United States District Court,
District of Columbia.

X-RITE, INC,
Plaintiff.
v.
ACCUDENT PTY LTD,
Defendant.

Civil Action No. 02-2337 (RWR)

Aug. 11, 2004.

Paul A. Kaplan, Womble Carlyle Sandridge & Rice PLLC, Washington, D.C., Charles E. Burpee, James Moskal, Warner Norcross & Judd LLP, Grand Rapids, MI, for Plaintiff.

Damon W.D. Wright, Campbell Killefer, Venable LLP, Washington, D.C., A. Sidney Katz, Leonard Friedman, Welsh & Katz, Ltd., Chicago, IL, for Defendant.

RICHARD W. ROBERTS**, District Judge.**

Plaintiff X-Rite, Incorporated filed its amended complaint seeking a declaration that its dental visions system does not infringe, contribute to infringement, or induce infringement of defendant Accudent's United States Patent No. 5,177,694 ("'694 Patent"), and that the '694 Patent is invalid. Defendant answered, stating that the '694 Patent is valid and that plaintiff's complaint fails to state a cause of action upon which relief may be granted, and asserting a counterclaim against plaintiff for patent infringement. The parties submitted claim interpretation memoranda regarding construction of the only disputed language in the '694 Patent: "reference set of colors." A hearing was conducted in accordance with Markman v. Westview Instruments Inc., 52 F.3d 967, 986 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996).

Consistent with the ordinary meaning of the terms, the patent claims, and the specification, "reference" will be construed to mean "a basis for comparative measurement or standardization," "set" will denote a "group of two or more articles grouped together according to a system of classification," and "color" will be interpreted to encompass two definitions: "a particular hue or tint, being one of the constituents into which white or colorless light can be decomposed," as well as "the quality or attribute in virtue of which objects present different appearances to the eye, when considered with regard only to the kind of light reflected from their surfaces." Accordingly, a "reference set of colors" will be construed as a group of two or more hues or tints, the quality or attribute in virtue of which objects present different appearances to the eye, that serves as a basis for comparative measurement or standardization.

BACKGROUND

Defendant owns the '694 Patent, a method for computerized color matching created by Martin A.S. Graham and Iain Cartwright. (Am. Compl. at para. 3; '694 Patent.) The inventors sought to reduce the problem of color mismatches which occur in dental work when preparing dental caps, crowns or bridge work. (*See* ' 694 Patent, col. 1, ll. 12-15.) Because the colors reflected from an article, like a tooth, depend "at least in part on the incident light illuminating the article, ... [e]ven small variations of the illuminating incident light can affect the reflected colors displayed by the article." (Def.'s Claim Interpretation Br. ("Def.'s Br.") at 2.) Prior to the computerized system disclosed in the '694 Patent, the color matching of a dental patient's tooth with the dental implant was "subjective and the results very much dependent on the skills of the person doing the colour matching." ('694 Patent, col. 1, ll. 16-18.) According to the '694 Patent, the computerized color matching system compensates for variations due to differences in illumination by comparing the color values captured in a photograph of a reference set of colors adjacent to the article to be color-matched with the absolute values stored in an absolute reference set of colors. A "compensation factor"-calculated by a computerized comparison of the reference set values with those of an absolute set of colors-is then applied to the colors captured on the article (the tooth), that is then color-matched. "In this way, it is more likely that the color-match will be maintained under different illumination." (Def.'s Br. at 3.) Generally, then, the patented method proceeds by (1) comparing the values of a reference set of colors with those of the absolute set of colors; (2) calculating a compensation factor that takes into account differences in illumination; (3) applying that compensation factor to the values for the color (or colors) of the article that is to be color-matched; and (4) determining the matching color (or colors) from the absolute set of colors for the article and producing a color-coded map or an enhanced photograph with that color (or those colors).

Each of the patent's three independent claims and the three dependent claims includes reference to the disputed language "reference set of colours." Claim 1, for example, recites

[a] method of colour matching of a first article with one or more other articles [with] which the first article may be, associated, the method including the steps of: placing a strip displaying a *reference set of colours* adjacent the associated articles; taking a photograph of the associated articles and the *reference set of colours;* analyzing the colour data from the photograph; and generating a colour map and/or computer enhanced photograph of the associated articles, using a computer, the colour map and/or enhanced photograph identifying the colour(s) of the associated articles relative to an absolute set of colours.

