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SAINT-GOBAIN CERAMICS & PLASTICS, INC.

10 UNITED STATES DISTRICT COURT
11 CENTRAL DISTRICT OF CALIFORNIA
12 RIVERSIDE DIVISION
13

14 SAINT-GOBAIN CERAMICS &
15 PLASTICS, INC.,

16 Plaintiff,

17 v.

18 II-VI INC. and II-VI OPTICAL
19 SYSTEMS, INC.

20 Defendants.
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Case No. 5-18-cv-01798

**COMPLAINT FOR PATENT
INFRINGEMENT**

DEMAND FOR JURY TRIAL

1 **COMPLAINT FOR PATENT INFRINGEMENT**

2 Saint-Gobain Ceramics & Plastics, Inc. (“Saint-Gobain”) brings this action
3 for patent infringement against II-VI Inc. and II-VI Optical Systems, Inc.
4 (collectively, “II-VI” or “Defendants”) and alleges as follows:

5 **NATURE OF THE ACTION**

6 1. Saint-Gobain produces ceramic materials, including industrial crystals,
7 grains and powders, refractories, and engineered ceramic components. Many
8 industries benefit from the remarkable properties of these products. From the
9 refractories manufactured for the linings in furnaces that make glass for flat screens
10 to sensors for x-ray scanning machines for luggage and detectors for medical
11 imaging, Saint-Gobain serves a variety of particularly demanding industrial
12 markets, providing high-performance solutions for oil and gas extraction, defense
13 and military applications, and aeronautical and aerospace industries.

14 2. Saint-Gobain is built on innovation, fostered by its membership in the
15 Saint-Gobain Group. Now over 350 years old, the Saint-Gobain Group of
16 companies is one of the world’s largest makers of industrial and construction
17 materials. The Saint-Gobain Group has been named by Thomson Reuters and its
18 spinoff Clarivate Analytics a Top 100 Global Innovator for seven consecutive years
19 as recognition of the quantity, quality, and impact of its patents.

20 3. Saint-Gobain has protected its innovative solutions by obtaining
21 numerous patents from the United States Patent and Trademark Office. In this
22 action, Saint-Gobain asserts three patents.

23 4. First, Saint-Gobain owns United States Patent No. RE43,469
24 (“the ’469 Patent”), titled “Single crystals and methods for fabricating same.”
25 The ’469 Patent is attached hereto as Exhibit A.

26 5. Second, Saint-Gobain owns United States Patent No. 9,926,645 (“the
27 ’645 Patent”), titled “Method of forming a single crystal sheet using a die having a
28 thermal gradient along its length.” The ’645 Patent is attached hereto as Exhibit B.

1 6. Third, Saint-Gobain owns United States Patent No. 9,963,800
2 (“the ’800 Patent”), titled “Method of making a sapphire component including
3 machining a sapphire single crystal.” The ’800 Patent is attached hereto as
4 Exhibit C.

5 7. The products involved in this case are sheets of single crystal sapphire.
6 Sapphire is the material of choice for engineers faced with the design challenges of
7 extreme conditions – such as those found in high-temperature, high-pressure, or
8 harsh chemical and physical environments. Chemically inert, sapphire easily
9 withstands harsh chemicals such as fluorine plasma and other industrial gasses and
10 fluids, with no particle generation. In addition, sapphire can transmit ultraviolet,
11 visible, and infrared light, as well as microwaves, a range broader than most
12 materials. The three Saint-Gobain patents claim sapphire single crystal sheets that
13 are larger than could be successfully manufactured before Saint-Gobain’s invention
14 as well as methods of making and finishing the sheets.

15 8. Saint-Gobain makes sapphire single crystal sheets that a customer buys
16 for an application that is so highly demanding that only this material will meet the
17 customer’s specifications. The use is for windows that must be transmissive not
18 only to visible light, but to a much wider range of electromagnetic radiation than
19 alternative materials will allow. The window requires use of sapphire single crystal
20 sheets with dimensions that infringe the ’469 Patent and are made by practicing
21 methods that infringe the ’645 Patent and the ’800 Patent. Saint-Gobain sells sets
22 of sapphire sheets to the customer at a price of many tens of thousands of dollars
23 per set.

