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12/566,339	09/24/2009	Michael A. Kmetz	PA0008774U-U73.12-483KL	2228

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EXAMINER

GROUP, KARL E

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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.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL A. KMETZ and KIRK C. NEWTON

Appeal 2012-001017
Application 12/566,339
Technology Center 1700

Before EDWARD C. KIMLIN, ROMULO H. DELMENDO, and
GRACE KARAFFA OBERMANN, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 14-20. We have jurisdiction under 35 U.S.C. § 6(b). Claim 14 is illustrative:

14. A highly densified ceramic matrix composite (CMC) having a final density formed by:

forming a preform of a matrix formed from a non-oxide ceramic and continuous ceramic fibers and adding an interface coating;

partially densifying the preform with a resin to increase the density of the preform using a polymer infiltration pyrolysis (PIP) process; and

infiltrating the preform using a chemical vapor infiltration (CVI) process to a final density of from about 90% to essentially 100%.

The Examiner relies upon the following references in the rejection of the appealed claims:

Suyama et al. (Suyama)	5,990,025	Nov. 23, 1999
Petrak	6,743,393 B1	Jun. 1, 2004
Kohyama et al. (Kohyama)	7,318,906 B2	Jan. 15, 2008

Appellants' claimed invention is directed to a highly densified ceramic matrix composite (CMA). The composite is formed by partially densifying a preform of a ceramic matrix with a resin by a polymer infiltration pyrolysis (PIP) process, and infiltrating the preform with a chemical vapor infiltration (CIV) process. The final composite has a density of from about 90% to essentially 100%.

Appealed claims 14-20 stand rejected under 35 U.S.C. § 102(b), or in the alternative, under 35 U.S.C. § 103(a) as unpatentable over any one of Petrak, Suyama or Kohyama.

Appellant does not separately argue any particular claim on appeal. Accordingly, all the appealed claims stand or fall together.

We have thoroughly reviewed each of Appellants' arguments for patentability. However, we are in complete agreement with the Examiner that the claimed subject matter is unpatentable over the cited prior art. Accordingly, we will sustain the Examiner's rejections for the reasons set forth in the Answer, and we add the following primarily for emphasis.

The appealed claims are drafted in product-by-process format and, therefore, certain principles of patent law apply. It is well settled that if the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 697

(Fed. Cir. 1985). When the prior art disclose a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either Section 102 or Section 103 of the statute is eminently fair and acceptable. This is so because, as a practical matter, the United States Patent and Trademark Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith. *In re Brown*, 459 F.2d 531, 535 (CCPA 1972).

In the present case, the Examiner has made the case that the ceramic matrix composites of the cited references reasonably appear to be essentially the same as composites within the scope of the appealed claims. Appellants argue that since the CIV processes of Petrak and Suyama are performed first, the resultant product cannot have the claimed density. Appellants also maintain that the one-step process of Kohyama cannot have the claimed density. However, as pointed out by the Examiner, each of the references discloses a final ceramic matrix composite having densities within the claimed range. Significantly, Appellants have not addressed, let alone rebutted, the basis of the Examiner's rejections. Appellants have provided no explanation why the ceramic matrix composites of the cited references, having densities within the claimed range, fall outside the scope of the appealed claims, other than stating they are made by different processes.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

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The decision of the Examiner 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)(1)(iv).

AFFIRMED

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