

United States District Court,
C.D. California.

VITA ZAHNFABRIK H. RAUTER GMBH & CO. KG, Vident and Neil R. Hall,
Plaintiff(s).

v.

DENTSPLY INTERNATIONAL, INC,
Defendant(s).

No. SACV 04-729JVS (RNBx)

May 4, 2005.

Brian K. Brookey, David A. Dillard, Edward R. Schwartz, Christie Parker and Hale LLP, Pasadena, CA, for
Plaintiffs.

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Order re Claim Construction

JAMES V. SELNA, District Judge.

Plaintiffs Vita Zahnfabrik H. Rauter GMBH & Co. KG, Vident and Neil R. Hall (collectively, "Vita
Plaintiffs") and Defendant Dentsply International, Inc. ("Dentsply") have submitted to the Court proposed
claim constructions regarding certain language in United States Patent No. 5,498,157 ("Patent"). The
relevant claim language is construed by the Court below.

1. Standard

Claim construction "begins and ends" with the claim language itself. *Interactive Gift Express, Inc. v.*
Compuserve, Inc., 256 F.3d 1323, 1331 (Fed.Cir.2001). In construing the language of a patent claim for
purposes of claim construction, the patent and its prosecution history are of paramount importance. *Burke,*
Inc. v. Bruno Ind. Living Aids, Inc., 183 F.3d 1334, 1340 (Fed.Cir.1999). Evidence extrinsic to this public
record may only be consulted "if needed to assist in determining the meaning or scope of technical terms in
the claims." *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1216 (Fed.Cir.1995); *accord* *Vitronics*
Corp. v. Conceptoronic, Inc., 90 F.3d 1576, 1583 (Fed.Cir.1996). The Court's starting point in determining the
meaning of the terms at issue in this Motion is therefore the intrinsic evidence: the claim language,
specification, and prosecution history of the patent.

Where the intrinsic evidence of a patent reveals that a patentee has acted as his own lexicographer with
respect to a particular claim term-by creating a new word or assigning a new or different meaning to an
existing word, for example-"the definition selected by the patent applicant controls" and the term's special

meaning is given full force. *Renishaw PLC v. Marposso Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed.Cir.1998). The lexicography, however, must "appear with reasonable clarity, deliberateness, and precision before it can affect the claim." *Id.* (internal citations omitted). The test for whether a special meaning is reasonably clear is whether the patent or its prosecution history "put a reasonable competitor or one reasonably skilled in the art on notice" that the patentee intended to redefine the claim language at issue in the manner asserted. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357 (Fed.Cir.1999), *cert. denied*, 529 U.S. 1037, 120 S.Ct. 1531, 146 L.Ed.2d 346 (2000).

Where, on the other hand, the patent applicant is not deemed a lexicographer, there is a "heavy presumption" that the words in the claims have their full ordinary or accustomed meaning. *Johnson Worldwide Assocs. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed.Cir.1999). As the Federal Circuit has noted, "dictionaries, encyclopedias and treatises are particularly useful resources to assist the court in determining the ordinary and customary meanings of claim terms." *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1202 (Fed.Cir.2002). If a particular claim term has both an ordinary meaning and a customary meaning known to one ordinarily skilled in the art, and these meanings conflict, the latter meaning prevails. *Karlin Tech v. Surgical Dynamics*, 177 F.3d 968, 971 (Fed.Cir.1999).

With these principles in mind, the Court now turns to the construction of the claim language at issue.

2. Discussion

The Patent, entitled "Dental Color Mixture Indicator Device," discloses a set of dental color mixture indicator devices for matching tooth color, as well as a set of dental color materials from which artificial tooth material and artificial teeth can be fabricated. The Vita Plaintiffs allege that at least Dentsply's Ceramco3 C3 series of dental porcelain materials infringe claims 17 through 22 of the Patent. Independent claim 17 claims a set of dental color materials that enable substantially all the range of naturally occurring tooth colors to be fabricated from a reduced number of dental color materials. Independent claim 22 claims an artificial tooth made from the set of dental color materials.

The parties have presented to the Court sixteen terms and phrases to be construed. These terms and phrases appear in claims 17 through 22 of the Patent.

A. "Dental Color Materials"

Each party's proposed construction of "dental color materials" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
"Dental color materials"	Materials from which an artificial tooth material can be fabricated. The color refers to the color of the artificial tooth material made from the dental color material rather than the color of the material itself.	Materials that can be used individually to form artificial tooth material of a specified color.

The Vita Plaintiffs contend that their proposed construction of the term "dental color materials" is consistent with its plain meaning and use within the Patent. Claim 17, itself, states that dental color materials are materials "from which artificial tooth material can be fabricated." (Patent, 11:13-16.) FN1 The Vita Plaintiffs also assert that their construction of the word "color" to mean the color of the artificial tooth

material, rather than the color of the dental color materials, is correct as based upon the use of "color" in the Patent.

From the briefs, Dentsply appears to agree with the Vita Plaintiffs' construction insofar as it concludes that dental color materials are "materials from which artificial tooth material can be fabricated." The remainder of Dentsply's construction, however, diverges from that of the Vita Plaintiffs. First, it requires that the dental color materials be capable of individual use. Second, it construes "color" to mean the color of the dental color materials, rather than the color of the artificial tooth material. In support of its construction, Dentsply relies on the language of claim 17 and certain phrases in the specification.

To interpret this term, the Court begins with the particular claim language used in the Patent. *Interactive Gift Express*, 256 F.3d at 1331. Turning, then, to the language of claim 17, the Court finds that it must reject Dentsply's proposed construction insofar as it requires that each dental color material be capable of individual use. Claim 17 states that "artificial tooth material can be fabricated from either one of said dental color materials *or* a color mixture of at least two of said dental color materials" (Patent, 11:13-16) (emphasis supplied). Although it is clear from this language that artificial tooth material may be fabricated from a single dental color material, the language does not actually *require* that *each and every* dental color material be capable of individual use. Accordingly, the Court finds that this portion of Dentsply's construction attempts to impose an unwarranted limitation or requirement on the term "dental color materials." The first sentence of the Vita Plaintiffs' construction does not contain this limitation. The Court, therefore, adopts this portion of the Vita Plaintiffs' construction.

The Court, however, rejects the remainder of the Vita Plaintiffs' proposed construction because review of the specification reveals as incorrect their construction of the term "color" to refer "to the color of the material fabricated into a restoration or repair, in contrast to the color of the material before it is fabricated." (Plaintiffs' Brief, p. 7). Rather, claim 17 and the specification support Dentsply's argument that the word "color" in the term "dental color materials" corresponds to the color of these materials, rather than the color of the artificial tooth material.

