

NOTE: This disposition is nonprecedential

**United States Court of Appeals  
for the Federal Circuit**

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**IMAGECUBE LLC,**  
*Plaintiff-Appellant,*

v.

**THE BOEING COMPANY,**  
*Defendant-Appellee,*

and

**MTS SYSTEMS CORPORATION AND  
AEROMET CORPORATION,**  
*Defendants.*

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2010-1265

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Appeal from the United States District Court for the  
Northern District of Illinois in case no. 04-CV-7587, Judge  
Robert M. Dow, Jr.

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Decided: June 20, 2011

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JOSEPH N. HOSTENY, Niro, Haller & Niro, of Chicago,  
Illinois, argued for plaintiff-appellant. With him on the  
brief was DAVID J. MAHALEK.

ALLEN E. HOOVER, Fitch, Even, Tabin & Flannery, of Chicago, Illinois, argued for defendant-appellee. With him on the brief was KENDREW H. COLTON, of Washington, DC.

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Before LOURIE, LINN, and DYK, *Circuit Judges*.  
DYK, *Circuit Judge*.

ImageCube LLC (“ImageCube”) appeals a decision of the United States District Court for the Northern District of Illinois granting judgment of noninfringement with respect to claims 1, 25, 32, and 34, and the claims dependent therefrom, of United States Reissue Patent 37,875 (“’875 patent”) as to defendant The Boeing Company (“Boeing”). *ImageCube LLC v. Boeing Co.*, No. 04-CV-7587, 2009 WL 2178831 (N.D. Ill. July 22, 2009) [hereinafter *Summary Judgment Decision*]. *We affirm.*

#### BACKGROUND

ImageCube filed suit against MTS Systems Corporation (“MTS”), AeroMet Corporation (“AeroMet”), and Boeing, alleging infringement of the ’875 patent. Imagecube asserted that the defendants infringed the patent by using the claimed process to manufacture aircraft parts for Boeing. The patent claims “a process for producing three-dimensional integral objects” by exposing the components to radiation. ’875 Patent, col.2 ll.9–12. The process begins with a dispersion (i.e., a mixture) “containing components A and B.” ’875 Patent, col.16 ll.62–63. A thin layer of the dispersion is spread across the surface of a piston, and specific portions of the dispersion are exposed to a focused beam of radiation “such that components A and B are homogenized,” forming solidified

regions where the radiation was applied. '875 Patent, col.7 ll.17–24. The piston then moves down to permit another layer of the dispersion to be spread across the surface and the process is repeated, layer-by-layer, until a solid, three-dimensional part is formed. At the end of the process, the solidified part can be separated from the surrounding dispersion, which has not been homogenized.

Claim 1 is representative:

A process for producing a homogenized, three-dimensional, integral object by imagewise thermal radiation of a dispersion, the dispersion containing components A and B, comprising the steps of:

a) providing the dispersion containing components A and B;

b) forming the dispersion into a layer;

c) homogenizing the dispersion by applying imagewise thermal radiation to form an alloy of components A and B; and

d) repeating steps a)–c) by applying each successive layer of the dispersion onto the previous layer of the dispersion such that each new homogenized region becomes integral with the previous homogenized region to form the homogenized, three-dimensional, integral object.

'875 Patent, col.16 l.58–col.17 l.5. Claims 25, 32, and 34 similarly require “homegenizing” a mixture of “components A and B.”<sup>1</sup> *See id.* col. 18 ll.20–33, col.18 ll.51–67,

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<sup>1</sup> Claim 51 is the only asserted claim that does not contain the term “homogenizing.” *See* '875 Patent, col.20 ll.22–36. Imagecube has apparently abandoned any efforts to recover for alleged infringement of this claim.

col.19 ll.1–16. The district court construed the term “homogenizing” to require “the formation of an alloy between substances, and in the case of the homogenization of metals and ceramics requiring the intimate mixing of *at least two components* to form an alloy between the components.” *ImageCube LLC v. Boeing Co.*, No. 04-CV-7587, slip op. at 7 (N.D. Ill. Apr. 26, 2006) [hereinafter *Claim Construction Opinion*] (emphasis added).

Based on this claim construction, AeroMet and MTS filed a motion for partial summary judgment of noninfringement, arguing that, to the extent that AeroMet’s process “began with a single metal alloy in powdered form [i.e., a single powdered alloy], and finished with a metal part made exclusively of the same alloy,” it used only a single component. J.A. 1245. AeroMet asserted that its process, as to single powdered alloys, did not involve the homogenization of at least two components to form an alloy between the components. The summary judgment motion sought a determination of noninfringement only as to single powdered alloys. In response to AeroMet’s motion, ImageCube submitted the declaration of John A. Lawton, in which Lawton asserted that the alloy utilized by AeroMet contained distinct metallurgical “phases,” each of which has a different crystalline structure. J.A. 1526–27. Lawton claimed that these “phases” were essentially individual components as required by the claims. J.A. 1529.