('694 Patent, col. 6, ll. 19-32 (emphasis added).)

The parties agree that the sole disputed phrase for claim construction is "reference set of colors" (Def.'s Br. at 1; Pl.'s Claim Interpretation Br. ("Pl.'s Br.") at 1), and that the phrase should be construed consistently throughout the claims. (Pl.'s Supplemental Claim Interp. Br. ("Pl.'s Suppl.") at 1-3; Def.'s Br. at 1.)

Plaintiff suggests defining "reference" as "used or usable as a standard for color correcting information," "set" as a "group of two or more articles of uniform design," and "color" as "the quality or attribute in virtue of which objects present different appearances to the eye, when considered with regard only to the kind of light reflected from their surfaces." (Pl.'s Br. at 5, 6 (defining terms from *Webster's Third New Int'l Dictionary*); Pl.'s Claim Interpretation Resp. Br. ("Pl.'s Resp.") at 3 (defining "color" from the *Oxford English Dictionary* Vol. III, p. 499 (2d ed.1989)). The phrase as a whole, plaintiff suggests, should be construed to mean "a group of two or more colors, not a single color, that is used or usable as a standard for color correcting information in a photograph or image." (Pl.'s Br. at 7.) Defendant proffers a similar definition of "reference" meaning "an object, property, value, or the like used as a basis for comparative measurement or standardization" (Def.'s Br. at 10 (citing *Oxford English Dictionary* Vol. XIII, p. 465 (2d

ed.1989)), but disagrees with plaintiff's definition for both "set" and "color." Defendant suggests that a "set" is defined as a "number of things grouped together according to a system of classification or conceived as forming a whole," which may include a set containing only one thing or element. (Def.'s Br. (citing *Oxford English Dictionary* Vol. XV, p. 53 (2d ed.1989).) In addition, defendant argues that color is not a quality, but a physical characteristic: "a particular hue or tint, being one of the constituents into which white or 'colourless' light can be decomposed, the series of which constitutes the spectrum; also any mixture of these." (Def.'s Br. at 9 (citing *Oxford English Dictionary* Vol. III, p. 499 (2d ed.1989).)

DISCUSSION

Claim construction is a question of law, Markman v. Westview Instruments, Inc., 517 U.S. 370, 388, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), which should begin by analyzing the words of the claim. Int'l Rectifier Corp. v. IXYS Corp., 361 F.3d 1363, 1369 (Fed.Cir.2004). "Absent an express intent to impart a novel meaning to a claim term, the words take on the ordinary and customary meanings attributed to them by those of ordinary skill in the art." Id. at 1370; Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202 (Fed.Cir.2002) ("The terms used in the claims bear a 'heavy presumption' that they mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art.") (internal citations omitted). Courts may consult dictionaries, encyclopedias and treatises to determine the ordinary and customary meanings of claim terms, Texas Digital, 308 F.3d at 1202; Intellectual Property Devel., Inc. v. UA-Columbia Cablevision of Westchester, Inc. ., 336 F.3d 1308, 1314 (Fed.Cir.2003), in addition to other "intrinsic evidence," namely, the claims themselves, the written description, FN1 known as specifications, and prosecution history. FN2 Microsoft Corp. v. Multi-Tech Sys., Inc., 357 F.3d 1340, 1346-1347 (Fed.Cir.2004). The intrinsic record must be consulted "in every case to determine which of the possible dictionary meanings is consistent with the use of the claim term in the context of the claims and the written description[,] and to determine if the presumption of ordinary and customary meaning is rebutted," IXYS Corp., 361 F.3d at 1370, and whether the claim term encompasses more than one consistent dictionary definition. *See* Texas Digital, 308 F.3d at 1203 ("By examining relevant dictionaries ... to ascertain possible meanings that would have been attributed to the words of the claims ... the full breadth of the limitations intended by the inventor will be more accurately determined and the improper importation of unintended limitations from the written description into the claims will be more easily avoided."). While the specification cannot be used to limit the scope of a claim, it can "define a term already in a claim limitation, for a claim must be read in view of the specification of which it is part." Mueller Sports Med., Inc. v. Core Prods. Int'l, Inc., No. 02-445, 2003 WL 23200261, at (W.D.Wis. Mar.3, 2003) (quoting Renishaw, PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed.Cir.1998)); *see also* IXYS Corp., 361 F.3d at 1371 (noting that the court looked to "the written description for context and guidance as to the meanings attributed by those of ordinary skill in the art").