For example, claim 17 states that each dental color material in a set corresponds to a color lying at one of the intersections of the grid. (Patent, 11:28-31.) From this phrase, it is clear that each dental color material has a color of its own that corresponds to a color at a particular grid intersection. As a result, it is only logical that, when "color" is used in connection with the term "dental color material," it means the color of these materials, not the color of the artificial tooth material.

Another piece of evidence in support of this finding is the statement in the Patent that the set of dental color materials comprise a plurality of colors selected from an elongate body of potential "dental colors." (Patent, 4:41-49.) As above, this statement makes clear that the dental color materials each have a color of their own that the Patent refers to separately from the color of the fabricated artificial tooth material.

Finally, the Court finds relevant the fact that when the Patent refers to the color of artificial tooth material, it uses the term, "naturally occurring tooth color" or "tooth colors," rather than "dental color," or simply "color." (*See, e.g.*, Patent 4 :46-47; 5 :4; 5 :11-12; 7 :26.) Even in claim 17, the Patent states that the dental color materials enable fabrication of artificial tooth material in "substantially all the range of *naturally occurring tooth colors*." (Patent, 11:13-18) (emphasis supplied). From this the Court infers that when the patentee sought to refer to the color of the artificial tooth material, he coupled the word "color" with the word "tooth" and where he desired to refer to the color of the dental color materials, he paired the word

"color" with "dental."

Based on the foregoing, the Court rejects the second sentence of the Vita Plaintiffs' proposed construction, replacing it with, "The color refers to the color of the dental color material itself." The Court, however, emphasizes that the "color" of the dental color material is the color that the dental color materials assume *after* they have been fired, cured, or transformed from their "raw" state.FN2

Accordingly, for this term, the Court adopts the construction: "Materials from which an artificial tooth material can be fabricated. The color refers to the color of the dental color material itself."

B. "Color Mixture of At Least Two of Said Dental Color Materials"

Each party's proposed construction of "color mixture of at least two of said dental color materials" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
"Color mixture of at least two of said dental color materials"	A mixture of two or more of the dental color materials.	A combination of dental color materials corresponding to at least two different color designations.

The Vita Plaintiffs contend that their proposed construction is consistent with the term's plain meaning. On this basis and because it does not read any unnecessary limitations into the terms, the Vita Plaintiffs argue it should be selected over the construction advanced by Dentsply. Dentsply, on the other hand, contends its construction is correct because it recognizes that a "color mixture" requires the combination of at least two *different* colors.FN3

By definition, a mixture consists of "diverse elements." *The American Heritage Dictionary of the English Language* (4th ed.2000), available at <http://www.bartleby.com/61/>. Accordingly, the Court must agree with Dentsply that a "color mixture" results only when two *diverse* colors are mixed.FN4

Despite this agreement, the Court still rejects Dentsply's proposed construction of this phrase. The Court agrees with the Vita Plaintiffs that Dentsply's use of the term "color designations" is vague. The Court, therefore, adopts its own construction of this term, "A combination of two or more dental color materials that must be of different colors." FN5

C. "Substantially All the Range of Naturally Occurring Tooth Colors"

Each party's proposed construction of "substantially all the range of naturally occurring tooth colors" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
"Substantially all the range of naturally occurring tooth"	95% of the colors that naturally occur	Every color that may appear naturally in real teeth excluding a practically insignificant number of natural tooth colors located around the periphery of the natural tooth color space (or body).

colors"

in teeth.

The Court agrees with the Vita Plaintiffs that the dispute over the construction of this term centers around the words "substantially all."

The Vita Plaintiffs proposed construction rests upon a statement in the Patent specification. Dentsply's proposed construction, on the other hand, looks to the context in which this phrase is used, "said set of dental color materials enabling substantially all the range of naturally occurring tooth colors to be fabricated," and the way in which the Patent describes the process of this fabrication.

The Vita Plaintiffs challenge Dentsply's proposed construction on the ground that it improperly reads a limitation into the claim by attempting to limit where in the color space the missing colors are located. For the exact opposite reason, Dentsply criticizes the Vita Plaintiffs' construction: it fails to specify the location of the colors excluded. Dentsply also finds fault with the Vita Plaintiffs' proposed construction because its hard numeric limitation reads an unclaimed embodiment into the Patent.

Once again, the Court finds that it must reject all or at least a portion of each party's proposed construction.

First, as a matter of pure claim construction law, the Court cannot read a limitation from the specification into the claim. *Comark Communications, Inc. v. Harris Corp.*, 156 F.3d 1182, 186-87 (Fed.Cir.1998). A review of the Patent reveals that it is most likely capable of reproducing more than 95% of all naturally occurring tooth colors. According to Patent, "95% of all tooth colors [can] be reproduced by only the three central colors" (Patent, 3:8-13) that correspond to the central colors 201, 202 and 205 in Figure 10. The Patent, however, does not limit itself to these three central colors. Rather, the Patent claims a series of grids containing a number of intersections that correspond with the various colors of the dental color materials. (Patent, 11:26-27; 28-31.) Accordingly, if three central colors can produce 95% of all natural tooth colors, this Patent, which includes these three central colors plus an array of additional colors, should be able to reproduce greater than 95% of all tooth colors. Because the Vita Plaintiffs' proposed construction does not allow for such a result, it must be rejected.

Second, the Court rejects the portion of Dentsply's proposed construction that states where within the color space the missing colors can be found. The Court finds that this section of Dentsply's construction constitutes an improper limitation on this term. The limitation is not explicitly stated anywhere in the Patent. Rather, Dentsply drew this limitation from preferred embodiments and its interpretation of the process of selecting dental color materials. Because limitations contained in preferred embodiments should not be imported into claims, the Court cannot adopt this portion of Dentsply's construction. *Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 345 F.3d 1318, 1327 (Fed.Cir.2003).

Finally, the Court does adopt the first portion of Dentsply's proposed construction. The ordinary meaning of "substantially" is "largely but not wholly that which is specified." *Merriam-Webster Online Dictionary*, available at <http://www.merriam-webster.com>. The initial section of Dentsply's proposed construction, "excluding a practically insignificant number" sufficiently equates to the common and ordinary meaning of "substantially all." Accordingly, the Court adopts the initial portion of Dentsply's proposed construction. The construction of this term is, therefore, "Every color that may appear naturally in real teeth excluding a practically insignificant number of natural tooth colors."

