



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/702,885	02/15/2013	Kouichi Sakata	SHOBA19.008APC	9432
20995	7590	01/16/2019	EXAMINER	
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			CHEN, VIVIAN	
			ART UNIT	PAPER NUMBER
			1787	
			NOTIFICATION DATE	DELIVERY MODE
			01/16/2019	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[jayna.cartee@knobbe.com](mailto:jayna.cartee@knobbe.com)  
[efiling@knobbe.com](mailto:efiling@knobbe.com)

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* KOUICHI SAKATA

---

Appeal 2018-002922  
Application 13/702,885  
Technology Center 1700

---

Before CATHERINE Q. TIMM, MARK NAGUMO, and LILAN REN,  
*Administrative Patent Judges.*

REN, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134 from a rejection<sup>2</sup> of claim 1.  
We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

---

<sup>1</sup> The real party in interest is identified as “WinTech Polymer Ltd.” Appeal Brief of May 10, 2017 (“Br.”) 3.

<sup>2</sup> Final Office Action of September 12, 2016 (“Final Act.”). In this opinion, we also refer to the Examiner’s Answer of November 21, 2017 (“Ans.”) and the Reply Brief of January 22, 2018 (“Reply Br.”).

CLAIMED SUBJECT MATTER

The claims seek to “greatly improve the adhesiveness between a resin molded article and silicone-based adhesive”

by using a modified polyalkylene terephthalate resin in which aromatic dicarboxylic acid excluding terephthalic acid and/or an ester compound thereof are copolymerized as modified components, and the content of the above-mentioned modified component relative to the total dicarboxylic acid component is adjusted to at least 13 mol% and no more than 35 mol%.

Spec. 5–6.<sup>3</sup> Claim 1, reproduced below, is the sole pending claim:

1. A method for adhering a first modified polyalkylene terephthalate resin molded article to a second resin molded article, comprising:
  - (a) providing the modified polyalkylene terephthalate resin, which is prepared by a method comprising:
    - (i) copolymerizing an aromatic dicarboxylic acid excluding terephthalic acid, and/or an ester compound thereof as a modified component with a polyalkylene terephthalate resin, wherein the content of the modified component relative to the total dicarboxylic acid component is at least 13 mol% and no more than 35 mol% to produce a modified polyalkylene terephthalate resin; and
    - (ii) molding the modified polyalkylene terephthalate resin into the resin molded article; and
  - (b) adhering the first modified polyalkylene terephthalate resin molded article to the second resin molded article with an addition reaction-type silicone adhesive,
    - wherein both the first modified polyalkylene terephthalate resin molded article and the second resin molded article are made of the same modified polyalkylene terephthalate resin, and wherein the

---

<sup>3</sup> Application No. 13/702,885, *Modified Polyalkylene Terephthalate Resin for Improving Adhesion, Modified Polyalkylene Terephthalate Resin Composition for Improving Adhesion, Resin Molded Article, and Bonded Article*, filed December 7, 2012 (“Spec.”).

modified polyalkylene terephthalate resin comprises isophthalic acid polybutylene terephthalate resin.

Claims Appendix.

#### REFERENCES

The prior art references relied upon by the Examiner in rejecting the claims on appeal are:

Uno	US 2002/0188073 A1	Dec. 12, 2002
Hara	US 2006/0009577 A1	Jan. 12, 2006

#### REJECTION

The Examiner rejects claim 1 under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Uno in view of Hara. Final Act. 2.<sup>4</sup>

#### OPINION

The dispositive issue on appeal is whether the Examiner reversibly erred in evaluating the purported unexpected results of the composition produced by the recited method. *See* Br. 6. More specifically, Appellant argues that the Examiner reversibly erred in considering Table 1 (reproduced below) in the Specification. *Id.* at 7.

---

<sup>4</sup> Claim 6 was also rejected (Final Act. 2) and later canceled. Br. 5. Claim 6 is not before us on appeal.

