CG-02, that is sufficient by itself to be recyclable, as that term is used in the '422 patent?”

A: “***No***, because there are other APR documents as guidance for testing for the recyclability of labels with PET containers.”

Q: “Okay. So a person of skill in the art doesn't understand that meeting PET-CG-02 is sufficient by itself for a label to be deemed recyclable, as that term is used in the '422 patent?”

A: “***Right.*** There are other tests delineated in the other documents, with specificity in the other documents.”

Phillips Dep. Tr. (EX1048), 99:15-20; 103:10-16.

No Objective Test Re: How Much Ink Needs to be Washed Off

Dr. Phillips admits that there is no objective test as to how much ink must be removed from the label for the label to be "recyclable."

DR. PHILLIPS (Patent Owner's Expert)

Q: "Okay. Is there an objective test as to how much ink and pigment must be removed from the label for the label to be potentially recyclable, as that term is used in the '422 patent?"

A: "The tests don't measure -- as I'm understanding your question, it sounds to me like you're asking me is there a certain quantity of ink on a label that has to be removed."

Q: "Yes, that's what I'm asking."

A: "And that's not what the tests measure. All right, the tests measures the consequence of the mixture after the fact and look at, like, quantitative features of the material after the washing step."

Phillips Dep. Tr. (EX1048) 92:17-93:9

PET-CG-02 Is a Subjective Guideline

The specification points to PET-CG-02 as the certification pathway, yet that guideline **incorporates subjective criteria at every step.**

THE '422 PATENT:

"[T]he labels of the present disclosure can meet certain industry standards, including for example the Association for Plastic Recyclers (APR) Critical Guidance Protocol for Clear PET Articles with Labels and Closures (PET-CG-02), which ***can be considered as certifying that the film is fully recyclable*** *with the container or bottle."*

EX1001 at 11:29–53; Petition at 54–55

BUT BOTH EXPERTS CONFIRM THE GUIDELINE IS SUBJECTIVE

Dr. Bushman: ***"It's not a standard. It's a guideline … there is potential for interpretation of how to conduct these tests."*** *EX2010 257:24–258:10*

Dr. Phillips: *"****It's pretty subjective****. I honestly don't know that I can answer that with much confidence."EX1048 106:9-11*

Dr. Bushman Has Served on the APR Review Board

Petitioner's expert, Dr. Bushman, testified from **firsthand APR review board experience** that recognition is a subjective judgment call.

> *"I've sat on the board before for making a determination of whether or not something was recyclable. And I had the experience where individuals on the board may not agree completely with the data. So there is a back and forth of whether or not it should be recognized."*
>
> *Bushman Dep. Tr. (EX2010) 239:3–19*

Dr. Bushman Has Served on the APR Review Board Continued

Dr. Bushman further confirmed:

> *So the APR, when it completes a Critical Guidance recognition, it is a determination in front of a board of three people who review the data that is supplied. And those individuals make a decision based on whether or not they are satisfied with the data. And those three people could be coming from a lot of different backgrounds.*
>
> *Bushman Dep. Tr. (EX2010) 239:3–19*

And further:

> *The example I would use would be a reclaimer who is recycling the products. That reclaimer may follow a different process for reclamation than their competitor from a standpoint of a recycler. So they would come with their own perspective in terms of how they are doing recycling within their own facility. And that's not necessarily how the whole market does it.*
>
> *Bushman Dep. Tr. (EX2010) 240:5–24*

“Recyclable” Depends on Who Decides

The same label, on the same data, can be “recyclable” to one evaluator and not another.



Dr. Bushman:

Different three-member APR panels “may evaluate the data received differently”? — ***“Absolutely”***;

“And could that lead to a panel of one group of three granting APR recognition and a different panel not granting APR recognition as to the same data?” — ***“I believe so.”***

Bushman Dep. Tr. (EX2010) 242:1–16; 262:18–263:11

A POSITA Has No Objective Standard for “Good” or “Poor” Results

According to Dr. Phillips, a POSITA does not know what “good results” or “poor results” are.

DR. PHILLIPS (Patent Owner’s Expert)

Q: “Okay. And in the last full paragraph, the second sentence states, quote: 'Good results in this screening test indicate that a plastic article has the potential to be sorted well in production conditions,' close quote. What does a POSITA understand to be good results?”

A: “Honestly, I don't have an opinion on this one. That's a topic that I do not know much about.”

Q: “Okay. And that should streamline things. The next sentence talks about poor results. I'm assuming you don't have an opinion regarding what constitutes poor results?”

A: “I do not.”