D. "Enabling Substantially All the Range of Naturally Occurring Tooth Colors to be Fabricated"

Each party's proposed construction of "enabling substantially all the range of naturally occurring tooth colors to be fabricated" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
"Enabling substantially all the range of naturally occurring tooth colors to be fabricated"	Allowing 95% of the colors that naturally occur in teeth to be made.	The set of dental color materials is specifically configured for the purpose of matching every color that may appear naturally in real teeth excluding a practically insignificant number of natural tooth colors located around the periphery of the natural tooth space (or body).

In light of the previous section, the only portion of this term remaining to be construed is "enabling ... to be fabricated." The Vita Plaintiffs contend that their proposed construction is consistent with the plain meaning of the term. Dentsply argues that its construction is proper because it incorporates the fact that the set of dental color materials must be configured properly in order to enable the fabrication of the range of naturally occurring tooth colors.

The Court agrees with the Vita Plaintiffs that nothing in the Patent warrants any deviation from the ordinary meaning of this term. According to the *Merriam-Webster Online Dictionary*, "enable" means to "make possible" and "fabricate" means to "construct or manufacture." *Id.* The Vita Plaintiffs' proposed construction uses words that are satisfactorily synonymous with the dictionary definitions of these terms and, therefore, the Court adopts that portion of the Vita Plaintiffs' proposed construction that corresponds to "enabling ... to be fabricated."

The Court notes that it rejects Dentsply's proposed construction because it departs from the plain and ordinary meaning of this term. Specifically configuring the dental color materials for the purpose of matching every color does not equate to enabling those colors to be fabricated from the dental color materials.

Incorporating the construction of "substantially all the range of naturally occurring tooth colors," the final construction of this term is "allowing every color that may appear naturally in real teeth excluding a practically insignificant number of natural tooth colors to be made."

E. "Elongate Body of Possible Dental Colors Represented on a Color Coordinate System"

Each party's proposed construction of "elongate body of possible dental colors represented on a color coordinate system" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
"Elongate body of possible dental colors represented on a color coordinate	The portion of a color coordinate system that corresponds to the possible colors of a tooth or teeth. A color coordinate system is a coordinate system that is intended to represent color and may be, for example either Cartesian or polar. Examples include	A three dimensional, mathematical model of the tooth color space presented in graphical form that has a generally long and slender

The Vita Plaintiffs contend their proposed construction is correct because it "recognizes that the 'elongate body' simply refers to the representation of the possible dental colors within a color coordinate system and provides a definition for 'color coordinate system' that is consistent with the ordinary meaning of the term." (Plaintiffs' Brief, p. 14.) Dentsply disagrees, arguing that the Vita Plaintiffs' construction lacks sufficient clarity and definiteness. Instead, Dentsply encourages the Court to adopt its proposed construction because, by including the word "mathematical," it constitutes a "clear, concrete construction that can be understood and practically applied." (Defendant's Opp'n, p. 17.)

The Court adopts the Vita Plaintiffs' proposed construction because neither the Patent claims nor specification provide a reason to include the limitation proposed by Dentsply. Although, perhaps, the "elongate body" could be described in mathematical terms, it is not mandatory under the Patent, which describes this concept in graphical and geometric terms. Even Dentsply admits that the Patent does not explicitly set forth that the elongate body is inherently mathematical. (*Id.* at 16.) Rather, Dentsply relies upon expert testimony for the proposition that a person of ordinary skill would understand that more precision, presumably obtainable through mathematics, is required to make and use the invention. (*Id.*) Such expert testimony, however, cannot serve as the basis of claim construction where, as here, the intrinsic evidence is unambiguous. *Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys.*, 132 F.3d 701, 706 (Fed.Cir.1997) ("When the intrinsic evidence is unambiguous, it is improper for the court to rely on extrinsic evidence, such as expert testimony for purposes of claim construction.") The Patent simply does not define this phrase in a manner limited to mathematical terms, and, therefore, this Court cannot read such a limitation into the claim.

Based on the foregoing, and because the Court finds that the Vita Plaintiffs' construction is based upon the ordinary meaning of terms in the phrase "elongate body of possible dental colors represented on a color coordinate system," the Court adopts the Vita Plaintiffs' construction.

F. "Notionally Cutting an Elongate Body of Possible Dental Colors"

Each party's proposed construction of "notionally cutting an elongate body of possible dental colors" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
"Notionally cutting an elongate body of possible dental colors"	Conceptually (graphically) dividing the elongate body of possible dental colors by locating conceptual slices in that elongate body; slicing through a three dimensional graph of the color parameters of human teeth.	Dividing by mathematical manipulation the three dimensional representation of the color space at selected locations along the longitudinal axis to identify planar surfaces extending through the graphically represented elongate body.

Because the Court has already construed the phrase "elongate body of possible dental colors," the only portion of this term that remains to be construed is "notionally cutting." Both the Vita Plaintiffs and Dentsply agree that "cutting" should be construed as "dividing." The parties, however, differ over the proper construction of "notionally."

The Vita Plaintiffs assert that the term "notionally" should be given its ordinary meaning because there is nothing in the specification or file history to suggest otherwise. Dentsply, on the other hand, argues that there is no plain meaning of "notionally" that is relevant to the Patent. Therefore, Dentsply asserts, construction of the term must include the concept that the "cutting" must be done through mathematical manipulations.

The Court agrees with the Vita Plaintiffs that "notionally" should be given its plain and ordinary meaning because nothing in the Patent requires that the cuts be made pursuant to mathematical manipulations. As noted above, the Patent describes the elongate body and the cuts that must be made thereto in geometric and graphical terms, using such words as "axis", "plane", "parallel" and "equally spaced", not in terms of specific mathematical calculations. (Patent, 6:15-20.) To require these cuts, or divisions, to be made through mathematical manipulation, therefore, would be to import an unnecessary limitation into this claim.

Because the Vita Plaintiffs' construction of "notionally" coincides with the dictionary's definition of this term as "theoretical" or "conceptual," *Merriam-Webster Online Dictionary*, available at www.merriam-webster.com, the Court adopts their construction of this word. The Court also adopts the remainder of the Vita Plaintiffs' construction of this term.FN6

Accordingly, the Court adopts the Vita Plaintiffs' construction of "notionally cutting an elongate body of possible dental colors."

G. "Notionally Locating a Regular Grid of Lines"

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
Notionally locating a regular grid of lines.	Conceptually (graphically) superimposing a symmetrical pattern of crossing lines.	Mathematically identifying a pattern of uniformly spaced lines in an ordered relationship on each plane or surface as identified in the preceding step.

