

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NEW NGC, INC. dba NATIONAL GYPSUM COMPANY,
Petitioner,

v.

UNITED STATES GYPSUM COMPANY,
Patent Owner.

Case IPR2017-01351
Patent 7,758,980 B2

Before RAE LYNN P. GUEST, JON B. TORNQUIST, and
JEFFREY W. ABRAHAM, *Administrative Patent Judges*.

TORNQUIST, *Administrative Patent Judge*.

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

I. INTRODUCTION

New NGC, Incorporated dba National Gypsum Company (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1, 2, and 4–7 of U.S. Patent No. 7,758,980 B2 (Ex. 1035, “the ’980 patent”). United States Gypsum Company (“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 Preliminary Response, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to the challenged claims. Accordingly, we do not institute *inter partes* review.

A. Related Proceedings

The parties inform us that the ’980 patent is currently at issue in *United States Gypsum Co. v. New NGC, Inc.*, Case No. 1:17-cv-00130 (D. Del. Feb. 6, 2017). Pet. 1; Paper 4, 1. In addition, the parties indicate that related patents are at issue in IPR2017–01011 (US 7,964,034), IPR2017–01086 (US 6,632,550), IPR2017–01088 (US 7,425,236), IPR2017–1350 (US 6,342,284), IPR2017–01352 (US 8,142,914), and IPR2017–01353 (US 8,500,904). Pet. 1; Paper 4, 1.

B. The '980 Patent

The '980 patent discloses a method and composition for preparing set gypsum-containing products having increased resistance to permanent deformation (e.g., sag resistance). Ex. 1035, 1:20–35.

The '980 patent explains that most gypsum-containing products are prepared by forming a mixture of calcined gypsum (calcium sulfate hemihydrate and/or calcium sulfate anhydrite) and water, casting the mixture into a desired shape, and allowing the mixture to harden to form set gypsum. *Id.* at 2:4–12. During this process, the calcined gypsum is rehydrated with water, forming an interlocking matrix of set gypsum crystals (calcium sulfate dihydrate) and imparting strength to the gypsum-containing product. *Id.* at 2:13–17. Although the matrix of gypsum crystals increases the strength of the gypsum-containing product, the '980 patent posits that existing gypsum-containing products could still benefit if the strength of their component set gypsum crystal structures were increased. *Id.* at 2:18–21.

To increase the strength, dimensional stability, and resistance to permanent deformation of set gypsum-containing products, the '980 patent discloses mixing calcium sulfate material, water, and an appropriate amount of one or more enhancing materials. *Id.* at 1:26–29. In a preferred embodiment, the enhancing material is in the form of trimetaphosphate ions derived from sodium trimetaphosphate (STMP). *Id.* at 4:10–26. According to the '980 patent, set gypsum-containing products incorporating this compound were “unexpectedly found to have increased strength, resistance to permanent deformation (e.g., sag resistance), and dimensional stability, compared with set gypsum formed from a mixture containing no

trimetaphosphate ion.” *Id.* at 4:32–38. It was also “unexpectedly found that trimetaphosphate ion . . . does not retard the rate of the formation of set gypsum from calcined gypsum,” and, in fact, actually accelerates the rate of rehydration. *Id.* at 4:40–46. According to the ’980 patent, this is “especially surprising” because most “phosphoric or phosphate materials retard the rate of formation of set gypsum and decrease the strength of the gypsum formed.” *Id.* at 4:46–51.

C. Illustrative Claim

Claim 1 is illustrative of the challenged claims and is reproduced below:

1. A gypsum board comprising set gypsum formed from at least calcined gypsum, water and sodium trimetaphosphate, wherein the amount of the sodium trimetaphosphate compound is from about 0.004 to about 2.0% by weight of the calcined gypsum.

Ex. 1035, 31:24–28.

D. The Asserted Grounds of Unpatentability

Petitioner contends claims 1, 2, and 4–7 of the ’980 patent are unpatentable based on the following grounds (Pet. 2):¹

¹ Petitioner also relies on a declaration from Mr. Gerry Harlos (Ex. 1001).

References	Basis	Claims Challenged
Graux, ² ASTM C473-95, ³ Hjelmeland, ⁴ Sucech, ⁵ and Summerfield ⁶	§ 103	1, 2, and 4–7
Satterthwaite, ⁷ ASTM C473-95, Hjelmeland, Sucech, and Summerfield	§ 103	1, 2, and 4–7

Petitioner contends that Graux and Sucech are prior art to the '980 patent under 35 U.S.C. § 102(a), Satterthwaite, Summerfield, and ASTM C473-95 are prior art under § 102(b), and Hjelmeland is prior art under § 102(e). Pet. 11–18. Patent Owner contests the prior art status of Hjelmeland; however, in view of our determination that institution is not warranted on other grounds, we need not reach this issue.⁸ Prelim. Resp. 15–16.

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

² U.S. Patent No. 5,932,001, issued Aug. 3, 1999 (Ex. 1006).

³ *Standard Test Methods for Physical Testing of Gypsum Board Products and Gypsum Lath*, AMERICAN SOCIETY FOR TESTING AND MATERIALS, 1–11 (1995) (Ex. 1009).

⁴ U.S. Patent No. 5,980,628, issued Nov. 9, 1999 (Ex. 1008).

⁵ U.S. Patent No. 5,643,510, issued July 1, 1997 (Ex. 1036).

⁶ U.S. Patent No. 2,985,219, issued May 23, 1961 (Ex. 1017).

⁷ U.S. Patent No. 3,234,037, issued Feb. 8, 1966 (Ex. 1007).

⁸ On September 25, 2017, Petitioner requested authorization to file a reply addressing the prior art status of Hjelmeland. We took that request under advisement. In view of our denial of the Petition on other grounds, we deem Petitioner’s request moot.

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