

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION**

IVOCLAR VIVADENT AG,)	Civil Action No. 1:17-CV-2083
IVOCLAR VIVADENT, INC., and)	
ARDENT, INC.,)	
)	
Plaintiffs,)	Judge
)	
v.)	Magistrate
)	
GC AMERICA, INC., and)	
GC CORPORATION,)	
)	
Defendants.)	JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Ivoclar Vivadent AG, Ivoclar Vivadent, Inc., and Ardent, Inc. (collectively, “Plaintiffs” or “Ivoclar”) file this Complaint for patent infringement against Defendants GC America, Inc. (“GCA”) and GC Corporation (“GC Corp.”) (collectively, “Defendants” or “GC”), hereby demand a jury trial, and allege as follows:

I. NATURE OF THE ACTION

1. This is a civil action for patent infringement. This action is based upon the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*

II. THE PARTIES

2. Plaintiff Ivoclar Vivadent AG (“IV AG”) is a privately held corporation organized and existing under the laws of Liechtenstein, with its corporate headquarters at Benderstrasse 2, FL-9494 Schaan, Liechtenstein.

3. Plaintiff Ivoclar Vivadent, Inc. (“IV USA”) is a Delaware corporation with its principal place of business at 175 Pineview Drive, Amherst, New York 14228. IV USA is a wholly owned subsidiary of IV AG and the U.S. headquarters.

4. Plaintiff Ardent, Inc. (“Ardent”) is a New York corporation with its principal place of business at 175 Pineview Drive, Amherst, New York 14228. Ardent is a wholly owned subsidiary of IV USA.

5. On information and belief, Defendant GC Corporation (“GC Corp.”) is a Japanese corporation, organized and existing under the laws of Japan, with its principal place of business at 3-2-14 Hongo, Bunkyo-ku, Tokyo 113-0033.

6. On information and belief, Defendant GC America, Inc. (“GCA”) is an Illinois corporation organized and existing under the laws of Illinois, with its principal place of business at 3737 W. 127th Street, Alsip, IL 60803. On information and belief, GC Corp. wholly owns and operates GCA and directs its activities.

III. JURISDICTION AND VENUE

7. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

8. This Court has personal jurisdiction over GCA because it is an Illinois corporation organized and existing under the laws of Illinois, and because GCA has conducted and is conducting substantial business in this District, both generally and specifically with respect to the allegations in this Complaint, and GCA has committed one or more acts of infringement in this District.

9. This Court has personal jurisdiction over GC Corp. because it has conducted and is conducting substantial business in this District, both generally and with respect to the allegations in this Complaint, and GC Corp. has committed one or more acts of infringement in this District.

10. Venue is proper in this District under 28 U.S.C. §§ 1391(b)–(c) and 1400(b) because GC Corp. and GCA have regularly conducted business in this District and have

committed, and are continuing to commit, acts of patent infringement in this District by making, using, importing, selling, or offering for sale dental restorative products that infringe the asserted patents.

IV. THE ASSERTED PATENTS

The '836 Patent

11. On November 18, 2008, United States Patent No. 7,452,836 (“the '836 Patent”), entitled “Lithium silicate glass ceramic” (Exhibit A), was duly and legally issued.

12. By way of assignment, IV AG owns all rights, title, and interest in and to the '836 Patent and has the right to sue and recover for past, present, and future infringement.

13. The maintenance fees are paid and none are currently due. The '836 Patent is valid and enforceable.

The '623 Patent

14. On February 11, 2003, United States Patent No. 6,517,623 (“the '623 Patent”), entitled “Lithium disilicate glass ceramics” (Exhibit B), was duly and legally issued.

15. By way of assignment, Ardent owns all rights, title, and interest in the '623 Patent and has the right to sue and recover for past, present, and future infringement.

16. The maintenance fees are paid and none are currently due. The '623 Patent is valid and enforceable.

The '894 Patent

17. On October 12, 2004, United States Patent No. 6,802,894 (“the '894 Patent”), entitled “Lithium disilicate glass-ceramics” (Exhibit C), was duly and legally issued.

18. By way of assignment, Ardent owns all rights, title, and interest in the '894 Patent and has the right to sue and recover for past, present, and future infringement.