FN1. Specifications are written descriptions which describe the invention "in such clear, concise, and exact terms as to enable any person skilled in the art ... to make and use the same." 35 U.S.C. s. 112 (2000).

FN2. The Federal Circuit has agreed to re-examine the use of dictionaries in claim construction. *See* Phillips v. AWH Corp., Nos. 03-1269, 03-1286, 2004 WL 1627271 (Fed.Cir. July 21, 2004). Because an independent review of the specification and patent claim language here supports the instant claim construction, as is described fully below, and because the dictionary definition wholly supports the construction as well, the outcome of *Phillips v. AWH Corp*. should have no effect here.

An inventor can rebut the presumption that an ordinary and customary meaning for a claim term is appropriate by showing that he "has chosen to be his own lexicographer by clearly setting forth an explicit definition of the term" in the specification, Prima Tek II, LLC v. Polypap, S.A.R.L., 318 F.3d 1143, 1148 (Fed.Cir.2002); *see also* Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996) ("Usually [the specification] is dispositive; it is the single best guide to the meaning of a disputed term."), or by clearly limiting the scope of a claim with "words of manifest exclusion or restriction." IXYS Corp., 361 F.3d at 1370. The language must make clear "that the invention does not include a particular feature, [and] the feature is deemed to be outside the reach of the claims of the patent...." Microsoft Corp., 357 F.3d at 1347.

The prosecution history, if in evidence, should then be examined to determine whether the doctrine of prosecution disclaimer has narrowed the ordinary meaning of the claim. Liquid Dynamics Corp. v. Vaughan Co., Inc., 355 F.3d 1361, 1368 (Fed.Cir.2004). Here, the parties have not introduced prosecution history. (*See* Pl.'s Br. at 5 ("[N]o portion of the prosecution history is relevant to interpretation of the disputed terms.").) Finally, if the intrinsic evidence does not clarify ambiguities, extrinsic evidence "may also be considered, if *needed* to assist in determining the meaning or scope of technical terms in the claims." Vitronics Corp., 90 F.3d at 1583 (emphasis in original) (internal citations omitted).

I. SET FN3

FN3. The parties do not dispute the definition of "reference" as used in the claims. (*See* Pl.'s Response Br. at 4.) Both the *Oxford English Dictionary* and the *Webster's Third New International Dictionary,* cited by defendant and plaintiff respectively, define "reference" as some basis for calibration or standardization. That construction comports with the ordinary meaning that would be attributed to the term. Nothing in the written specification indicates an intent to ascribe a different definition for the term either. Given the purpose of the patent and the ordinary meaning associated with the term "reference," it will be defined as a "basis for comparative measurement or standardization." Although plaintiff defines the term "reference" as a "means used or usable as a standard for calibrating data," that definition is less consistent with the function of the reference set of colors as used in the patent than the formulation found in the *Oxford English Dictionary*. The reference set of colors is not the standard for calibrating data; the absolute set of colors is the standard. The reference set provides a basis for calibration or standardization as against the absolute set. Therefore, to the extent that the ordinary and customary usage of the term "reference" denotes the standard for measurement, the claims make clear that the meaning of "reference" deviates somewhat from that usage. The parties are in agreement however, in principle, that "reference" here means a "basis for comparative measurement or standardization" as against the absolute set of colors, and for calculating a compensation factor for the article to be color matched.

The parties dispute whether "set of colors" should be interpreted to require a "group of two or more colors, not a single color" as plaintiff contends (Pl.'s Br. at 7), or any number of colors, including a single color, as the defendant argues. (Def.'s Br. at 11.) The *Webster's Third New International Dictionary* defines a set as a "group of articles of uniform design." *Webster's Third Int'l Dictionary* 2078, def. 39a (1993). The *Oxford English Dictionary* defines a set as a "number of things grouped together according to a system of classification or conceived as forming a whole." *Oxford English Dictionary* 53, def. 10a (Vol. XV 1989). Neither dictionary definition makes clear whether a set requires more than one article or thing. Neither party seems to contest linguistically the definition for "set" established in either dictionary as the ordinary and

customary definition of the term. The disagreement centers, instead, in how each definition is interpreted. FN4

FN4. Plaintiff also argues that using the plural form of "colours" in the disputed language indicates defendant's intent that a set should be defined to require more than one color. Plaintiff asserts that defendant could have used a parenthetical plural, "of colour(s)," to indicate that the set could include a single color. Because the defendant used parenthetical plurals, "colour(s)," in other parts of the claims, plaintiff argues that defendant knew how to and did indicate when a single color was permissible in drafting the claim. (Pl.'s Br. at 6.)

