

PATENT ASSIGNMENT

Electronic Version v1.1

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SUBMISSION TYPE:

NEW ASSIGNMENT

NATURE OF CONVEYANCE:

ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Brahmanandam V. Tanikella	12/06/2007
Matthew A. Simpson	12/05/2007
Palaniappan Chinnakaruppan	01/02/2008
Robert A. Rizzuto	12/18/2007
Ramanujam Vedantham	12/18/2007

RECEIVING PARTY DATA

Name:	SAINT-GOBAIN CERAMICS & PLASTICS, INC.
Street Address:	One New Bond Street
City:	Worcester
State/Country:	MASSACHUSETTS
Postal Code:	01615-0138

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	11963420

CORRESPONDENCE DATA

Fax Number: (512)439-7199

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Email: edougherty@larsonnewman.com

Correspondent Name: LARSON NEWMAN ABEL POLANSKY & WHITE, LLP

Address Line 1: 5914 West Courtyard Drive, Suite 200

Address Line 4: Austin, TEXAS 78730

ATTORNEY DOCKET NUMBER:

1035-BI4640-B-US

NAME OF SUBMITTER:

Jeffrey S. Abel

Total Attachments: 15

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PATENT

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ASSIGNMENT OF INVENTION

For good and valuable consideration, the receipt of which is hereby acknowledged,
I, an Assignor named below,

Brahmanandam V. Tanikella of Northboro, MA 01532 USA
Matthew A. Simpson of Sudbury, MA 01776 USA
Palaniappan Chinnakaruppan of West Carrollton, OH 45449 USA
Robert A. Rizzuto of Worcester, MA 01606 USA
Ramanujam Vedantham of Worcester, MA 01606 USA

hereby sell, assign and transfer to

ASSIGNEE: SAINT-GOBAIN CERAMICS & PLASTICS, INC., a Delaware
Corporation, having a principal place of business at One New Bond
Street, Worcester, MA 01615-0138,

its successors, assigns and legal representatives, my entire right, title and interest throughout the
world, including all rights to claim priority, in and to the invention disclosed in:

- ☒ U.S. Patent Application executed on or about the date of this Assignment,
☐ U.S. Patent Application executed on _____,
☐ U.S. Provisional Application _____, filed on _____,
☐ U.S. Application No.: _____, filed on _____, or
☐ International Application No.: PCT/_____, filed on _____

ENTITLED: SAPPHIRE SUBSTRATES AND METHODS OF MAKING
SAME, and naming as

INVENTOR(S): Brahmanandam V. Tanikella, Matthew A. Simpson, Palaniappan
Chinnakaruppan, Robert A. Rizzuto, and Ramanujam Vedantham.

("Invention") including without limitation, my entire right, title and interest in and to any and all
United States and foreign applications (including international, regional and foreign national
applications) for said Invention, including divisions, continuations, continuations-in-part, utility
models, industrial designs, renewals, substitutes and extensions thereof, and in and to any and all
patents, invention registrations, or other forms of protection ("Patents") of every country or region
that may be granted or have been granted for said Invention, including any reissues and
reexaminations thereof.

To comply with 37 C.F.R. § 3.21 for recording this Assignment, I authorize and request that the
application number and filing date be inserted here, if not already shown above,
(_____/_____, filed _____) when they become known.

I authorize Assignee to apply for patents in foreign countries for said Invention, and to claim all rights of priority without further authorization from me.

I agree that, upon request and without further compensation, but at no expense to me, I and/or my legal representatives and assigns will do all lawful acts, including the execution of papers and the giving of testimony, that may be necessary or desirable for obtaining, sustaining, reissuing, or enforcing the Patents in the United States and throughout the world for said Invention, and for perfecting, recording, or maintaining the title of Assignee, its successors and assigns, to said Invention, said application, and any Patents granted for said Invention in the United States and throughout the world.

I hereby covenant that no assignment, sale, license, agreement, or encumbrance has been or will be made or entered into that would conflict with this Assignment.

I authorize and request the Director of the United States Patent and Trademark Office and agencies, departments, or other similar offices and officials of all foreign countries to issue any Patents granted for said Invention, whether on said application or on any subsequently filed divisional, continuation, continuation-in-part, reexamination, reissue or other application, to Assignee, its successors and assigns, as the assignee of the entire interest in said Invention.