Because in its Opposition, Dentsply expresses agreement with the Vita Plaintiffs' construction of "locating" as "superimposing," the Court need not construe this word. (Defendant's Opp'n, p. 19.) In addition, as it did in the previous term, the Court construes the word "notionally" as "conceptually." Under the rules of patent construction, the same word in a patent must be given the same meaning throughout. *See Phonometrics, Inc. v. Northern Telecom Inc.*, 133 F.3d 1459, 1465 (Fed.Cir.1998) ("A word or phrase used consistently throughout a patent should be interpreted consistently.").

For this term, the Court, therefore, need only construe "regular grid of lines." Although the parties appear to agree that a grid of lines constitutes crossing lines (Defendants' Opp'n, p. 19), the parties disagree over the construction of "regular." The Vita Plaintiffs' construe this term to mean "symmetrical," while Dentsply proposes "uniformly spaced."

As noted above, in patent construction, there is a "heavy presumption" that the words in claims have their ordinary or accustomed meaning. Johnson, 175 F.3d at 989. In *The American Heritage Dictionary of the English Language*, "regular" is defined as "orderly, even or symmetrical." *Id.*, available at <http://www.bartleby.com/61/>. Because the Vita Plaintiffs' construction of "regular" is consistent with its dictionary definition, and Dentsply's construction is not, the Court must accept the Vita Plaintiffs'

construction unless the patentee clearly ascribed this term a special meaning. *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1362-63 (Fed.Cir.1999). Since no special meaning was ascribed to this term, the Court adopts the Vita Plaintiffs' construction of "notionally locating a regular grid of lines."

H. "Selecting a Plurality of Colors of Said Set of Dental Color Materials for Each Cut"

Each party's proposed construction of "selecting a plurality of colors of said set of dental color materials for each cut" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
Selecting a plurality of colors of said set of dental color materials for each cut.	Choosing more than one color for each cut.	A group of colors lying on each previously identified planar surface of the three dimensional model of the tooth color space is chosen for use in the set of dental color materials.

At oral argument, the Vita Plaintiffs indicated their acceptance of Dentsply's construction of this term. Accordingly, the Court adopts Dentsply's construction of "selecting a plurality of colors of said set of dental color materials for each cut."

I. "CIELAB System"

Each party's proposed construction of "CIELAB system" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
CIELAB system	A color coordinate system in which the coordinates include luminance (value), hue and chromacity.	The CIELAB system is officially designated as CIE (1976) L*a*b* and is the standard system for measuring color developed by the Commission Internationale de l'Eclairage (CIE), the coordinates of which are L*, a* and b*.

In support of their proposed construction, the Vita Plaintiffs argue that the patentee has acted as his own lexicographer for the term CIELAB system by clearly defining the term in the specification. *Vitronics*, 90 F.3d at 1582 ("The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication.") (*citing* *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.Cir.1995)).

Dentsply proposes to define CIELAB system in accordance with its well-accepted plain meaning. According to Dentsply, the Vita Plaintiffs' proposed construction is erroneous because it seeks to include chromaticity and hue as coordinates of the CIELAB system interchangeable with a* and b*. Moreover, Dentsply argues, the portion of the specification that the Vita Plaintiffs' assert "clearly defines" this term only states that the coordinates chromaticity and hue belong to a "variant" of the CIELAB system, not the CIELAB system itself. The Vita Plaintiffs, on the other hand, criticize Dentsply's proposed construction because it erroneously defines the CIELAB system to exclude hue and chromacity.

The Court adopts the Vita Plaintiffs proposed construction and rejects Dentsply's for two reasons. First,

because the patentee provided a clear definition of this term in the specification, the construction of this term must not exclude any aspect of that definition. Here, the patentee defined the CIELAB system as a three-dimensional cartesian coordinate system, the coordinates of which are L^* , a^* and b^* . (Patent, 1:55-67.) In addition, the definition noted that the rectangular coordinates, a^* and b^* , can be expressed as the polar coordinates C and h , chromacity and hue. (*Id.*) While the definition did state that chromacity and hue belong to a "variant" of the "coordinate system," this does not mean that this "variant" coordinate system does not fall under a broader umbrella of the CIELAB system. Because the Vita Plaintiffs' construction expressly includes chromacity and hue, while Dentsply's proposed construction, as well as their arguments excludes them, the Court finds the Vita Plaintiffs' construction more appropriate.

Second, the Court finds that, even absent the definition in the specification, the plain meaning of CIELAB does include chromacity and hue, contrary to Dentsply's assertions. Although these two coordinates may not be precisely interchangeable with a^* and b^* , they still fall within CIELAB's three-dimensional cartesian coordinate system. (*See* Declaration of Charles R. Halloran, Exs. C and D, Wyszecski and Stiles, *Color Science: Concepts and Methods, Quantitative Data and Formulae* 168-69 (2d Ed.1982); Billmeyer and Saltzman, *Principles of Color Technology*, 64-65 (2d Ed.1981).) Accordingly, the Court finds Dentsply's construction of this term too narrow because it excludes chromacity and hue.

For these reasons, the Court adopts the Vita Plaintiffs' construction of "CIELAB system."

J. "Approximately 3 Degrees in Hue Towards Red"

Each party's proposed construction of "approximately 3 degrees in hue towards red" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
Approximately 3 degrees in hue towards red	2-4 degrees in hue towards red.	A radial parameter in the direction of red that is equal to or nearly exactly equal to 3 degrees and is narrower in range than 2-4 degrees.

Both parties agree that the only dispute regarding this term relates to the meaning of "approximately." The Vita Plaintiffs contend that their proposed construction is appropriate because it relies on limits set within the specification. According to Dentsply, however, the Vita Plaintiffs err in construing "approximately" as a hard numerical limit.

The term "approximately 3 degrees in hue towards red" is used in claim 18 and describes the offset for each adjacent cut. (Patent, 11:37-38.) The specification provides a preferred embodiment of this term, stating that the "preferred offset is in the range of from 2-4 degrees of hue towards the red." (Patent, 5:5-6.) Because a claim construction that excludes a preferred embodiment is "rarely, if ever, correct," *Vitronics*, 90 F.3d at 1583, the construction of the word "approximately 3" must cover offsets of 2-4 degrees in hue towards red. Because Dentsply's proposed construction clearly does not include offsets of 2 or 4, but only values in between, it must be rejected. The Vita Plaintiffs' proposed construction, however, clearly accommodates this preferred embodiment.

Accordingly, the Court adopts the Vita Plaintiffs' proposed construction of "approximately 3 degrees in hue towards red."