It is evident, however, that the patent language is not consistent or clear in indicating the plural or singular forms of the terms. Claim 1, for instance, sets forth that the method is designed to color match "a first article with *one or more* articles." ('694 Patent, col. 6, l. 20) (emphasis added).) In the very next line, however, the claim speaks of "placing a strip displaying a reference set of colours adjacent the *associated articles*." (Id. (emphasis added).) Although the inventor clearly expresses in the first line that the scope of the patent includes color matching one or more associated articles, the second line reads only in the plural, without the qualifying "one or more" language. (*See also* claim 3 (shifting from possible singular to plural in the same line with language that the method enables "comparison of the *colour(s)* of the associated articles ... with the enhanced *colours* of the associated articles").) Of course, this example is not direct evidence that the inventors were simply sloppy in their drafting of "reference set of colours" since they at least expressed once that a single associated article was covered by the patent, but the example shows that the inventors' intent to require more than one color is not unequivocally clear from their failure to use the parenthetical plural in "reference set of colours."
The *Webster's Third New International Dictionary* defines a "set" as a "group of things," and the term "group" is defined as "two or more figures (as in sculptures or paintings) forming a distinctive unit complete in itself or forming part of a larger composition." *Webster's Third New Int'l Dictionary* 1004, def. 1 (1993). That definition of set-incorporating the definition of group-expressly requires two or more constituent elements. Another definition of "group" that is not specific to compositions of sculptures or artwork supports an understanding of "set" to require more than one constituent article as well. A "group" is also an "assemblage of objects regarded as a unit because of their comparative segregation from others <a of buildings>." *Id*. at 1004, def. 2b. An "assemblage," in turn, is a "collection of ... particular things: aggregation," *id*. at 131, def. 1a, and a "collection" is defined as a "number of objects that has been collected ... according to some unifying principle or orderly arrangement." *Id*. at 444, def. 2. To "collect" is to "bring together into a ... group ...: gather," *id*. at 444, def. 1a, and to bring "together" is to bring "in or into one place, mass, collection, or group." *Id*. at 2404, def. 1a. Each of the terms or phrases in the definitions used to define "set"-"group," "bringing together," "collecting," and "assemblage"-implies that more than one article is "brought together," "collected" or "assembled" into a "group." Similarly, in the *Oxford Dictionary* defining "set" as a "number of things grouped together," the verb "group" means to "combine in a group or in groups: assign to a group: classify," *id*. at 1004, def. 2a, and to "combine" is to "bring into close relationship" or to "cause (as two or more things or ideas) to mix together: mingle, blend." *Id*. at 452, def. 2. Although hardly an unequivocal requirement that a set contain two or more things, the implication-and common understanding-of "grouping" requires more than one thing. FN5 *See also* Paymaster Techs., Inc. v. United States, 54 Fed. Cl. 579, 585 (2002) (agreeing "with defendant's proffered definition of 'set' as that which connotes 'more than one thing of the same kind,' " pointing to definition in *Webster's Ninth New Collegiate Dictionary* 1077 (9th ed.1985) and *American Heritage Disctionary* 1122 (2d ed.1982), both of which define a set as "more than one thing of the same kind").

FN5. The Federal Circuit recently used a similar methodology-defining the terms within a definition-to construe a disputed claim. *See* Novartis Pharmaceuticals Corp. v. Eon Labs Mfg., Inc., 363 F.3d 1306, 1308-1310 (Fed.Cir.2004) (looking at dictionary definition of "hydrosol" and then the terms used to define it-"sol," "solution" and "medicinal"-to construe claim).