24 9. II-VI now competes directly with Saint-Gobain, supplying sapphire
25 single crystal sheets to the customer and thereby diverting sales to itself that
26 Saint-Gobain would otherwise have made. II-VI now manufactures sapphire single
27 crystal sheets and machines them, by grinding, lapping, polishing and/or removing
28 bulk material from each sheet, to fabricate an optical window, which it sells to the

1 customer. On information and belief, these activities by II-VI take place at its
2 permanent facility in Murrieta, California, in this District. Saint-Gobain is the only
3 other supplier of such sapphire single crystal sheets and has the manufacturing
4 capacity to manufacture all such sheets that the customer requires. Every such sale
5 by II-VI is a direct loss to Saint-Gobain of that sale and the consequent benefits and
6 profits.

7 10. As alleged in more detail below, II-VI is directly infringing
8 Saint-Gobain's '469 Patent by making, using, offering for sale, and/or selling
9 sapphire single crystal sheets in the United States. II-VI is directly infringing
10 Saint-Gobain's '645 Patent and its '800 Patent by practicing Saint-Gobain's
11 patented methods in the United States. Saint-Gobain has filed this action to put an
12 end to II-VI's infringement and to obtain fair compensation for II-VI's violations of
13 the Patent Laws of the United States.

14 **THE PARTIES**

15 11. Saint-Gobain Ceramics & Plastics, Inc. is a Delaware corporation,
16 with a place of business located at 20 Moores Road, Malvern, Pennsylvania 19355.

17 12. II-VI Inc. is a Pennsylvania corporation, with its principal place of
18 business located at 375 Saxonburg Blvd., Saxonburg, PA 16056-9499.

19 13. II-VI Optical Systems, Inc. is a wholly owned subsidiary of II-VI Inc.
20 II-VI Optical Systems, Inc. is a California corporation, with its principal place of
21 business located at 36570 Briggs Road, Murrieta, California 92563.

22 14. Upon information and belief, II-VI Optical Systems, Inc. acted as an
23 agent of II-VI Inc. for each and every II-VI activity discussed in this Complaint.
24 Unless otherwise indicated, all allegations herein concerning Defendants' actions
25 and liability are directed to both II-VI Inc. and II-VI Optical Systems, Inc.

26 **JURISDICTION AND VENUE**

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

1 16. Defendants maintain a permanent place of business in this District in
2 Murrieta, California, at which they manufacture Saint-Gobain’s patented articles
3 and practice Saint-Gobain’s patented methods as alleged in this Complaint.

4 17. Venue is proper in this judicial district pursuant to 28 U.S.C.
5 §§ 1391(b) and (c) and 1400(b).

6 **FACTUAL BACKGROUND**

7 18. The ’469 Patent claims sapphire single crystal sheets. In particular, it
8 teaches forming an as-grown sapphire single crystal wider and thicker than prior
9 conventional as-grown sapphire single crystal sheets that were produced by prior
10 methods. A sapphire single crystal sheet is “grown” by drawing molten, extremely
11 hot material through a die in a crucible. In order to produce a usable sapphire
12 single crystal sheet as claimed in the relevant claims of the ’469 Patent, the
13 inventors at Saint-Gobain had to solve problems caused by non-uniform
14 temperatures (a “thermal gradient”) across the molten material. Overcoming the
15 challenges involved required many months of innovation, experimentation, and
16 testing to achieve a new design and method to make the required large sheets
17 successfully.

18 19. The ’645 Patent claims methods for forming a sapphire single crystal
19 sheet with certain dimensional and thermal gradient characteristics using a crucible
20 having a die. The ’800 Patent further claims methods of making sapphire
21 components from sapphire crystals.