Executed on Dec 6th, 2007 by Brahmanandam V. Tanikella
Brahmanandam V. Tanikella

Witnessed on Dec 6th, 2007 by Patricia L. Long
Witness Signature

Executed on _____, 200__ by _____
Matthew A. Simpson

Witnessed on _____, 200__ by _____
Witness Signature

Executed on _____, 200__ by _____
Palaniappan Chinnakaruppan

Witnessed on _____, 200__ by _____
Witness Signature

Executed on _____, 200__ by _____
Robert A. Rizzuto

Witnessed on _____, 200__ by _____
Witness Signature

Executed on _____, 200__ by _____
Ramanujam Vedantham

Witnessed on _____, 200__ by _____
Witness Signature

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Executed on _____, 200__ by _____
Brahmanandam V. Tanikella

Witnessed on _____, 200__ by _____
Witness Signature

Executed on Dec 5, 2007 by Matthew A. Simpson
Matthew A. Simpson

Witnessed on DEC 5, 2007 by [Signature]
Witness Signature

Executed on _____, 200__ by _____,
Palaniappan Chinnakaruppan

Witnessed on _____, 200__ by _____,
Witness Signature

Executed on _____, 200__ by _____,
Robert A. Rizzuto

Witnessed on _____, 200__ by _____,
Witness Signature

Executed on _____, 200__ by _____,
Ramanujam Vedantham

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Matthew A. Simpson of Sudbury, MA 01776 USA

Palaniappan Chinnakaruppan of Springboro, OH 45066 USA

Robert A. Rizzuto of Worcester, MA 01606 USA

Ramanujam Vedantham of Worcester, MA 01606 USA

hereby sell, assign and transfer to

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- ☐ U.S. Patent Application executed on _____,
- ☐ U.S. Provisional Application _____, filed on _____,
- ☒ U.S. Application No.: 11/963,420, filed on December 21, 2007, or
- ☐ International Application No.: PCT/_____, filed on _____.

ENTITLED: **SAPPHIRE SUBSTRATES AND METHODS OF MAKING SAME**, and naming as

INVENTOR(S): Brahmanandam V. Tanikella, Matthew A. Simpson, Palaniappan Chinnakaruppan, Robert A. Rizzuto, and Ramanujam Vedantham.

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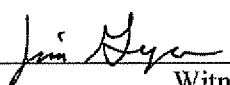
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Executed on _____, 200__ by _____,
Brahmanandam V. Tanikella

Witnessed on _____, 200__ by _____,
Witness Signature

Executed on _____, 200__ by _____,
Matthew A. Simpson

Witnessed on _____, 200__ by _____,
Witness Signature

Executed on 02, Jan, 2008 by ,
Palaniappan Chinnakaruppan
Witnessed on 02, Jan, 2008 by ,
Witness Signature

Executed on _____, 200__ by _____,
Robert A. Rizzuto
Witnessed on _____, 200__ by _____,
Witness Signature

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Ramanujam Vedantham
Witnessed on _____, 200__ by _____,
Witness Signature

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Executed on _____, 200__ by _____ Brahmanandam V. Tanikella
Witnessed on _____, 200__ by _____ Witness Signature

Executed on _____, 200__ by _____ Matthew A. Simpson
Witnessed on _____, 200__ by _____ Witness Signature

Executed on _____, 200__ by _____,
Palaniappan Chinnakaruppan

Witnessed on _____, 200__ by _____,
Witness Signature

Executed on December 18, 2007 by Robert A. Rizzuto,
Robert A. Rizzuto

Witnessed on Dec 18, 2007 by [Signature],
Witness Signature

Executed on _____, 200__ by _____,
Ramanujam Vedantham

Witnessed on _____, 200__ by _____,
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Executed on _____, 200__ by _____ Brahmanandam V. Tanikella
Witnessed on _____, 200__ by _____ Witness Signature

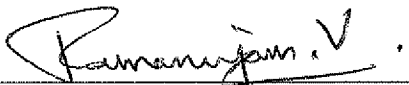
Executed on _____, 200__ by _____ Matthew A. Simpson
Witnessed on _____, 200__ by _____ Witness Signature


Executed on _____, 200__ by _____,
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