Defendant argues that the common understanding of a "set" includes sets which contain a single element and that the canons of claim construction prohibit unnecessarily narrow interpretations of the term. (Def.'s Br. at 2, 9.) Defendant offers the term "singleton"-defined as "the only one of its kind or class; a set having only one member"-as evidence that its interpretation, permitting a set with a single element, is the customary one. (*Id* . at 9 (quoting *Oxford English Dictionary* Vol XV, p. 524 (2d ed.1989).) That same argument was proffered and rejected by a court construing the phrase "set of lace eyelets." Mueller Sports, 2003 WL 23200261, at *2-3. In *Mueller Sports,* the plaintiff sued for infringement of its patent for an adjustable ankle brace that included a set of lace eyelets on an eyelet strip which tied two ends of the brace together. *Id*. The central question in that case was whether a "set of lace eyelets" could "include a single eyelet ... or whether a [person skilled in the field of the invention] would read 'set' as requiring two or more eyelets." *Id*. at *2. After examining the dictionary definition of set, the court rejected the plaintiff's contention that a set ordinarily denoted a group of one or more elements and noted that "[a]lthough in the field of mathematics it is possible to have a set of one or even zero ('null set') there is no indication that a person skilled in the field of designing ankle braces is a mathematician or would understand the ordinary meaning of the word 'set' to be mathematical in nature." *Id*. at *3. Accordingly, the court defined "set" by what it considered a "common-sense definition": a group with two or more elements. *Id*.

Similarly, here, there is no indication that an ordinary person skilled in the field of color-matching would import a special mathematical concept of set to define a reference set of colors. Although the patented computerized color-matching system arguably may require one versed in more rigorously analytic processes than one skilled in the field of designing ankle braces, defendant here points to no claim language that would indicate that the mathematical interpretation was the intended one. Instead, defendant invokes the common, everyday, "accepted usage" of the term "set" (Def.'s Response Br. at 1), which defendant contends may contain one or more elements. As described in *Mueller* and as defined in the dictionaries, however, the ordinary understanding of "set" requires two or more constituent elements.

Even if defendant were correct in stating that the ordinary definition of set encompasses sets containing only one element, or that the inventors intended the special mathematical understanding of "set" to control, the claims themselves and the purpose of the patented method do not bear out such a definition of "set." Claims must be read in light of the purpose of the patent and in their technological and temporal context. *See* Smithkline Beecham Corp. v. Apotex, Corp., 365 F.3d 1306, 1313 (Fed.Cir.2004) (noting also that "the patent itself ... is the most significant source of the legally operative meaning of the disputed claim language") (internal citations omitted). Here, the parties agree that "set of colors" should be interpreted consistently in the phrase "reference set of colors" and "absolute set of colors." (Pl.'s Suppl. at 1; Def.'s Supplemental Mem. Regarding Claim Interpretation ("Def.'s Suppl.") at 1.) The parties' agreement is consistent with the general rule that a term will be interpreted uniformly throughout claims, and that "modifiers will not be added" to change the meaning of an unmodified term. Johnson Worldwide Assoc., Inc. v. Zebco, Corp., 175 F.3d 985, 989 (Fed.Cir.1999).

As is recited in Claim 1 of the '694 Patent, the end goal of the color-matching system is to generate a "colour map and/or enhanced photograph identifying the colour(s) of the associated articles relative to an

absolute set of colours" so that an objective color-match can be made. ('694 Patent, col.6, ll. 30-32; *see* Def.'s Suppl. at 6-7.) Assuming that an accurate compensation factor may be calculated by comparing the values for a reference set of colors and an absolute set of colors comprised of a single color, FN6 that compensation factor would not do much to effect a preferred object of the patent: "to provide a method which can incorporate compensation factors to relate all colours against set standards." (*See also* Def.'s Br. at 5 ("[T]he significance of 'a reference set of colors' is that color data of the displayed light can be captured, analyzed, and used in identifying the colors of the article being color-matched relative to some 'absolute' or known set of colors (i.e., certain color data stored in computer memory).").) If the patent meant for the absolute set of colors only to be a means to calculate a compensation factor, the language in the claim disclosing a method of generating a "colour map identifying colors of the associated articles *relative* to an absolute set of colors" would lose all meaning. ('694 Patent, col. 2, ll. 15-16; Pl.'s Suppl. at 3 ("Logically, if the absolute set included only one color, then the colors of the associated articles could be identified only as that one color. There would be no other colors to choose from for the color match.").) The matching colors are identified in the patent claim by printing the enhanced picture/color map "to enable comparison of the colour(s) of the associated articles as photographed with the enhanced colours of the associated articles *against the absolute reference set*." (Id. at col. 6, ll. 45-48 (emphasis added).) Comparing an article's colors against that of an absolute reference set with a single color would result in a binary match or no-match result,FN7 effectively eviscerating the purpose of the patent. Because an absolute set of colors containing only a single color would render the color-matching system ineffective (or useless), the ordinary definition of set encompassing more than one element is the proper one.