22 20. As stated above, beginning in 2004–2005, Saint-Gobain was the sole
23 supplier of large sapphire single crystal sheets for a customer at a location in the
24 United States for an extraordinarily demanding window application. Saint-Gobain
25 is informed and believes II-VI bought one or more sapphire furnaces to produce
26 sapphire sheets. On information and belief, II-VI purchased such furnaces in or
27 around 2015. Saint-Gobain is informed and believes that II-VI manufactures
28 infringing sheets and machines them into windows by grinding, lapping, polishing,

1 and/or removing bulk material from them. II-VI sells sapphire sheets and machined
2 windows to the customer. These actions infringe the '469 Patent, the '645 Patent,
3 and the '800 Patent.

4 21. Saint-Gobain gave a representative of II-VI actual notice of its
5 infringement of the '469 Patent on December 7, 2015, but II-VI has continued to
6 infringe that patent. Saint-Gobain gave the representative of II-VI actual notice of
7 its infringement of the '645 Patent on April 26, 2018, but II-VI has continued to
8 infringe that patent.

9 22. Upon information and belief, as a result of receiving those written
10 notices, II-VI monitored Saint-Gobain's activities in patenting subject matter
11 related to sapphire single crystal sheets. Accordingly, upon information and belief,
12 II-VI learned of the '800 Patent, and its infringement thereof, on or around May 8,
13 2018, when the '800 Patent issued. Otherwise, II-VI was willfully blind to the
14 existence of and its infringement of the '800 Patent.

15 **COUNT I – PATENT INFRINGEMENT**

16 **(U.S. Patent No. RE43,469)**

17 23. Saint-Gobain incorporates by reference and re-alleges Paragraphs 1–22
18 above as though fully restated herein.

19 24. II-VI has directly infringed the '469 Patent under 35 U.S.C. § 271(a)
20 by making, using, selling, and offering for sale in the United States, without license
21 or authority, sapphire single crystal sheets and windows made therefrom, which
22 infringe, literally or under the doctrine of equivalents, at least Claims 1, 2, 4-9,
23 11-14, and 16-44 of the '469 Patent.

24 25. Upon information and belief, II-VI Inc. has induced infringement of
25 the '469 Patent under 35 U.S.C. § 271(b) by II-VI Optical Systems, Inc. by actively
26 encouraging II-VI Optical Systems, Inc. to make, use, sell, and offer for sale in the
27 United States, without license or authority, sapphire sheets and windows made
28 therefrom, which infringe, literally or under the doctrine of equivalents, at least

1 Claims 1, 2, 4-9, 11-14, and 16-44 of the '469 Patent. II-VI Inc. either has
2 undertaken these actions with knowledge that the induced acts infringe
3 the '469 Patent or has taken deliberate steps to avoid learning that the induced acts
4 infringe the '469 Patent based upon a subjective belief that there is a high
5 likelihood that the induced acts infringe the '469 Patent.

6 26. In addition, II-VI knowingly and intentionally has induced
7 infringement of the '469 Patent under 35 U.S.C. § 271(b) by actively encouraging
8 others to make, use, sell, and offer for sale in the United States, without license or
9 authority, products that infringe, literally or under the doctrine of equivalents, at
10 least Claims 1, 2, 4-9, 11-14, and 16-44 of the '469 Patent. For example, II-VI has
11 instructed and encouraged its customers to use sapphire single crystal sheets and
12 windows made therefrom that infringe the '469 Patent, including through the
13 following: (i) providing instructions and services to end users and customers of
14 II-VI's products for using the products in their customary way; (ii) providing to
15 third parties the products that may be required for or associated with infringement
16 of the '469 Patent; (iii) selling and offering to sell the products in the United States;
17 and (iv) promoting the products on II-VI's website. On information and belief,
18 II-VI either has undertaken these actions with knowledge that the induced acts
19 infringe the '469 Patent or has taken deliberate steps to avoid learning that the
20 induced acts infringe the '469 Patent based upon a subjective belief that there is a
21 high likelihood that the induced acts infringe the '469 Patent.