	Example 1	Example 2	Example 3	Comparative Example 1	Comparative Example 2	Comparative Example 3
Non-modified PBT1 (mass %)				100		
Non-modified PBT2 (mass %)					100	
Modified PBT1 (mass %)						100
Modified PBT2 (mass %)	100					
Modified PBT3 (mass %)		100				
Modified PBT4 (mass %)			100			
Content of modified component (mol%)	1.5	1.7	3.0	0	0	12.5
Silicone-based adhesive strength (MPa)	2.8	2.1	5.5	2.1	2.1	2.1
Epoxy-based adhesive strength (MPa)	2.0	1.8	2.0	2.1	2.1	2.0
Degree of crystallization (%)	20.8	19.2	16.4	31.1	25.5	22.4

Table 1 of the Specification. Spec. 19.

Table 1 shows Comparative Examples 1 and 2 which both lack modified polybutylene terephthalate resin (or “PBT”) and both exhibit the silicone-based adhesive strength at 2.1 MPa whereas Comparative Example 3 exhibits the same silicone-based adhesive strength (2.1 MPa) while including 12.5 mol% PBT. Br. 7. Table 1 also shows Examples 1, 2, and 3, having PBT mol % of 15, 17, and 30, respectively, and silicone-based adhesive strength at 2.8 Mpa, 3.1 Mpa, and 5.5 Mpa, respectively.

Appellant argues that Comparative Examples 1, 2, and 3 show “no improvement was observed in the silicone-based adhesive strength of the modified PBT” when the mol% of the PBT is outside of the recited range (i.e., 0 mol% and 12.5 mol% which are below the recited 13 mol%). Br. 6–7. Appellant argues that Examples 1, 2, and 3, on the other hand, show “if the amount of modified component is increased from 15 mol% to 30 mol%, the adhesive strength improves from 2.8 MPa to 5.5 MPa.” *Id.* at 7.

Appellant also submits a Declaration by the inventor Mr. Kouichi Sakata dated May 8, 2017 (“Decl.” or “Sakata Declaration”) in support of

the argument. The Sakata Declaration provides Table A (reproduced below) providing additional data in support of the unexpected results argument:

Table A

	Example A	Comparative Example A
Modified PBT4 (30% modified)	50 wt%	-
Modified PBT1 (12.5% modified)	-	50 wt%
Resin other than PBT resin*	50 wt%	50 wt%
Silicone-based adhesive strength	5.5 MPa	2.0 MPa

\*As the resin other than the PBT resin, Paraloid EXL 5136 of Rohm and Haas Japan Kabushiki Kaisha was used.

Table A of the Sakata Declaration

Mr. Sakata states: “The data presented in TABLE A herein demonstrate that the criticality of the claimed range of the mol% of 13 mol% to 35 mol% also holds true when the molded article is not 100 wt% the same modified PBT resin.” Decl. ¶ 7 (emphasis omitted). “For example, the molded article in TABLE A is 50 wt% Paraloid EXL 5136 of Rohm and Haas Japan Kabushiki Kaisha and 50% wt modified PBT as claimed.” *Id.* ¶ 11.

From the outset, whether the difference between the subject matter of the claim and the closest prior art is unexpected notwithstanding, “[t]he evidence presented to rebut a prima facie case of obviousness must be commensurate in scope with the claims to which it pertains.” *In re Dill*, 604 F.2d 1356, 1361 (CCPA 1979). “Commensurate in scope” means that the evidence provides a reasonable basis for concluding that the untested embodiments encompassed by the claims would behave in the same manner as the tested embodiment(s). *See In re Lindner*, 457 F.2d 506, 508 (CCPA 1972) (“Here, only one mixture of ingredients was tested . . . . The claims,

however, are much broader in scope, . . . and we have to agree with the Patent Office that there is no ‘adequate basis for reasonably concluding that the great number and variety of compositions included by the claims would behave in the same manner as the [single] tested composition.’”) (bracketed material in original).