FN6. Defendant states in its Supplemental Brief that a compensation factor may be calculated by comparing the value measured in a reference set of colors of one color against the value stored in the absolute set of colors. (*See* Def.'s Suppl. at 6.) Defendant illustrates that a compensation factor of one would follow from a reference set of colors "represented by a single value which is ... measured to be 76, and ... the stored 'absolute set of colours' (what the value for the light reflected from the reference strip would be expected to be under some defined conditions) is 77...." (Id.) An article, like a tooth, which is photographed and the colors analyzed as 65, 59 and 62, could be calibrated by adding one, to "produce a color map with adjusted colors corresponding to values of 66, 60, and 63." (Id.)

FN7. Defendant's illustration in its Supplemental Brief described in note 5 *supra* shows why an absolute set of colors with a single color would not effect the purpose of the patented method. Despite being able to generate a color coded map having applied the compensation factor to the article's colors, creating a "map" showing that the values 66, 60 and 63 corresponded to the colors on the article, one could not compare those values effectively for the colors "against the absolute reference set" as claimed in Claim 3 if the absolute set contained only one color. The values of 66, 60 and 63 would have no meaning independent of some absolute set of values that corresponded to some known colors.

The specification does not define set of colors with "reasonable clarity, deliberateness, and precision" as to render inappropriate the ordinary meaning or to show an intent that the inventors intended to act as their own lexicographers. Prima Tek, 318 F.3d at 1150. The specification is consistent with a definition of set that requires two or more colors. The patent discloses that a reference strip "may comprise samples of the reference porcelain shades" of teeth-the plural "shades" and "samples" indicating that the reference set of colors may contain more than one color. ('694 Patent, col. 3-4, ll. 68, 1.) In addition, the specification describes how the "coded map has been produced relative to a fixed set of standards[,]" or absolute set of

colors, from which a dentist may "accurately match the colour of the cap or prosthetic tooth to the patient's teeth...." (Id. at col. 5, ll. 53-56 .) Although the specification does not require two or more colors in a set, it certainly does not state with clarity that a single color may comprise a set as well.

Accordingly, set will be defined by its ordinary dictionary definition as a group of two or more articles grouped together according to a system of classification.

II. COLOR

Plaintiff defines color as "the quality or attribute in virtue of which objects present different appearances to the eye, when considered with regard only to the kind of light reflected from their surfaces." *Oxford's English Dictionary* Vol. III, p. 499, def. 1 (2d ed.1989); Pl.'s Response Br. at 3. Plaintiff claims that "color" should be defined with respect to the "appearance of an object to the eye" given the purpose of the patent to color-match articles and the specification, which describes shades, "not light or wavelengths." (Pl.'s Response at 3 (noting also that "[t]here is no suggestion that the dental technician mixes 'light' or lights of 'certain wavelengths' as [defendant's] argument would imply").) Defendant defines color as "a particular hue or tint, being one of the constituents into which white or 'colourless' light can be decomposed, the series of which constitutes the spectrum; also any mixture of these." *Oxford's English Dictionary* Vol. III, p. 499, def. 2a; Def.'s Br. at 9.FN8 Because the color-matching system measures the color of an article by instrumentation, and not by human perception of the article, the defendant argues that the term "color" should be defined by its physical characteristics and not as a quality presented to the human eye. (Def.'s Br. at 5.) Defendant asserts that if "the quality [or appearance] of the reference strip were being measured, it would always be the same. It could be stored in the computer without any need to measure it under the same illumination as the article being colormatched." (Def.'s Reply at 4.)