19. The maintenance fees are paid and none are currently due. The '894 Patent is valid and enforceable.

The '451 Patent

20. On September 24, 2002, United States Patent No. 6,455,451 ("the '451 Patent"), entitled "Pressable lithium disilicate glass ceramics" (Exhibit D), was duly and legally issued.

21. By way of assignment, Ardent owns all rights, title, and interest in the '451 Patent and has the right to sue and recover for past, present, and future infringement.

22. The maintenance fees are paid and none are currently due. The '451 Patent is valid and enforceable.

23. The '836 Patent, '623 Patent, '894 Patent, and '451 Patent are hereinafter referred to collectively as "the Asserted Patents" in this Complaint.

V. INFRINGEMENT OF THE ASSERTED PATENTS

24. On information and belief, GC Corp. manufactures, imports, manufactures abroad and imports, sells, and offers for sale lithium silicate glass-ceramic material for dental restorations, including at least the Initial LiSi Press depicted in Exhibits E and F (hereinafter the "Accused Products") that infringe the Asserted Patents.

25. On information and belief, GCA manufactures, imports, sells, and offers for sale within the United States after importation the Accused Products, including the GCA Initial LiSi Press, and all other products depicted in Exhibits E and F, that infringe the Asserted Patents.

26. The Accused Products are comprised of silica and other oxides as shown in the representative example here:

Analyte	Sample Concentration	
	Weight Percent (%)	Parts per Million (PPM)
Al ₂ O ₃	5.27	52700
CeO ₂	1.05	10500
K ₂ O	1.91	19100
SiO ₂	72.5	725000
Na ₂ O	1.37	13700
Tb ₄ O ₇	0.388	3880
La ₂ O ₃	< 0.000579	< 5.79
ZnO	0.000882	8.82
Li ₂ O	13.3	133000
P ₂ O ₅	3.04	30400
V ₂ O ₅	0.120	1200
ZrO ₂	1.81	18100

27. As shown on GCA's Internet website, the Accused Products are offered for sale at the "BUY IT NOW" button. Exhibit G.

28. As shown in Exhibits E and F, the Accused Products are made by GC Corp. and dental restorations are made using the Accused Products by dentists and dental laboratories.

29. As shown on the product label in Exhibit H, the Accused Products are made in Japan. As shown in Exhibit I, GC Corp. and GCA import the Accused Products into the United States. Exhibit I indicates that the Accused Products are imported into the United States from Japan.

30. To obtain FDA approval, in GCA's FDA Form 510K Approval for Initial LiSi Press, Exhibit J, GCA stated that the Initial LiSi Press product was substantially equivalent to Ivoclar's products, which are protected by the Asserted Patents (*e.g.*, Exhibit J, Table 5.1).

VI. DEFENDANTS' INFRINGEMENT OF THE ASSERTED PATENTS

Count I: Infringement of the '836 Patent

31. Plaintiffs refer to and incorporate herein the allegations of Paragraphs 1-30 above.

32. Defendants have manufactured, used, imported, offered for sale, or sold directly or indirectly through distributors, to dentists and dental laboratories in the United States the Accused Products that infringe directly and indirectly (contributory infringement and inducement to infringe), either literally or under the doctrine of equivalents, at least claim 1 of the '836 Patent in violation of 35 U.S.C. § 271.

33. Claim 1 of the '836 Patent recites:

1. A lithium silicate glass ceramic which comprises the following components:

Component	wt.-%
SiO ₂	64.0-75.0
Li ₂ O	13.0-17.0
K ₂ O	2.0-5.0
Al ₂ O ₃	0.5-5.0

Component	wt.-%
Nucleating agent	2.0-5.0
Me(II)O	0-3.0
ZrO ₂	0.1-4.0

and which comprises less than 0.1 wt. % of ZnO, with Me(II)O being selected from at least one of CaO, BaO, MgO and SrO.