22 27. Further, II-VI has contributed to the infringement of the '469 Patent
23 under 35 U.S.C. § 271(c) by selling and offering for sale, without license or
24 authority, sapphire sheets and windows made therefrom in the United States,
25 knowing that such products are especially made or adapted for use in infringement
26 of the '469 Patent, are not a staple article or commodity of commerce suitable for
27 any substantial non-infringing use, and that others, such as II-VI's customers and
28 end-users, use such products to infringe the '469 Patent, for example, by creating

1 finished window products that infringe at least Claims 1, 2, 4-9, 11-14, and 16-44
2 of the '469 Patent.

3 28. In addition, II-VI has infringed the '469 Patent under 35 U.S.C.
4 § 271(f)(1). In particular, upon information and belief, II-VI has supplied or caused
5 to be supplied in or from the United States, without license or authority, its sapphire
6 single crystal sheets and windows made therefrom to customers that use those
7 products outside of the United States, including in Japan and Italy, as components
8 in finished window products that would infringe at least Claims 1, 2, 4-9, 11-14,
9 and 16-44 of the '469 Patent if made in the United States. These actions actively
10 induced II-VI's customers to create the finished window products. II-VI either has
11 undertaken these actions with knowledge that the induced acts would infringe
12 the '469 Patent if they occurred within the United States or has taken deliberate
13 steps to avoid learning that the induced acts would infringe the '469 Patent based
14 upon a subjective belief that there is a high likelihood that the induced acts infringe
15 the '469 Patent.

16 29. In addition, II-VI has infringed the '469 Patent under 35 U.S.C.
17 § 271(f)(2). In particular, upon information and belief, II-VI has supplied or caused
18 to be supplied in or from the United States its sapphire single crystal sheets and
19 windows made therefrom to customers that use those products outside of the United
20 States, including in Japan and Italy, to make finished window products that would
21 infringe at least Claims 1, 2, 4-9, 11-14, and 16-44 of the '469 Patent if made in the
22 United States. The sapphire single crystal sheets and windows made therefrom are
23 especially made and especially adapted for use in practicing the patented invention.
24 The sapphire single crystal sheets and windows made therefrom are not staple
25 articles or commodities of commerce suitable for non-infringing use. Upon
26 information and belief, II-VI intended for the sapphire single crystal sheets and
27 windows made therefrom to be used by its customers to create the finished window
28 products. II-VI either has undertaken these activities with knowledge that its

1 customers' actions to make the finished window products would infringe
2 the '469 Patent if they occurred within the United States or has taken deliberate
3 steps to avoid learning that those actions would infringe the '469 Patent based upon
4 a subjective belief that there is a high likelihood that the actions infringe
5 the '469 Patent.

6 30. Saint-Gobain has been and continues to be damaged by II-VI's
7 infringement of the '469 Patent in an amount to be determined and subject to proof
8 at trial. In addition, II-VI's infringement of the '469 Patent has irreparably harmed,
9 and continues to irreparably harm, Saint-Gobain. Among other things, II-VI is
10 competing against Saint-Gobain by using Saint-Gobain's own patented invention.
11 Furthermore, II-VI's infringing sales are diminishing Saint-Gobain's reputation as
12 an innovator of high-end sapphire and stifling Saint-Gobain's R&D efforts. These
13 harms to Saint-Gobain cannot be fully compensated by monetary damages. The
14 public interest and the balance of interests as between Saint-Gobain and II-VI will
15 be best served by granting injunctive relief to end the patent infringement by II-VI
16 described in this Complaint.

17 31. II-VI's infringement of the '469 Patent has been willful. For example,
18 as discussed above, Saint-Gobain provided written notice of the '469 Patent to
19 II-VI on December 7, 2015 and again on February 28, 2018. Despite its knowledge
20 of the '469 Patent and its infringement thereof, II-VI has continued to infringe.

21 **COUNT II – PATENT INFRINGEMENT**

22 **(U.S. Patent No. 9,926,645)**

23 32. Saint-Gobain incorporates by reference and re-alleges Paragraphs 1–31
24 above as though fully restated herein.