FN8. In the *Webster's Third New International Dictionary,* the first definition of color relies on the physical "phenomena of light" that allow differentiation of objects; the second defines color based on the perception of one viewing an object; and the third combines aspects of the first and second definitions by defining color as "the characteristic of light by means of which two areas of identical size and shape that are juxtaposed, structure free, and steadily and uniformly illuminated may be distinguished by a human observer and which is commonly identified for spectral colors by complementary wavelength, luminance, and purity-used in this sense as the psychophysical basis for measuring color which in turn makes it possible to define the limits for each color definition...." *Id*. at 447, def. 1c.

In choosing among the dictionary definitions, "the intrinsic record must always be consulted to identify which of the different possible dictionary meanings of the claim terms in issue is most consistent with the use of the words by the inventor. If more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings." Texas Digital Systems, 308 F.3d at 1203. The purpose of the patented method is to mitigate the color mismatches which occur "in many industries, including automobile repair; paint and dye manufacture; printing; and fabric dyeing. Tooth colour matching is a major problem...." ('694 Patent, col. 1, ll. 9-14.) The goal of color-matching therefore is to present a uniform perception of color to observers of, for example, an automobile repair job, paint, printing, fabrics and repaired teeth. It is "the quality or attribute in virtue of which objects present different appearances to the eye, when considered with regard only to the kind of light reflected from their surfaces" that the method seeks to homogenize by calibrating for different light conditions and matching colors accordingly.

However, it is also evident that the patented method requires a computer to "analyz[e] colour data[,]" and "compare[ ] the reference set of colours against the absolute reference set of colours to determine the compensation factor." The computer cannot analyze the quality or attribute of an object as presented to a human eye or compare the qualities or attributes of an object; rather, it must analyze the physical characteristics of the reference set of colors and compare them to the absolute set of colors. In addition, a compensation factor could not be applied to the colors of an article as provided in the patent if color simply defined a quality or attribute as perceived by the eye. Instead, the compensation factor applies to the physical measurements taken from the object. (*See* Def.'s Reply at 2-3 ("[T]he claimed invention concerns measuring and analyzing physical characteristics of light by instrumentation. The significance of a 'reference set of colours' is that color data of the displayed light can be captured, analyzed, and compared with some 'absolute' or known color data stored in computer memory. The color data of the displayed light is representative of the spectral nature of that light-that is, its colors.").)

The specification describes a "colour reference strip" with "samples of different porcelain shades ... on the front thereof ." ('694 Patent, col. 4, ll. 47-49.) Plaintiff argues that the description of "shades" requires a construction of color that is focused on the quality of the object, and that no portion of the specification describes color in terms of the wavelengths of light or its physical characteristics. (Pl.'s Response at 3-4.) To the contrary, the specification does describe how a computer "compares the colour reference strip as photographed with an absolute reference strip to bring the two into conformity. This correction factor is applied to the photograph data to create a corrected photograph...." ('694 Patent, col. 5, ll. 30-34.) As mentioned above, if color were defined to relate simply to the perceived quality of an object, the computer would have nothing to compare, and could not apply a compensation factor to correct a color. Only if color is described also as a physical characteristic do the specification and patented claims have utility. The inventor did not patent a subjective color-matching system, but a "computerised colour matching" one. (Id. at col. 1, l. 7.)

In any case, the specification does not clearly-and with unequivocal language-disavow a construction of color encompassing defendant's proposed definition of color. The language does not make clear "that the invention does not include a particular feature, [and] the feature is deemed to be outside the reach of the claims of the patent...." Microsoft Corp., 357 F.3d at 1347. Accordingly, color will be defined as a "particular hue or tint being one of the constituents into which white or 'colourless' light can be decomposed, the series of which constitutes the spectrum; also any mixture of these" as well as "the quality or attribute in virtue of which objects present different appearances to the eye."

CONCLUSION AND ORDER

Based on the ordinary and customary definition of the terms reference, set, and color, and consistent with the purpose of the patented claims and the specification, the Court construes the disputed claim language "reference set of colors" as a "group of two or more hues or tints, the quality or attribute in virtue of which objects present different appearances to the eye, that serves as a basis for comparative measurement or standardization." With the claim construction process completed, it is hereby

ORDERED that the parties confer and file a joint report proposing a schedule for the remainder of the case by September 3, 2004.

D.D.C.,2004.

X-Rite, Inc. v. Accudent Pty Ltd.

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