With its response to AeroMet’s motion for partial summary judgment, ImageCube also filed a motion for discovery pursuant to Federal Rule of Civil Procedure 56(f).<sup>2</sup> At a hearing on the Rule 56(f) motion, Im-

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<sup>2</sup> Rule 56 was amended recently, and the applicable language was moved to Rule 56(d). Fed. R. Civ. P. 56,

ageCube’s counsel argued that discovery was required with respect to (1) AeroMet’s alleged use of mixed elemental powders, and (2) the district court’s claim construction. The district court found no need for discovery. First, the court noted that the motion for summary judgment was confined to the use of single powdered alloys; thus, AeroMet’s alleged use of mixed elemental powders was not at issue. Second, the court characterized the question of whether a single powdered alloy falls within the scope of the patent as a question of claim construction, the resolution of which would not be helped by discovery.

After disposing of the Rule 56(f) motion, the district court granted AeroMet’s motion for partial summary judgment, concluding that “products made with single powdered alloy are beyond the scope of [the] patent claims.” *Summary Judgment Decision*, at \*19. The court held that a “component” must be:

a discrete polymer, metal, ceramic or combination of those materials; in liquid, solid, or particulate form; that differs in some chemical or physical property from the other component(s) present in the dispersion; is capable of forming an alloy upon exposure to radiation; and is not already alloyed with the other component(s).

*Id.* at \*13. The court held that, under this construction, metallurgical phases of a single powdered alloy “fail to qualify as ‘components’ under the ’875 patent.” *Id.* at \*17.

Following partial summary judgment, at ImageCube’s request, a Rule 54(b) judgment was entered dismissing all claims against Boeing with prejudice. Claims against

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Advisory Committee Notes to 2010 Amendments. In order to maintain consistency with the parties’ briefs and the district court record, we will continue to refer to Rule 56(f) before the amendment.

AeroMet and MTS remain pending in the district court. ImageCube appealed this judgment, and we have jurisdiction under 28 U.S.C. § 1295(a)(1).

#### DISCUSSION

ImageCube primarily objects to the district court's construction of the term "components," which the court construed to exclude metallurgical phases of a single alloy.<sup>3</sup> We review the district court's claim construction without deference. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1451 (Fed. Cir. 1998) (en banc). ImageCube argues that the '875 patent specifically recognizes that metallurgical phases of the same alloy can be components. We disagree. The claims require "homogenizing . . . to form an alloy of components A and B," see e.g., '875 Patent, col.16 ll.65–67, and the specification discusses "alloy formation upon . . . exposure to radiation," *id.* col.5 ll.8–9; see also *id.* col.3 ll.19–21. The components must be selected "so as to be capable of alloying under the exposure of imagewise radiation," thus suggesting that they must alloy during the process. *Id.* col.3 ll.19–21. The specification explains that "homogenization" for purposes of the invention requires intimate mixing of at least two compo-

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<sup>3</sup> ImageCube also argues that the district court's construction of the term "homogenizing" is incomplete because it fails to make clear that complete mixing is not required. To support this argument, ImageCube points to the patent's specification, which states that, in forming the alloy, "homogenization does not require complete mixing." '875 Patent, col.4 ll.30–31. We fail to see how this proposed revision affects the propriety of partial summary judgment. In any event, we find ImageCube's proposed clarification inherent in the district court's construction, which requires "intimate mixing." *Claim Constructrion Opinion*, at 7. As a result, we conclude that there was no error in the construction.

nents with *resultant* formation of an alloy between the components.” *Id.* col.4 ll.10–13 (emphasis added). Additionally, the specification notes that the homogenized material must have “properties, either physical or chemical or both, which are different from the properties of the individual components.” *Id.* col.2 ll.63–65.

Both the claims and the specification make clear that homogenization must result in the formation of an alloy between components A and B. The notion that “components A and B,” as specified in the claims, are merely different metallurgical phases of the same alloy is inconsistent with this requirement. An alloy between the components is not formed through homogenization where the process begins and ends with the very same alloy. Additionally, not one of the embodiments discussed in the patent discloses the use of the same alloy for components A and B.<sup>4</sup> Thus, we hold that the district court correctly

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<sup>4</sup> ImageCube relies primarily on the following language from the patent to argue that metallurgical phases of an alloy can be components:

[T]he liquid phase need not be comprised of a pure component B or a pure component A. The liquid phase may be comprised of, for example, an alloy of component A and component B . . . .

'875 Patent, col.11 ll.37–40. This quote, however, demonstrates no such thing. The specification notes that “homogenization is usually greatly enhanced when at least one of the components is in the liquid state.” *Id.* col.11 ll.26–27. In this embodiment, solid particles of one component will be suspended in the liquid phase of the other component to form the dispersion. In the portion of the specification quoted above, it is noted that the liquid portion of the dispersion need not be comprised of pure component A or B, but may be comprised of a liquid alloy of the two components. This does not, however, negate

construed the term “components” to exclude metallurgical phases of a single alloy.

To the extent ImageCube attempts to raise issues other than claim construction, we find that these issues have been waived. Following summary judgment, ImageCube filed a motion for entry of judgment under Rule 54(b), stipulating that, “given the present claim construction, [ImageCube cannot] prove infringement by Boeing;” thus, “[t]his case is final with respect to Boeing.” J.A. 3298. In so stipulating, ImageCube waived issues other than claim construction with respect to Boeing. In any event, we find ImageCube’s arguments relating to these issues to be without merit.

**AFFIRMED**

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the requirement that there be two distinct materials rather than metallurgical phases of the same material.