25 33. II-VI has directly infringed the '645 Patent under 35 U.S.C. § 271(a)
26 by making in the United States, without license or authority, sapphire sheets and
27 windows using methods that infringe, literally or under the doctrine of equivalents,
28 at least Claims 1, 2 and 5–11 of the '645 Patent.

1 34. Upon information and belief, II-VI Inc. has induced infringement of
2 the '645 Patent under 35 U.S.C. § 271(b) by II-VI Optical Systems, Inc. by actively
3 encouraging II-VI Optical Systems, Inc., without license or authority, to make
4 sapphire sheets and windows using methods that infringe, literally or under the
5 doctrine of equivalents, at least Claims 1, 2 and 5–11 of the '645 Patent and to use,
6 sell, and offer for sale those sheets and windows in the United States. II-VI Inc. has
7 either undertaken these actions with knowledge that the induced acts infringe
8 the '645 Patent or has taken deliberate steps to avoid learning that the induced acts
9 infringe the '645 Patent based upon a subjective belief that there is a high
10 likelihood that the induced acts infringe the '645 Patent.

11 35. II-VI has infringed the '645 Patent under 35 U.S.C. § 271(g) by
12 offering to sell, selling, and using in the United States, without license or authority,
13 sapphire sheets and windows, which were made using methods that infringe,
14 literally or under the doctrine of equivalents, at least Claims 1, 2 and 5–11 of
15 the '645 Patent. II-VI's sapphire single crystal sheets and windows were not
16 materially changed by subsequent processes, nor did they become trivial and
17 nonessential components of other products.

18 36. Saint-Gobain has been and continues to be damaged by II-VI's
19 infringement of the '645 Patent in an amount to be determined and subject to proof
20 at trial. In addition, II-VI's infringement of the '645 Patent has irreparably harmed
21 Saint-Gobain. Among other things, II-VI is competing against Saint-Gobain by
22 using Saint-Gobain's own patented invention. Furthermore, II-VI's infringing sales
23 are diminishing Saint-Gobain's reputation as an innovator of high-end sapphire and
24 stifling Saint-Gobain's R&D efforts. These harms to Saint-Gobain cannot be fully
25 compensated by monetary damages. The public interest and the balance of interests
26 as between Saint-Gobain and II-VI will be best served by granting injunctive relief
27 to end the patent infringement by II-VI described in this Complaint.
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1 37. II-VI's infringement of the '645 Patent has been willful. As discussed
2 above, Saint-Gobain provided written notice of the '645 Patent to II-VI on April 26,
3 2018. Despite its knowledge of the '645 Patent, on information and belief, II-VI
4 has continued to infringe.

5 **COUNT III – PATENT INFRINGEMENT**

6 **(U.S. Patent No. 9,963,800)**

7 38. Saint-Gobain incorporates by reference and re-alleges Paragraphs 1–37
8 above as though fully restated herein.

9 39. II-VI has directly infringed the '800 Patent under 35 U.S.C. § 271(a)
10 by making in the United States, without license or authority, sapphire sheets and
11 windows using methods that infringe, literally or under the doctrine of equivalents,
12 at least Claims 1, 2 and 4-15 of the '800 Patent.

13 40. Upon information and belief, II-VI Inc. has induced infringement of
14 the '800 Patent under 35 U.S.C. § 271(b) by II-VI Optical Systems, Inc. by actively
15 encouraging II-VI Optical Systems, Inc., without license or authority, to make
16 sapphire sheets and windows using methods that infringe, literally or under the
17 doctrine of equivalents, at least Claims 1, 2, and 4-15 of the '800 Patent and to use,
18 sell, and offer for sale those sheets and windows in the United States. II-VI Inc.
19 either has undertaken these actions with knowledge that the induced acts infringe
20 the '800 Patent or has taken deliberate steps to avoid learning that the induced acts
21 infringe the '800 Patent based upon a subjective belief that there is a high
22 likelihood that the induced acts infringe the '800 Patent.