K. "Spaced Apart By Approximately Five Units of Luminance"

Each party's proposed construction of "spaced apart by approximately five units of luminance" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
Spaced apart by approximately five units of luminance	Separated by 4-6 units in luminance reflectance. Luminance is how light or dark a color is.	Separated by a distance that is equal to or nearly exactly equal to 5 units of luminance and is narrower in range than 4-6 units.

The construction of this claim requires an analysis nearly identical to that used for the immediately preceding term, "approximately 3 degrees in hue towards red." Similar to the construction of that term, the only dispute in connection with this term is over the meaning of "approximately."

This term, which is found in claim 19, relates to the spacing of the four cuts that are made through the elongate color space. In the specification, the patentee provides a preferred embodiment for this claim, stating that the "preferred offset is in the range of from 2-4 degrees of hue towards the red for each 4-6 unit decrease in luminance." Once again, because a claim construction that excludes a preferred embodiment is "rarely, if ever, correct," *Vitronics*, 90 F.3d at 1583, the construction of the word "approximately five" must cover the full preferred range of 4-6 units of luminance. Dentsply's proposed construction does not meet this requirement. The Vita Plaintiffs' proposed construction, however, clearly does. The Court, therefore, adopts the Vita Plaintiffs' proposed construction of "spaced apart by approximately five units of luminance."

L. "Artificial Tooth"

Each party's proposed construction of "artificial tooth" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
Artificial tooth	All or part of a man made replacement for a natural tooth, including for example, bridges, crowns, partial dentures and dentures.	A man made replacement for a complete natural tooth, including, for example, pontics, removable partial dentures and full dentures.

With regard to the construction of this claim, the parties essentially dispute whether the term "artificial tooth" includes a man-made replacement for part of a complete tooth.

Dentsply proposes a construction that is consistent with the plain meaning of this term. The Vita Plaintiffs, on the other hand, contend that portions of the specification support their construction. In addition, they argue that a person of ordinary skill in the art would understand that, in the context of this Patent, an "artificial tooth" encompasses both an entire tooth and part of a tooth.

Under the rules of claim construction, a presumption exists that the term to be construed has its plain and ordinary meaning. *Johnson*, 175 F.3d at 989. In order to depart from that presumption, any special meaning must be stated with reasonable clarity and precision in the patent or its prosecution history such that a person of ordinary skill in the art would understand that the patentee intended to redefine the term. *Merck & Co., Inc. v. Teva Pharmaceuticals USA, Inc.*, 395 F.3d 1364, 1370 (Fed.Cir.2005).

The Patent does not contain any clear indication that the patentee intended to ascribe a special meaning to the term "artificial tooth." The statement in the specification that the Vita Plaintiffs cite in support of such a proposition only refers to partial tooth replacements in explaining that the Patent's color mixture indicator devices can be used to select the desired artificial tooth coloring for the fabrication of such things as crowns and dentures. Because this statement does not refer to an "artificial tooth," but, rather, to "artificial tooth coloring," it is clearly not sufficient to attach a special meaning to the term "artificial tooth." Likewise, the specification's occasional references to "tooth restorative materials" and "restorations" do not put a person of ordinary skill in the art on notice that the patentee intended to redefine "artificial tooth" to include more than just a complete man-made tooth.FN7

Because this Court finds that the patentee did not act as his own lexicographer with regard to the term "artificial tooth," the Court must construe this term consistent with its plain and ordinary meaning. The court agrees with Dentsply that the plain meaning of this term is "a man-made replacement for a complete natural tooth" and that any construction that includes only part of an artificial tooth, such as a crown, would depart from this plain meaning.

Based on the foregoing, the Court adopts Dentsply's proposed construction of "artificial tooth."

M. "The Mixed Dental Color Materials"

Each party's proposed construction of "the mixed dental color materials" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
The mixed dental color materials	The combination of dental color materials.	Combined dental color materials corresponding to at least two different color designations.

The Vita Plaintiffs seek adoption of their proposed construction on the grounds that it comports with the plain meaning of this term. While Dentsply disagrees with this construction and offers one of its own, its main argument is that this term, which is found in dependent claim 21, suffers from indefiniteness.

First, the Court finds that this term does not render claim 21 invalid on the basis of indefiniteness. Even though the term "the mixed dental color materials" is not explicitly set forth in claim 20, from which claim 21 depends, the Court finds that, contrary to Dentsply's assertion, this is a situation where a "thorough attempt to understand the meaning of the claim" can resolve any ambiguity. All Dental Prodx, LLC v. Advantage Dental Prods., Inc., 309 F.3d 774, 780 (Fed.Cir.2002). In addition, the Manual of Patent Examining Procedure states that the lack of antecedent basis for a term does not render a claim indefinite so long as a person skilled in the art can reasonably ascertain the scope of the claim. MPEP, s. 2173.05(e).

In resolving any ambiguities created by the absence of an explicit antecedent, a court may refer to the claim language, the specification and the prosecution history. All Dental Prodx, 309 F.3d at 780. Looking at the language of claim 21 and claim 20, from which claim 21 depends, it is clear that a sufficient antecedent basis for the term "the mixed dental color materials" exists such that a person skilled in the art could reasonably ascertain the scope of the claim.

Claim 20 recites "[a]n artificial tooth fabricated from *at least one dental color material* of a set of dental

color materials." By using the words, "at least," this term indicates that the artificial tooth may be fabricated from not only one, but from two or more, dental color materials. When read in light of this portion of claim 20, the term "the mixed dental color materials," therefore, clearly refers to that situation in which an artificial tooth is fabricated from a combination of more than one dental color material.

Moreover, the specification, which can provide guidance regarding an ambiguous term, notes that "[p]referably, an artificial tooth can be fabricated from a color mixture of two of said dental color materials." (Patent, 4:62-63.) This preferred embodiment of Claim 20 makes clear that the term "the mixed dental color materials," which depends on Claim 20, refers to those dental color materials, either two or more, that are being used to fabricate an artificial tooth.

Next, because the Court has found that this term is sufficiently definite, it must determine its proper construction. At the claim construction hearing, the parties agreed that the construction of this term should resemble that of "color mixture of at least two said dental color materials." The only difference between these terms is the absence of the phrase "at least two" in the current term. Accordingly, for this term, the Court adopts the construction: "A combination of dental color materials that must be of different colors."

N. "Two of the Mixed Dental Color Materials Lie Adjacent in a Vertical Plane of the Said Grid"

Each party's proposed construction of "two of the mixed dental color materials lie adjacent in a vertical plane of the said grid" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
Two of the mixed dental color materials lie adjacent in a vertical plane of the said grid	Two of the mixed colors are located next to one another and at different levels of luminance.	Two of the mixed colors are located next to one another along a line parallel to the b^* axis at a luminance level defined by one of the substantially parallel cuts.