Phillips Dep. Tr. (EX1048) 166:22-167:16

Both Parties' Experts Agree: No Objective Criteria

Both parties' experts testified that the determination of "recyclable" is **subjective.**

DR. BUSHMAN (Petitioner's Expert)

Q: And do the APR documents that are referred to in the '422 patent, do they provide clarity as to the meaning of the claim term, quote, wherein the recyclable shrink label is recyclable with a PET container, closed quote?

A: No.

Q: Why not?

A: Because the APR documents are among a variety of determination of whether or not something is recyclable. And the APR guidance, specifically, is broad and subjective in terms of the meaning of the Critical Guidance recognition.

Bushman Dep. Tr. (EX2010) 238:12–239:2

DR. PHILLIPS (Patent Owner's Expert)

Q: Okay. In item number 1, there's a reference to a guidance table describing the most important characteristics that must be demonstrated for the labeled container to provide a preferred level of performance with negligible impact on the quality and productivity of PET recycling. What is a negligible impact to a person of skill in the art?

A: It's pretty subjective. I honestly don't know that I can answer that with much confidence."

Phillips Dep. Tr. (EX1048) 105:22–106:11

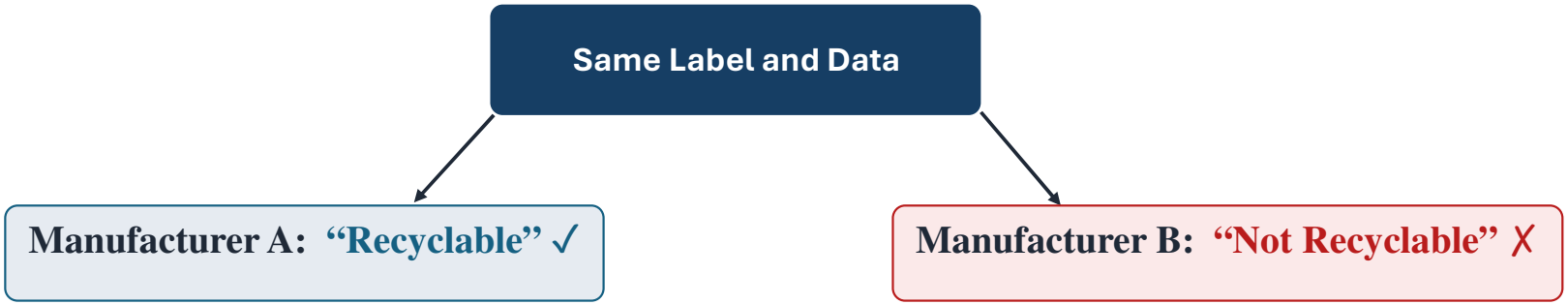
Q: And how much of the material can you lose for the label to still be deemed 'recyclable,' as that term is used in the '422 patent?

A: There's no number on that. That's not something I can answer.

Phillips Dep. Tr. (EX1048) 133:20–134:3

“Recyclable” Depends on the Downstream Manufacturer/Reclaimer

According to Patent Owner’s expert, downstream manufacturers/reclaimers decide what is recyclable.



Dr. Phillips:

Q: So in the context of where some of the APR tests are met but some are not, there are some impurities. And you said in that case labels can still be deemed recyclable as that term is used in the claims in the '422 patent depending upon standards known by a person of skill in the art, correct?

A: “Correct.”

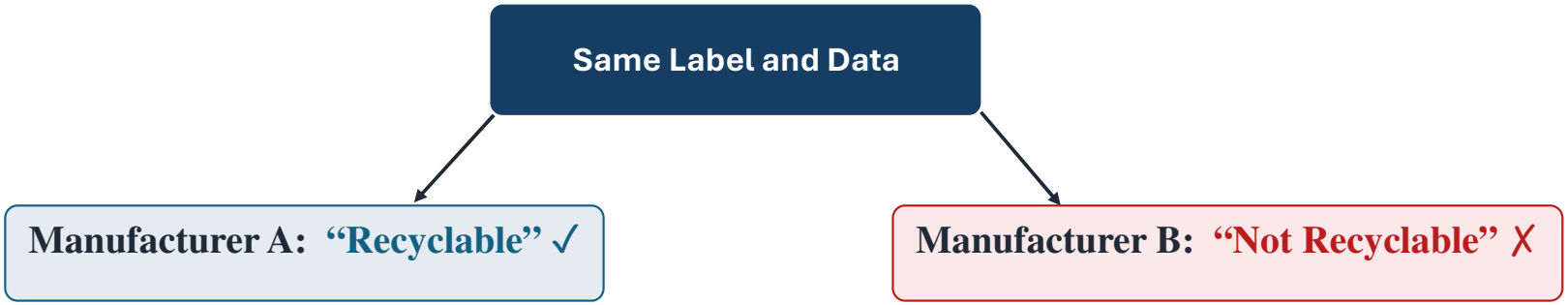
Q: “What are those standards known by a person of skill in the art?”

