

Inter Partes Review IPR2017-00201
U.S. Patent No. 7,399,439

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GUANGDONG ALISON HI-TECH CO., LTD.,
Petitioner,

v.

ASPEN AEROGELS, INC.,
Patent Owner

Case No.: IPR2017-00201
U.S. Patent No. 7,399,439

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 7,399,439
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 ET SEQ.**

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

PETITIONER'S EXHIBIT LIST

Exhibit No.	Description
1001	Aspen Aerogel Inc.'s U.S. Pat. No. 7,399,439
1002	Prosecution history of the '439 patent
1003	Declaration of George W. Scherer, Ph.D.
1004	Aspen's Initial Claim Construction Brief in 337-TA-1003 (filed Sept. 20, 2016)
1005	Nakanishi (U.S. Pat. No. 4,950,148)
1006	Ramamurthi (U.S. Pat. No. 5,306,555)
1007	Champagne (U.S. Pat. No. 6,187,250)
1008	Andersen (U.S. Pat. No. 5,665,442)
1009	Roberts (U.S. Pat. No. 3,042,573)
1010	Sonoda (Japanese Patent No. H8-34678)
1011	English Translation of Sonoda (w/ certification)
1012	Uchida (U.S. Pat. No. 6,123,882)
1013	Product Information – Gels – Dow Corning® CY 52-276, 2-part, clear, 1:1 mix ratio, gel with controlled volatility
1014	Silicone Chemistry Overview Dow Corning®
1015	Handbook of Sealant Technology (Edited by Mittal, K.L. and Pizzi, A (2009))
1016	Bibliographic data from Public Pair on the USPTO website for application Ser. No. 06/814,726
1017	History of Dow Corning from Dow website
1018	<i>Curriculum vitae</i> of George W. Scherer, Ph.D.
1019	D. Hotza and P. Greil, "Review: Aqueous Tape Casting of Ceramic Powders," <i>Materials Science and Engineering</i> , A202 (1995), pp. 206-17
1020	J.S. Reed, <i>Principles of Ceramics Processing</i> , Second Edition, pp. 525-41 (1995)

Exhibit No.	Description
1021	Britannica Encyclopedia – “Advanced Ceramics” (2001)
1022	S.S. Kistler, ”Coherent expanded aerogels,” J. Phys. Chem., 36 [1] (1931), pp. 52-64
1023	Yada (U.S. Pat. No. 5,004,761)
1024	Declaration of Bryan Nese

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(a)(1).....	1
	A. Real Party-In-Interest Under 37 C.F.R. § 42.8(b)(1)	1
	B. Related Matters Under 37 C.F.R. § 42.8(b)(2)	1
	C. Lead and Back-up Counsel Under 37 C.F.R. § 42.8(b)(3)	2
	D. Service Information Under 37 C.F.R. § 42.8(b)(4).....	2
III.	REQUIREMENTS FOR <i>INTER PARTES</i> REVIEW UNDER 37 C.F.R. § 42.104.....	3
	A. Grounds for Standing	3
	B. Identification of Challenge.....	3
	1. Summary of Prior Art	3
	2. Motivation to Combine	4
	3. Summary of Challenges	6
IV.	U.S. PATENT NO. 7,399,439	7
	A. Brief Description of the Challenged Patent	7
	B. Prosecution History	8
	C. Person of Ordinary Skill in the Art	9
	D. Claim Construction.....	10
	1. “gel sheet”	10
	2. “catalyzed sol”	10
	3. “fibrous material”	11
V.	RELEVANT PRIOR ART	11
	A. Technology Background	11
	B. Description of the Prior Art.....	12
	1. Nakanishi (Ex. 1005)	12
	2. Ramamurthi (Ex. 1006)	13
	3. Andersen (Ex. 1008)	14
	4. Roberts (Ex. 1009).....	14
	5. Sonoda (Exs. 1010, 1011).....	15

TABLE OF CONTENTS

6.	Yada (Ex. 1023)	15
VI.	STATEMENT OF RELIEF REQUESTED (37 C.F.R. § 42.22(a))	16
A.	<u>Ground 1</u> : Claims 1-4, 6-9, 15, 16, and 18 Are Obvious Over Nakanishi in View of Ramamurthi.	16
1.	Independent Claims 1, 3, 7, and 15.....	17
2.	Claim 2	26
3.	Claim 4	27
4.	Claim 6	28
5.	Claim 8	28
6.	Claim 9	29
7.	Claim 16	29
8.	Claim 18	30
B.	<u>Grounds 2-4</u> : Claims 19-21 Are Obvious Over Nakanishi in View of Any of Ramamurthi, Roberts, or Andersen.	30
1.	Independent Claim 19	31
2.	Independent Claim 21	34
3.	Claim 20	36
C.	<u>Ground 5</u> : Claims 1-4, 6-9, 15, 16, and 18-21 Are Obvious Over Ramamurthi in View of Nakanishi	36
D.	<u>Ground 6</u> : Claims 1-4, 6-9, 15, 16, 18, and 21 Are Obvious Over Sonoda in View of Yada.	37
1.	Independent Claims 1, 3, 7, and 15.....	37
2.	Claim 2	46
3.	Claim 4	46
4.	Claim 6	46
5.	Claim 8	46
6.	Claim 9	47
7.	Claim 16	47
8.	Claim 18	47
9.	Independent Claim 21	48

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.