23 41. II-VI has infringed the '800 Patent under 35 U.S.C. § 271(g) by
24 offering to sell, selling, and using in the United States, without license or authority,
25 sapphire sheets and windows, which were made using methods that infringe,
26 literally or under the doctrine of equivalents, at least Claims 1, 2 and 4-15 of
27 the '800 Patent. II-VI's infringing sapphire single crystal sheets and windows were
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1 not materially changed by subsequent processes, nor did they become trivial and
2 nonessential components of other products.

3 42. Saint-Gobain has been and continues to be damaged by II-VI's
4 infringement of the '800 Patent in an amount to be determined and subject to proof
5 at trial. In addition, II-VI's infringement of the '800 Patent has irreparably harmed
6 Saint-Gobain. Among other things, II-VI is competing against Saint-Gobain by
7 using Saint-Gobain's own patented invention. Furthermore, II-VI's infringing sales
8 are diminishing Saint-Gobain's reputation as an innovator of high-end sapphire and
9 stifling Saint-Gobain's R&D efforts. These harms to Saint-Gobain cannot be fully
10 compensated by monetary damages. The public interest and the balance of interests
11 as between Saint-Gobain and II-VI will be best served by granting injunctive relief
12 to end the patent infringement by II-VI described in this Complaint.

13 43. Upon information and belief, II-VI's infringement of the '800 Patent
14 has been willful. Upon information and belief, II-VI learned of the '800 Patent on
15 or around May 8, 2018, the date that the patent issued. Upon information and
16 belief, despite its knowledge of the '800 Patent and its infringement thereof, II-VI
17 has continued to infringe.

18 **PRAYER FOR RELIEF**

19 WHEREFORE, Saint-Gobain respectfully requests that this Court enter
20 judgment in its favor as follows:

- 21 A. Declare that Defendants have infringed the '469, '645, and '800
22 Patents, either literally or under the doctrine of equivalents, in
23 violation of 35 U.S.C. § 271(a);
- 24 B. Declare that Defendants have induced infringement of the '469 Patent
25 in violation of 35 U.S.C. § 271(b);
- 26 C. Declare that II-VI Inc. has induced infringement of the '645
27 and '800 Patents in violation of 35 U.S.C. § 271(b);
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- 1 D. Declare that Defendants have contributed to the infringement of
- 2 the '469 Patent in violation of 35 U.S.C. § 271(c);
- 3 E. Declare that Defendants have infringed the '469 Patent under
- 4 35 U.S.C. § 271(f);
- 5 F. Declare that Defendants have infringed the '645 and '800 Patents
- 6 under 35 U.S.C. § 271(g);
- 7 G. Award Saint-Gobain past and future damages, together with
- 8 prejudgment and post-judgment interest, to compensate for
- 9 Defendants' infringement of the '469, '645, and '800 Patents in
- 10 accordance with 35 U.S.C. § 284;
- 11 H. Award Saint-Gobain enhanced damages for Defendants' willful and
- 12 deliberate acts of infringement in accordance with 35 U.S.C. § 284;
- 13 I. Declare that this case is exceptional under 35 U.S.C. § 285;
- 14 J. Award Saint-Gobain its costs and attorneys' fees under 35 U.S.C.
- 15 § 285;
- 16 K. Issue an injunction barring Defendants and their officers, directors,
- 17 agents, employees, affiliates, attorneys, and all others acting in privity
- 18 or in concert with it, and its parents, subsidiaries, divisions, successors,
- 19 and assigns, from further acts of infringement of the '469, '645,
- 20 and '800 Patents; and
- 21 L. Grant Saint-Gobain such other and further relief as the case may
- 22 require and the Court may deem just and proper under the
- 23 circumstances.

24 **JURY DEMAND**

25 Pursuant to Fed. R. Civ. P. 38(b), Saint-Gobain demands a trial by jury.

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Dated: August 24, 2018

Respectfully submitted,

MORRISON & FOERSTER LLP

By: /s/ Jack W. Londen

Jack W. Londen

Attorneys for Plaintiff
SAINT-GOBAIN CERAMICS &
PLASTICS, INC.