A: “And ***that's dictated by downstream manufacturers of what material they would be willing to use***.”

Phillips Dep. Tr. (EX1048) 22:21-23:10

“Recyclable” Depends on the Downstream Manufacturer/Reclaimer

According to Patent Owner’s expert, downstream manufacturers/reclaimers decide what is recyclable.



Dr. Phillips:

Q: “Okay. And the level of purity required by that downstream manufacturer would be different for a downstream manufacturer using the PET for a different purpose.”

A: “***Correct***, it might be.”

Phillips Dep. Tr. (EX1048) 27:3-9

Other Subjective Guidelines in the ’422 Patent

The ’422 patent identifies other guidelines to determine whether a label is “recyclable” and PO’s expert admits they are subjective

1

“Fully recyclable” vs. “recyclable”

How much material may be lost and still be “recyclable”? Dr. Phillips: ***“There’s no number on that. That’s not something I can answer.”***

; EX1048 133:12–134:3

2

“Free” vs. “substantially free” of inks

If the inks and pigments are removed during the caustic wash, that is not sufficient by itself for it to be deemed recyclable? Dr. Phillips: “***It is not sufficient***…to determine that it's recyclable.”

EX1048 91:16–92:1, 122:7–17

3

“Free” vs. “substantially free” of colored plastics

Dr. Bushman: flake color acceptable to one reclaimer’s process “may not be true for another reclaimer.”

EX2010 262:25–263:11

Dr. Phillips: **Q:** “Okay. And the level of purity required by that downstream manufacturer would be different for a downstream manufacturer using the PET for a different purpose.” **A:** “***Correct***, it might be.”

EX1048 27:3-9

Other Subjective Guidelines in the ’422 Patent Continued

4 **Contamination or discoloration of PET flake**

Dr. Phillips: inks that neither contaminate nor discolor flake are still not sufficient — ***“Correct”*** — and he cannot identify the wash-water contamination level. Dr. Bushman: no set discoloration standard — “an open topic for many years.”

EX1048 80:17–81:17, 157:2–10; EX2010 264:24–265:16

5 **Numerous guidelines**

Dr. Phillips: his tests were only “examples. There are other tests, other protocols within APR” — “a variety of other experiments … need to be run.”

EX1048 17:17–22, 19:14–19, 81:1–4

6 **Third-party and FDA guidelines**

Dr. Phillips: purity benchmarks are ***“dictated by the manufacturers”*** and other organizations, including **the FDA**, “also ha[ve] test measures.”

EX1048 43:14–18, 45:8–46:1

7 **Whether PET-CG-02 “certifies” a label is recyclable**

Dr. Phillips: PET-CG-02 alone is **not sufficient.**

EX1048 99:15–20, 97:7–11, 103:10–16

PO's Expert Could Not Identify Who Determines Recyclability

Dr. Phillips admitted he would have to "speculate" who determines recyclability, stating only that "people determine" it.

DR. PHILLIPS (Patent Owner's Expert)

Q: "Okay. So ultimately, then, who determines whether the label material is recyclable as that term is used
in the '422 patent?"

A: "Well, I would have to speculate here. In this case it's -- the test results would be available, and then if people determine that those test results are acceptable for additional use, then they are using it.

Phillips Dep. Tr. (EX1048) 34:18-35:3

Applicant's Prosecution Conduct Confirms the Ambiguity

Applicant shifted definitions to distinguish prior art — and its expert now **disclaims the very definition Applicant chose.**

PROSECUTION OF THE '422 PATENT DISTINGUISHING MITCHELL

*"[T]he present application teaches that the inks and pigments used in the recyclable shrink label **may be removed by washing**, leaving behind a label that can be recycled with the article."*

EX1002 at 337

CONTRADICTED BY PO's OWN EXPERT

DR. PHILLIPS:

Ink removal by washing is ***"not sufficient"*** to establish recyclability as claimed. And, "If all of the ink is washed off within reason, then there may be a chance that it passes through the other tests."

Phillips Dep. Tr. 91:1–9; 91:16–92:1; 122:7–17; 93:16-94:3.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing Petitioner's Demonstrative Exhibits was served via electronic mail on the following on August 4, 2026, as agreed upon by the Parties:

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