

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

ASPEN AEROGELS, INC.,  
Patent Owner.

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Case IPR2017-00152  
Patent 7,780,890 B2

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Before JON B. TORNQUIST, CHRISTOPHER M. KAISER, and  
MICHELLE N. ANKENBRAND, *Administrative Patent Judges*.

TORNQUIST, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
*37 C.F.R. § 42.108*

## I. INTRODUCTION

Guangdong Alison Hi-Tech Co, Ltd. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 11–13, 15, 17–19, and 21 of U.S. Patent No. 7,780,890 B2 (Ex. 1001, “the ’890 patent”). Aspen Aerogels, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition (Paper 7, “Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition and the Preliminary Response, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to any of the challenged claims of the ’890 patent. Accordingly, we do not institute *inter partes* review.

### A. *Related Proceeding*

The parties note that the ’890 patent is at issue in *Certain Composite Aerogel Insulation Materials and Methods for Manufacturing the Same*, USITC Inv. No. 337-TA-1003 (June 2, 2016). Pet. 2; Paper 4, 2.

### B. *The ’890 Patent*

The ’890 patent discloses “the preparation of solvent filled gel sheets in a continuous fashion” using sol-gel casting methods. Ex. 1001, 1:18–19, 2:29–33. The ’890 patent explains that “[c]onventional methods for gel sheet and/or fiber-reinforced composite gel sheet production formed via sol-gel chemistry” invariably involved “batch casting,” or “catalyzing one entire

volume of sol to induce gelation simultaneously through that volume.” *Id.* at 2:4–9.

In contrast to this batch casting method, the ’890 patent discloses a method of continuously dispensing a catalyzed sol solution onto a moving element to form a gel sheet. *Id.* at 2:34–41, 3:37–40, 4:46–52, 6:32–39 (noting that the first phase of the casting method involves “blending all constituent components (solid precursor, dopants, additives) into a low-viscosity sol that can be dispensed in a continuous fashion”). These gel sheets may then be cut and rolled into a plurality of layers. *Id.* at 4:46–52, Fig. 1.

The ’890 patent notes that fibrous materials may be added to the sol prior to the point of polymer gelation to reinforce the matrix materials. *Id.* at 5:2–7. The ’890 patent further notes that the disclosed process permits “control of the growth and aggregation of the matrix species throughout the transition from the ‘sol’ state to the ‘gel’ state.” *Id.* at 8:10–12.

### *C. Illustrative Claim*

Independent claim 11 is illustrative of the challenged claims and is reproduced below:

11. A method for preparing gel sheets, comprising the steps of:
  - dispensing a sol onto a moving element as a continuous sheet;
  - rolling the dispensed sheet into a plurality of layers; and
  - drying the layers

Ex. 1001, 13:64–14:2.

*D. The Asserted Grounds of Unpatentability<sup>1</sup>*

References	Basis	Claim(s) Challenged
Nakanishi <sup>2</sup> and Ramamurthi <sup>3</sup>	§ 103	11–13, 15, 17, and 21
Nakanishi and Roberts <sup>4</sup>	§ 103	11, 13, 17, and 21
Nakanishi and Andersen <sup>5</sup>	§ 103	11, 13, 17, and 21
Ramamurthi and Nakanishi	§ 103	11–13, 15, 17, and 21
Ramamurthi and Champagne <sup>6</sup>	§ 103	11–13, 15, 17, and 21
Sonoda <sup>7</sup> and Uchida <sup>8</sup>	§ 103	11–13, 15, 17, and 21
Nakanishi, Ramamurthi, and Chew <sup>9</sup>	§ 103	18 and 19
Nakanishi, Ramamurthi, and Leeke <sup>10</sup>	§ 103	18 and 19
Ramamurthi, Champagne, and Chew	§ 103	18 and 19
Ramamurthi, Champagne, and Leeke	§ 103	18 and 19
Sonoda, Uchida, and Chew	§ 103	18 and 19
Sonoda, Uchida, and Leeke	§ 103	18 and 19

<sup>1</sup> In support of the asserted grounds of unpatentability, Petitioner relies upon the testimony of Dr. George W. Scherer. Ex. 1018.

<sup>2</sup> U.S. Patent No. 4,950,148, issued Aug. 21, 1990 (Ex. 1005).

<sup>3</sup> U.S. Patent No. 5,306,555, issued Apr. 26, 1994 (Ex. 1006).

<sup>4</sup> U.S. Patent No. 3,042,573, issued July 3, 1962 (Ex. 1011).

<sup>5</sup> U.S. Patent No. 5,665,442, issued Sept. 9, 1997 (Ex. 1008).

<sup>6</sup> U.S. Patent No. 6,187,250 B1, issued Feb. 13, 2001 (Ex. 1007).

<sup>7</sup> Japanese Patent Publication H08-34678 (translation), published Feb. 6, 1996 (Ex. 1021).

<sup>8</sup> U.S. Patent No. 6,123,882, issued Sept. 26, 2000 (Ex. 1022).

<sup>9</sup> U.S. Patent No. 6,106,722, issued Aug. 22, 2000 (Ex. 1009).

<sup>10</sup> U.S. Patent No. 4,496,461, issued Jan. 29, 1985 (Ex. 1010).

## II. ANALYSIS

### A. Claim Construction

In an *inter partes* review, “[a] claim in an unexpired patent shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (upholding the use of the broadest reasonable interpretation standard). In determining the broadest reasonable construction, we presume that claim terms carry their ordinary and customary meaning. See *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). A patentee may define a claim term in a manner that differs from its ordinary meaning; however, any special definitions must be set forth in the specification with reasonable clarity, deliberateness, and precision. See *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner proposes constructions for the terms “a moving element” and “fibrous batting material.” Pet. 13–14. Patent Owner proposes constructions for the terms “gel sheets,” “continuous sheet,” “sol,” “rolling the dispensed sheet into a plurality of layers,” and “the layers.” Prelim. Resp. 12–17. Upon review of Petitioner’s and Patent Owner’s arguments and supporting evidence, we determine that only the term “sol” requires construction for purposes of this Decision. See *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

### *Sol*

The claims of the ’890 patent do not define the term “sol,” nor does Petitioner provide a proposed construction for the term. See 37 C.F.R.

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