In this case, the Examiner finds that the data shown in Table 1 and Table A of the Sakata Declaration are not commensurate in scope with claim 1. Ans. 5. For example, the Examiner finds that neither Appellant nor Mr. Sakata has specified the type of the recited “reaction-type silicone adhesive” used in any of the examples – or that the examples used the same silicone adhesive at all. *Id.* at 5, 8.<sup>5</sup> The Examiner finds that the data shown in Table 1 and Table A are limited to 15 mol%, 17 mol %, and 30 mol% of PBT and the record lacks evidence to show why the three data points are reasonably representative of the entire recited range of “at least 13 mol% and no more than 35 mol%.” *Id.* at 7 (emphasis omitted). The Examiner finds that the data shown in Table 1 and Table A are limited to 100 wt% and 50 wt% of PBT and the record lacks evidence to show why the two data points are reasonably representative of claim 1 which is not limited to any weight percentage of the polyalkylene terephthalate resin at all. *Id.* at 6–8. The data is also limited to compounds such as ones known by the tradename of “Duranex 400FP” and “Paraloid EXL 5136 of Rohm and Haas Japan Kabushiki Kaisha” without compositional detail. Decl. Table A; Spec. 16. Neither Appellant nor Mr. Sakata explains why these particular composition

---

<sup>5</sup> The Specification merely provides that the silicone-based adhesive may be one with the trade name of SE1714 without specifying its composition. Spec. 16–17.

are reasonably representative of polymers encompassed by claim 1, which does not recite a particular type of polyalkylene terephthalate resin,. The data presented in Table 1 as well as the Sakata Declaration is therefore not commensurate in scope with claim 1.

Moreover, “[m]ere improvement in properties does not always suffice to show unexpected results. In our view, however, when an applicant demonstrates *substantially* improved results . . . and *states* that the results were *unexpected*, this should suffice to establish unexpected results *in the absence of evidence to the contrary.*” *In re Soni*, 54 F.3d 746, 751 (Fed. Cir. 1995).

In this case, the Specification provides that “the silicone adhesive strength improves with a content of modified component of at least 13 mol%” without stating that the gain in silicone adhesive strength is unexpected. Spec. 19. To the extent that Mr. Sakata states that such property is unexpected (Decl. ¶¶ 6, 9, 11), the Sakata Declaration lacks evidence as to “what the skilled artisan would have expected.” *See Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1371 (Fed. Cir. 2007) (“[B]y definition, any superior property must be *unexpected* to be considered evidence of non-obviousness. Thus, in order to properly evaluate whether a superior property was unexpected, the [fact-finder] should have considered what properties were expected. Here, Pfizer’s evidence must fail because the record is devoid of *any* evidence of what the skilled artisan would have expected.”) (citations omitted). The Examiner also finds that neither Appellant nor Mr. Sakata has shown that the purported unexpected results are solely attributable to the recited mol% of modified resin. Ans. 8–10 (finding, for example, the type of silicone adhesive may also be an attributable factor).



Appellant does not respond to these findings. *See* Reply Br. 2–3.<sup>6</sup> Based on the foregoing, we are therefore not persuaded that the Examiner reversibly erred in determining that the purported unexpected results are not persuasive of unexpected results rebutting the prima facie case of obviousness.

We accordingly sustain the rejection of claim 1.

#### DECISION

The Examiner’s decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

#### AFFIRMED

---

<sup>6</sup> In the Reply Brief, Appellant submits a reference (*Silicone Chemistry Overview*, Dow Corning (1997)) purported to show that “[n]o mention is made that selection of particular silicon-based adhesive would behave substantially differently.” Reply Br. 3. We decline to consider an overview of silicone – not specific to the recited “reaction-type silicon adhesive” and does not mention adhesive strength (with polyalkylene terephthalate resin or others) at all – as affirmative evidence to show unexpected results of claim 1.