34. On information and belief, as shown in third-party test data results below, one of the Accused Products, the Initial LiSi Press, includes chemical components at weight percentages that infringe at least claim 1 of the '836 Patent:

Analyte	Sample Concentration	
	Weight Percent (%)	Parts per Million (PPM)
Al ₂ O ₃	5.27	52700
CeO ₂	1.05	10500
K ₂ O	1.91	19100
SiO ₂	72.5	725000
Na ₂ O	1.37	13700
Tb ₄ O ₇	0.388	3880
La ₂ O ₃	< 0.000579	< 5.79
ZnO	0.000882	8.82
Li ₂ O	13.3	133000
P ₂ O ₅	3.04	30400
V ₂ O ₅	0.120	1200
ZrO ₂	1.81	18100

35. On information and belief, Defendants advertise the Accused Products to customers in the United States. Exhibit G. Defendants induce customers to infringe the '836 Patent by providing at least the infringing lithium silicate glass ceramic to their customers and instructing their customers on how to use the glass ceramic with the specific intent of inducing customers to infringe the '836 Patent.

36. On information and belief, the Defendants also infringe the asserted claims of the '836 Patent by importing, selling and offering for sale the Accused Products, that embody a material component of the claimed inventions, that is known by Defendants to be specially made or specially adapted for use in an infringing manner and is not a staple article or commodity suitable for a substantial, non-infringing use. On information and belief, the Accused Products are used to practice the claimed invention of the '836 Patent and are specially made and designed to infringe the '836 Patent. On information and belief, there are no substantial non-infringing uses.

37. Defendants have engaged, and are engaging, in willful and deliberate infringement of the '836 Patent. Such willful and deliberate infringement justifies an increase of three times the damages to be assessed pursuant to 35 U.S.C. § 284 and further qualifies this action as an exceptional case supporting an award of reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

38. Defendants' infringement has damaged and continues to damage and injure Plaintiffs. The injury to Plaintiff is irreparable and will continue unless and until Defendants are enjoined from further infringement.

Count II: Infringement of the '623 Patent

39. Plaintiffs refer to and incorporate herein the allegations of Paragraphs 1-39 above.

40. Defendants have used, imported, offered for sale, or sold directly or indirectly through distributors, to dentists and dental laboratories in the United States the Accused Products that are made by the claimed method and thus infringe directly and indirectly (contributory infringement and inducement to infringe), either literally or under the doctrine of equivalents, at least claim 27 of the '623 Patent in violation of 35 U.S.C. § 271.

41. Claim 27 of the '623 Patent recites:

27. A method of making a lithium disilicate dental restoration comprising:
melting a starting glass composition at temperatures within the range of about 1200 to about 1600° C.;
quenching the glass melt;
subjecting the quenched glass to one or more heat treatments in the temperature range of from about 400° to about 1100° C. to convert the glass into a glass-ceramic;
comminuting the glass ceramic to a powder;
forming the powder onto a die to form a dental restoration; and
sintering the formed dental restoration.

42. On information and belief, dental restorations made from Initial LiSi Press practice each of the steps of the claimed method. *See* Exhibit L and exhibits thereto.

43. On information and belief, Defendants advertise the Accused Products to customers in the United States. Exhibit G. Defendants induce customers to infringe the '623 Patent by providing at least the infringing lithium silicate glass ceramic to their customers and instructing their customers on how to use the glass ceramic to make a dental restoration with the specific intent of inducing customers to infringe the '623 Patent.

44. On information and belief, the Defendants also infringe the asserted claims of the '623 Patent by importing, selling and offering for sale the Accused Products, that embody a material component of the claimed inventions, that are known by Defendants to be specially made or specially adapted for use in an infringing manner and are not staple articles or commodities suitable for a substantial, non-infringing use. On information and belief, the Accused Products are used to practice the claimed invention of the '623 Patent and are specially made and designed to infringe the '623 Patent. On information and belief, there are no substantial non-infringing uses.

45. Defendants have engaged, and are engaging, in willful and deliberate infringement of the '623 Patent. Such willful and deliberate infringement justifies an increase of three times the damages to be assessed pursuant to 35 U.S.C. § 284 and further qualifies this action as an exceptional case supporting an award of reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

46. Defendants' infringement has damaged, and continues to damage and injure Plaintiffs. The injury to Plaintiffs is irreparable and will continue unless and until Defendants are enjoined from further infringement.

Count III: Infringement of the '894 Patent

47. Plaintiffs refer to and incorporate herein the allegations of Paragraphs 1-48 above.

48. Defendants used, imported, offered for sale, or sold directly or indirectly through distributors, to dentists and dental laboratories in the United States the Accused Products that are

made by the claimed method, and thus infringe directly and indirectly (contributory infringement and inducement to infringe), either literally or under the doctrine of equivalents, at least claim 38 of the '894 Patent in violation of 35 U.S.C. § 271.