While the parties appear not to dispute the meaning of "two of the mixed dental color materials" or "lie adjacent," the remainder of the parties' proposed constructions dramatically differ. In the Vita Plaintiffs' proposed construction, the vertical plane of the grid is parallel to the luminance axis, L^* , such that two adjacent colors within this plane will possess different levels of luminance. In support of this construction, the Vita Plaintiffs rely on the definition of the CIELAB system provided in the Patent, which states that the "vertical" axis of the CIELAB system represents luminance or lightness. (Patent, 1:55-62.) The Vita Plaintiffs also contend that Figures 1 through 3 of the Patent confirm the accuracy of their construction. (Vita Plaintiffs' Supp. Brief, pp. 3-4.)

In contrast, Dentsply's proposed construction defines "vertical" as parallel to the b^* axis. Therefore, under Dentsply's proposed construction, the two adjacent dental color materials share nearly the same luminance level. In drafting this construction, Dentsply drew upon those portions of the specification that used the word "vertical" in connection with the mixing of colors. (Patent, 5:32-33; 7:55-58, 61-62; 12:15-23.) For example, the specification notes that, after determining "the correct luminance level [it is] necessary to determine where the tooth color to be matched lies with respect to the three central *vertical* color samples," which fall *along the b^* axis*, on which the yellow/blue color mix is represented. (Patent, 7:55-58) (emphasis supplied).

In addition, review of the Patent reveals additional evidence that "vertical" refers to the b^* axis, as opposed to the L^* , or luminance, axis. First, when describing a preferred embodiment of the grids, (Patent, Fig.10), the patentee noted that "the distance between two adjacent colors in the b plane (i.e. the 'height' of the grid) is approximately 5 units." (Patent, 6:53-55.) Accordingly, it appears that, under the Patent, adjacent colors or dental color materials in the "vertical plane" fall in the b^* , or height, plane. Second, when describing mixing of "dental color materials," a process to which the claim in which this phrase is found relates, the specification indicates that the potential colors to be mixed are drawn from one grid, which makes clear that the dental color materials "adjacent in the vertical plane" share approximately the same level of luminance. (Patent, 7:2-5.)

Moreover, the Vita Plaintiffs' construction is incorrect because it does not afford any weight to the phrase "of said grid." The "said grid" to which this term refers is the grid that is located on one of the planar cuts taken from the three-dimensional elongate body of possible dental colors. This grid, because it is two-dimensional, contains only the b^* and the a^* axes; the L^* axis is lacking. Accordingly, a vertical plane "of said grid" cannot be defined in terms of the missing L^* axis.

Based on these reasons and the other intrinsic evidence, the Court construes the "vertical plane of the said grid" to run parallel to the b^* axis of the grids on the cuts, not the vertical L^* axis of the full, three-dimensional color coordinate system.FN8 Because Dentsply's construction defines "vertical plane of the said grid" to run parallel to the b^* axis and requires the adjacent points to share nearly the same luminance levels, the Court adopts Dentsply's construction of "two of the mixed dental color materials lie adjacent in a vertical plane of the said grid." FN9

O. "Two of the Mixed Dental Color Materials Lie Adjacent in a Horizontal Plane of Said Grid"

Each of the party's proposed construction of "two of the mixed dental color materials lie adjacent in a horizontal plane of said grid" is as follows"

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
Two of the mixed dental color materials lie adjacent in a horizontal plane of said grid	Two of the mixed colors are located next to one another and at approximately the same level of luminance.	Two of the mixed colors are located next to one another along a line parallel to the a^* axis at a luminance level defined by one of the substantially parallel cuts.

For reasons similar to those expressed in connection with the preceding term, the Court adopts Dentsply's construction of this term. When the specification referred to the grids, it spoke in context of the a^* and b^* axes, not the L^* axis. (Patent, 6:49-51.) Furthermore, when describing a preferred embodiment of this claim (Patent, Fig.10), the specification stated "the distance between adjacent colors in the a plane (i.e. one half of the 'width' of the grid) is about 2.5 units." (Patent, 6:56-57.) Therefore, the "horizontal plane of said grid" on which adjacent colors are located is a plane that coincides specifically with the a^* axis.

In their supplemental brief, the Vita Plaintiffs contend that this construction is incorrect because it is based on Figure 14 in the specification, which embodies "color samples" rather than "planes of the grid." This argument is not well taken because even though Figure 14 is a "worksheet," according to the Patent, it depicts the "said grid" or grids to which this term refers. (Patent, 5:27-31; 8:22-24.) Accordingly, the

"adjacent horizontal color samples" of Figure 14 correspond to dental color materials that lie adjacent in the horizontal plane of said grid.

Based on the foregoing, the Court adopts Dentsply's construction of "two of the mixed dental color materials lie adjacent in a horizontal plane of said grid."

P. "A Color Mixture of Only Two of Said Dental Color Materials are Mixed"

Each of the party's proposed construction of "a color mixture of only two of said dental color materials are mixed" is as follows:

	Vita Plaintiffs' Proposed Claim Construction	Dentsply's Proposed Claim Construction
A color mixture of only two of said dental color materials are mixed	A mixture made from a combination of only two dental color materials.	A combination of dental color materials corresponding to only two different color designations.

Because the parties agree that the term "only two" means simply that, just two, the dispute surrounding the construction of this term does not differ from that surrounding the construction of "color mixture of at least two of said dental color materials." Because, above, the Court construed the "at least two" term to mean "a combination of two or more dental color materials that must be of different colors," the Court construes the "only two" term to mean "a combination of only two dental color materials that must be of different colors."

Q. Product-by-Process Claims

In addition to seeking construction of certain terms contained in claims 17 through 22, both parties request that this Court decide a question that affects the construction of two of these claims in their entirety: are claims 17 and 20, which both parties agree to be product-by-process claims, limited to products prepared by the process steps set forth in these claims? The Vita Plaintiffs argue that the correct answer to this question is no, as determined by the file history and controlling authority. Dentsply, on the other hand, asserts that claims 17 and 20 should be construed as limited to products prepared exclusively by the processes in these claims. To justify its answer, Dentsply also relies on the prosecution history and legal authority. Upon careful review of the parties' arguments, this Court finds itself in agreement with the Vita Plaintiffs that claims 17 and 20 are not limited to products only prepared by the processes set forth in these claims.