49. Claim 38 of the '894 Patent recites:

38. A dental product comprising a glass-ceramic consisting essentially of:
about 62 to about 85% SiO₂;
about 5.1 to about 10Al₂O₃;
about 8 to about 19% Li₂O;
about 0.5 to about 12 % P₂O₅.
up to about 7% K₂O;
up to about 1.5% F;
up to about 7% BaO;
up to about 1% SrO;
up to about 5% Cs₂O;
up to about 4.9% B₂O₃;
up to about 5% ZnO;
up to about 7% CaO;
up to about 2% MgO;
up to about 5% Na₂O;
up to about 2% TiO₂;
up to about 3% ZrO₂;
up to about 1% SnO₂;
up to about 1% Sb₂O₃;
up to about 3% Y₂O₃;
up to about 1% CeO₂;
up to about 1% Eu₂O₃;
up to about 1% Tb₄O₇;
up to about 2% Nb₂O₅; and
up to about 2% Ta₂O₅; and
wherein the 3-point flexure strength is greater than about 370 MPa.

50. As shown below in third-party test data results of one of the Accused Products, Initial LiSi Press, the chemical components are at weight percentages that infringe at least claim 38 of the '894 Patent:

Analyte	Sample Concentration	
	Weight Percent (%)	Parts per Million (PPM)
Al ₂ O ₃	5.27	52700
CeO ₂	1.05	10500
K ₂ O	1.91	19100
SiO ₂	72.5	725000
Na ₂ O	1.37	13700
Tb ₄ O ₇	0.388	3880
La ₂ O ₃	< 0.000579	< 5.79
ZnO	0.000882	8.82
Li ₂ O	13.3	133000
P ₂ O ₅	3.04	30400
V ₂ O ₅	0.120	1200
ZrO ₂	1.81	18100

51. As shown in Exhibit M, the advertised flexural strength is above 370 MPa.

52. On information and belief, Defendants advertise the Accused Products to customers in the United States. Exhibit G. Defendants induce customers to infringe the '894 Patent by providing at least the infringing lithium silicate glass ceramic to their customers and instructing their customers on how to use the glass ceramic with the specific intent of inducing customers to infringe the '894 Patent.

53. On information and belief, Defendants also infringe the asserted claims of the '894 Patent by importing, selling and offering for sale the Accused Products, that embody a material component of the claimed inventions, that are known by Defendants to be specially made or specially adapted for use in an infringing manner and are not staple articles or commodities suitable for a substantial, non-infringing use. On information and belief, the Accused Products are used to practice the '894 Patent and are specially made and designed to infringe the '894 Patent. On information and belief, there are no substantial non-infringing uses.

54. Defendants have engaged, and are engaging, in willful and deliberate infringement of the '894 Patent. Such willful and deliberate infringement justifies an increase of three times the damages to be assessed pursuant to 35 U.S.C. § 284 and further qualifies this action as an exceptional case supporting an award of reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

55. Defendants' infringement has damaged, and continues to damage and injure Plaintiffs. The injury to Plaintiffs is irreparable and will continue unless and until Defendants are enjoined from further infringement.

Count IV: Infringement of the '451 Patent

56. Plaintiffs refer to and incorporate herein the allegations of Paragraphs 1-58 above.

57. Defendants have manufactured, used, imported, offered for sale, or sold directly or indirectly through distributors, to dentists and dental laboratories in the United States the Accused Products that infringe directly and indirectly (contributory infringement and inducement to infringe), either literally or under the doctrine of equivalents, at least claim 3 of the '451 Patent in violation of 35 U.S.C. § 271.

58. Claim 3 of the '451 Patent recites:

3. A glass-ceramic composition consisting essentially of in weight percent:
about 64 to about 70% SiO₂;
about 5.2 to about 9 Al₂O₃;
about 10 to about 15% Li₂O;
about 2 to about 7% P₂O₅;
up to about 1.5% F;
up to about 7% BaO;
up to about 1% SrO;
up to about 5% Cs₂O;
up to about 5% K₂O;
up to about 2.7% B₂O₃;
up to about 0.9% CaO;
up to about 3% Na₂O;
up to about 2% TiO₂;

up to about 3% ZrO₂;
 up to about 1% SnO₂;
 up to about 1% Sb₂O₃;
 up to about 3% Y₂O₃;
 up to about 1% CeO₂;
 up to about 1% Eu₂O₃;
 up to about 1% Tb₄O₇;
 up to about 2% Nb₂O₅; and
 up to about 2% Ta₂O₅.

59. As shown below in third-party test data results, one of the Accused Products, Initial LiSi Press, includes chemical components at weight percentages that infringes at least claim 3 of the '451 Patent:

Analyte	Sample Concentration	
	Weight Percent (%)	Parts per Million (PPM)
Al ₂ O ₃	5.27	52700
CeO ₂	1.05	10500
K ₂ O	1.91	19100
SiO ₂	72.5	725000
Na ₂ O	1.37	13700
Tb ₄ O ₇	0.388	3880
La ₂ O ₃	< 0.000579	< 5.79
ZnO	0.000882	8.82
Li ₂ O	13.3	133000
P ₂ O ₅	3.04	30400
V ₂ O ₅	0.120	1200
ZrO ₂	1.81	18100

60. On information and belief, Defendants advertise the Accused Products to customers in the United States. Exhibit G. Defendants induce customers to infringe the '451 Patent by providing at least the infringing lithium silicate glass ceramic to their customers and instructing their customers on how to use the glass ceramic with the specific intent of inducing customers to infringe the '451 Patent.

61. On information and belief, Defendants also infringe the asserted claims of the '451 Patent by importing, selling and offering for sale the Accused Products, that embody a material component of the claimed inventions, that are known by Defendants to be specially made or specially adapted for use in an infringing manner and are not staple articles or commodities suitable for a substantial, non-infringing use. On information and belief, the Accused Products are used to practice the claimed invention of the '451 Patent and are specially made and designed to infringe the '451 Patent. On information and belief, there are no substantial non-infringing uses.

62. Defendants have engaged, and are engaging, in willful and deliberate infringement of the '451 Patent. Such willful and deliberate infringement justifies an increase of three times the damages to be assessed pursuant to 35 U.S.C. § 284 and further qualifies this action as an exceptional case supporting an award of reasonable attorneys' fees pursuant to 35 U.S.C. § 285.

63. Defendants' infringement has damaged, and continues to damage and injure Plaintiffs. The injury to Plaintiffs is irreparable and will continue unless and until Defendants are enjoined from further infringement.

VII. PRAYER FOR RELIEF

64. WHEREFORE, Plaintiffs request that judgement be entered in their favor and against Defendants as follows:

- A. Enter a judgment that Defendants have infringed, actively induced others to infringe, and/or contributorily infringed the Asserted Patents;
- B. Award Plaintiffs damages in an amount sufficient to compensate Plaintiffs for Defendants' infringement, active inducement of others' infringement,

and/or contributory infringement of the Asserted Patents, but not less than a reasonable royalty;

- C. Award Plaintiffs prejudgment interest pursuant to 35 U.S.C. § 284;
- D. Award Plaintiffs increased damages pursuant to 35 U.S.C. § 284, in an amount not less than three times the amount of actual damages awarded to Plaintiffs, by reason of Defendants' willful infringement of the Asserted Patents;
- E. Enter a permanent injunction enjoining Defendants, its officers, directors, servants, managers, employees, agents, attorneys, successors and assignees, and all persons in active concert or participation with any of them, from further acts of infringement of the Asserted Patents, pursuant to 35 U.S.C. § 283;
- F. Declare this case exceptional under 35 U.S.C. § 285 and award Plaintiffs their reasonable attorneys' fees, expenses, and costs incurred in prosecuting this action; and
- G. Grant Plaintiffs such other and further relief as this Court may deem just and proper.

VIII. DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiffs hereby respectfully request a trial by jury on all issues triable by right by a jury.

Dated: March 16, 2017

Respectfully submitted,

IVOCLAR VIVADENT AG, *et al.*

By: /s/ Suyash Agrawal
One of Their Attorneys

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[†] *Pro hac vice* motion to be filed