In coming to this conclusion, the Court considered both the prosecution history and current legal authority governing product-by-process claims. Turning first to the prosecution history, the parties dispute the effect that amendments the patentee made to claims 17 and 20 in order to achieve allowance had on the scope of these claims. According to the Vita Plaintiffs, the amendments, which transformed the relevant claims from product to product-by-process claims, simply satisfied the examiner that the limitations drawn to the selection of colors were positively recited. The Vita Plaintiffs contend that the amendments did not, as Dentsply argues, limit the scope of these claims to products made by the exact process steps. Rather, even after the amendments, products made by any process would infringe claims 17 and 20 so long as they displayed the characteristics that a product made by the process steps in these claims would possess.

Dentsply vigorously disputes the Vita Plaintiffs' interpretation of the effect that these amendments had on claims 17 and 20. According to Dentsply, because these claims were transformed into product-by-process

claims during prosecution of the Patent, the process step limitations cannot now be disavowed. *Markman*, 52 F.3d at 980. In other words, because these process steps were added during prosecution to gain allowance, only products made by the process steps fall within the scope of these claims. As support for its argument, Dentsply relies on the fact that the patent examiner found that, absent the process limitations, the products claimed in claims 17 and 20 were unpatentable as anticipated by prior art.FN10

The Court agrees with Dentsply that, under the law of the Federal Circuit, limitations introduced during patent prosecution cannot later be disclaimed. *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed.Cir.1995). The Court, however, disagrees with Dentsply's interpretation of the actual effect that the product-by-process amendments had on claims 17 and 20.

Under *Southwall Technologies* and similar Federal Circuit cases, it is clear this Court may not simply ignore the fact that claims 17 and 20 became product-by-process claims during patent prosecution. The Court must, as it does, find that the process steps in these claims limit and define the products covered by these claims insofar as the process steps imbue the resulting products with structural characteristics. In *re Thorpe*, 777 F.2d 695, 697 (Fed.Cir.1985). The Court, however, does not, as Dentsply contends it must, hold that the process step amendments limit the scope of claims 17 and 20 to only those products made by the exact process steps. The prosecution history simply does not require such a result. Nowhere does either the patentee or the patent examiner state that, after the transformation to a product-by-process format, claims 17 and 20 are limited exclusively to products made by the process steps, rather than to any products possessing the characteristics of products made by those process steps. Without such a statement, this Court cannot construe these claims so narrowly. *See Deering Precision Instruments L.L.C. v. Vector Distrib. Sys.*, 347 F.3d 1314, 1326 (Fed.Cir.2003) ("To invoke argument-based estoppel, the prosecution history must evince a clear and unmistakable surrender of subject matter.") (quotations omitted).

Accordingly, this Court finds that the prosecution history does not preclude claims 17 and 20 from encompassing products made by different processes so long as they display the characteristics a product made by the process steps in these claims would possess. In so doing, the Court recognizes the amendments and the manner in which they limit and define claims 17 and 20, without narrowing the claims beyond what appears to have been the intent of the patentee and patent examiner. To be sure, the Court must consider the transformation of these claims from product to product-by-process claims. But the fact that the claims were so transformed does not require a different treatment than if they had been so drafted originally. The question becomes, What is the scope of a product-by-process claim as a matter of law, an issue next discussed.

Having decided the effect of the prosecution history on claims 17 and 20, the Court must now determine the proper scope of these claims under Federal Circuit law. According to the Vita Plaintiffs, *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565 (Fed.Cir.1991), which held that "the correct reading of product-by-process claims is that they are not limited to product prepared by the process set forth in the claims," governs this issue. *Id.* at 1583. Dentsply, on the other hand, argues that a later-decided case, *Atlantic Thermoplastics, Co., Inc. v. Faytex Corp.*, 970 F.2d 834 (Fed.Cir.1992), which ruled that "process terms in product-by-process claims serve as limitations in determining infringement," should control. *Id.* at 846-47.

In the Federal Circuit, "prior decisions of a panel of the [Federal Circuit] are binding precedent on subsequent panels unless and until overturned *in banc* " and "[w]here there is direct conflict, the precedential decision is the first." *Newell Cos., Inc. v. Kenney Mfg. Co.*, 864 F.2d 757, 765 (Fed.Cir.1988).

Therefore, because the Federal Circuit decided *Scripps* before *Atlantic Thermoplastics* and has never been overturned *in banc*, under *Newell*, *Scripps* should control this question. Dentsply, however, vigorously opposes such a result because, it argues, *Scripps* was decided in error. Citing to *Atlantic Thermoplastics*, Dentsply asserts that *Scripps* improperly ignored more than 100 years of Supreme Court precedent. *See Atlantic Thermoplastics*, 970 F.2d at 1485-87 (setting forth a detailed discussion of Supreme Court case law). Moreover, according to Dentsply, *Scripps* should be rejected because it "displays very little in the way of sound reasoning or detailed analysis." (Opp'n, p. 7.)

Even if this Court were to agree with Dentsply that *Atlantic Thermoplastics* constitutes a better-reasoned decision, because the rule in *Newell* dictates that, where cases conflict, the earlier case controls, this Court is not at liberty to "simply choose the rule which [it] deem[s] the better policy." *Trustees of Columbia Univ. v. Roche Diagnostics GmbH*, 126 F.Supp.2d 16, 32 (D.Mass.2000). Accordingly, the Court finds that it is bound to apply the holding of *Scripps* that product-by-process claims are not limited to products prepared by the exact process set forth in those claims.FN11 The Court, therefore holds that claims 17 and 20 can be infringed by products made by different process steps, so long as these products display the specific characteristics that a product made by the process steps in claims 17 and 20 would possess.

Conclusion

The Court construes the disputed terms as follows:

TERM	CONSTRUCTION
"Dental color material"	Materials from which an artificial tooth material can be fabricated. The color refers to the color of the dental color material itself.
"Color mixture of at least two of said dental color materials"	A combination of two or more dental color materials that must be of different colors
"Substantially all the range of naturally occurring tooth colors"	Every color that may appear naturally in real teeth excluding a practically insignificant number of natural tooth colors.
"Enabling substantially all the range of naturally occurring tooth colors to be fabricated"	Allowing every color that may appear naturally in real teeth excluding a practically insignificant number of natural tooth colors to be made.
"Elongate body of possible dental colors represented on a color coordinate system"	The portion of a color coordinate system that corresponds to the possible colors of a tooth or teeth. A color coordinate system is a coordinate system that is intended to represent color and may be, for example either Cartesian or polar. Examples include CIELAB.
"Notionally cutting an elongate body of possible dental colors"	Conceptually (graphically) dividing the elongate body of possible dental colors by locating conceptual slices in that elongate body; slicing through a three dimensional graph of the color parameters of human teeth.
"Notionally locating a regular grid of lines"	Conceptually (graphically) superimposing a symmetrical pattern of crossing lines.
"Selecting a plurality of colors of said set of dental color materials for each cut"	A group of colors lying on each previously identified planar surface of the three dimensional model of the tooth color space is chosen for use in the set of dental color materials.
"CIELAB system"	A color coordinate system in which the coordinates include luminance (value),

	hue and chromacity.
"Approximately 3 degrees in hue towards red"	2-4 degrees in hue towards red.
"Spaced apart by approximately five units of luminance"	Separated by 4-6 units in luminance reflectance. Luminance is how light or dark a color is.
"Artificial tooth"	A man made replacement for a complete natural tooth, including, for example, pontics, removable partial dentures and full dentures.
"The mixed dental color materials"	A combination of dental color materials that must be of different colors.
"Two of the mixed dental color materials lie adjacent in a vertical plane of the said grid."	Two of the mixed colors are located next to one another along a line parallel to the b* axis at a luminance level defined by one of the substantially parallel cuts.
"Two of the mixed dental color materials lie adjacent in a horizontal plane of said grid"	Two of the mixed colors are located next to one another along a line parallel to the a* axis at a luminance level defined by one of the substantially parallel cuts.
"A color mixture of only two of said dental color materials are mixed"	A combination of only two dental color materials that must be of different colors.

In addition, the Court construes the product-by-process claims to encompass products made by different process steps than those contained in claims 17 and 20, so long as they possess the specific characteristics that a product made by the process steps in these claims would display.

FN1. Citations to the Patent are made to column and line number as "___:___-___."

FN2. The Court also notes that, at the claim construction hearing, counsel for both sides agreed that the color of the "raw" dental color materials, e.g. the nearly identically-colored powders, would not play any role in the litigation of the Vita Plaintiffs' infringement claims.

FN3. Neither party disputes that this term requires the combination of two or more materials.

FN4. To some extent, the Vita Plaintiffs appear to agree, noting that a "color mixture" that results from the technique of "layering" involves two materials that do not have identical color. (Plaintiff's Brief, p. 9.) In their main argument, however, the Vita Plaintiffs contend that requiring the dental color materials to be of different colors unnecessarily imports a limitation into claim 17 that is later recognized in dependent claim 22. The Court, however, disagrees. Claim 22 contains a much narrower limitation than the basic requirement that a "color mixture" must contain dental color materials of different colors. According to Claim 22 the dental color materials that are in the mixture not only must be different colors, but must *also* be adjacent in the vertical or horizontal planes of the grid. Accordingly, construing this portion of claim 17 to require the "color mixture" to combine dental color materials of different colors does not improperly import a limitation from a later dependent claim.

FN5. The Court notes that had this term not included the word "color" before mixture, the result might have been different. In the absence of the word "color", the Court may have construed this phrase to mean a mixture of two dental color materials that shared the same color but differed in other ways, e.g., powder versus liquid, etc. But, here, "color" clearly modifies the word "mixture". Thus, the proper construction must recognize that the "mixture" must contain two or more different *colors*, not, for example, two dental color materials of the same color but of different forms.

FN6. In its Opposition, Dentsply offered to accept the Vita Plaintiffs' construction, as long as they dropped the word "conceptually." Even though the Court has concluded that "conceptually" actually is the proper construction of "notionally," the Court holds Dentsply to its statements in its Opposition that it does not dispute the remainder of the Vita Plaintiffs' construction.

FN7. In a final effort to achieve adoption of their claim, the Vita Plaintiffs assert that a person of ordinary skill would understand that "artificial tooth" encompasses both an entire tooth and part of a tooth. In support of this argument, the Vita Plaintiffs provide expert testimony. (*See* Declaration of William O'Brien, para. 15.) The Court, however, declines to rest its decision solely on the testimony of the Vita Plaintiff's expert because it is conclusory, failing to state anything more than that a person of ordinary skill would understand that an "artificial tooth" in the context of the Patent encompasses both an entire tooth and part of a tooth. (*Id.*)

FN8. As a result of this construction, because the adjacent points exist on the same cuts, they will share nearly the same level of luminance.

FN9. In its supplemental brief, Dentsply argues that the patentee acted as his own lexicographer with regard to the term "vertical." The Court disagrees. The construction that the Court adopts gives "vertical" its usual meaning in a two-dimensional context. No further doctrinal embroidery is required.

FN10. In fact, Dentsply states that if the Vita Plaintiffs prevail on this issue, it will move for invalidity based on more than 20 prior art dental products. (Opp'n, p. 9 n. 11.)

FN11. In making this decision, the Court also found persuasive the fact that very few courts have ignored the rule in *Newell* and followed the holding of *Atlantic Thermoplastics* instead of *Scripps*. *See AK Steel Corp. v. Sollac & Ugine*, 234 F.Supp.2d 722, 739 (S.D.Ohio 2002) (rejecting *Scripps* because it did not consider Supreme Court precedent and following *Atlantic Thermoplastics*); *Tropix, Inc. v. Lumigen, Inc.*, 825 F.Supp. 7, 10 (D.Mass.1993) (following *Atlantic Thermoplastics* because the court believed the majority of Federal Circuit judges would find that case to be controlling law). Rather, most courts that have addressed the question of product-by-process claims in light of the *Scripps/Atlantic Thermoplastics* split, have elected to follow *Scripps*. *See, e.g., Aventis Pharms., Inc. v. Barr Labs., Inc.*, 335 F.Supp.2d 558, 582 (D.N.J.2004) (holding that "[u]ntil the *Scripps* decision is rejected by a hearing *en banc*, it is the

precedential decision"); *Syngenta Seeds, Inc. v. Monsanto Co.*, Civ. No. 02-1331-SLR, 2004 U.S. Dist. LEXIS 24253, at n. 4 (D.Del.2004) (recognizing the split between *Scripps* and *Atlantic Thermoplastics* and holding that "where Federal Circuit precedent conflicts, the earlier precedent controls"); *Mannington Mills, Inc. v. Armstrong World Indus.*, 218 F.Supp.2d 594, 598-600 (D.Del.2002) (noting a conflict between *Scripps* and *Atlantic Thermoplastics* and electing to follow *Scripps* as the "controlling and better law").

C.D.Cal.,2005.

Vita Zahnfabrik H. Rauter GMBH & Co. KG v. Dentsply Intern., Inc.

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