

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT														
NATURE OF CONVEYANCE:	ASSIGNMENT														
CONVEYING PARTY DATA															
<table border="1"><thead><tr><th>Name</th><th>Execution Date</th></tr></thead><tbody><tr><td>Brahmanandam V. Tanikella</td><td>12/06/2007</td></tr><tr><td>Matthew A. Simpson</td><td>12/05/2007</td></tr><tr><td>Palaniappan Chinnakaruppan</td><td>01/02/2008</td></tr><tr><td>Robert A. Rizzuto</td><td>12/18/2007</td></tr><tr><td>Isaac K. Cherian</td><td>12/05/2007</td></tr><tr><td>Ramanujam Vedantham</td><td>12/18/2007</td></tr></tbody></table>	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	Isaac K. Cherian	12/05/2007	Ramanujam Vedantham	12/18/2007	
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Robert A. Rizzuto	12/18/2007														
Isaac K. Cherian	12/05/2007														
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															
<table border="1"><thead><tr><th>Property Type</th><th>Number</th></tr></thead><tbody><tr><td>Application Number:</td><td>11963369</td></tr></tbody></table>	Property Type	Number	Application Number:	11963369											
Property Type	Number														
Application Number:	11963369														
CORRESPONDENCE DATA															
Fax Number:	(512)439-7199														
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>															
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-A-US														
NAME OF SUBMITTER:	Jeffrey S. Abel														

CH \$40.00 11963369

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PATENT
REEL: 020826 FRAME: 0976

Total Attachments: 18

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Attorney Docket No.: 1035-B14640-A-US

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
Isaac K. Cherian of Shrewsbury, MA 01545 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:

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

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

("Invention") including without limitation, my entire right, title and interest in and to any and all
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models, industrial designs, renewals, substitutes and extensions thereof, and in and to any and all
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Executed on Dec 6th, 2007 by Brahmanandam V. Tanikella
Brahmanandam V. Tanikella
Witnessed on Dec 6th, 2007 by Patricia L. Luby
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

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Robert A. Rizzuto

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 <u>5 Dec</u> , 200 <u>7</u> by <u>Matthew A. Simpson</u> Matthew A. Simpson
Witnessed on <u>5 Dec</u> , 200 <u>7</u> by <u>[Signature]</u> 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

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- ☒ U.S. Application No.: 11/963,369, filed on December 21, 2007, or
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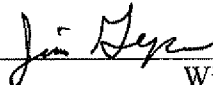
Executed on _____, 200__ by _____
Brahmanandam V. Tanikella

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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Isaac K. Cherian

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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 James P. Cowe
Witness Signature

Executed on _____, 200__ by _____
Isaac K. Cherian

Witnessed on _____, 200__ by _____
Witness Signature

Executed on _____, 200__ by _____
Ramanujam Vedantham

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Attorney Docket No.: 1035-BI4640-A-US

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Brahmanandam V. Tanikella

Witnessed on _____, 200__ by _____
Witness Signature

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Matthew A. Simpson

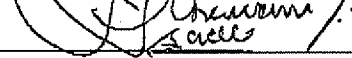
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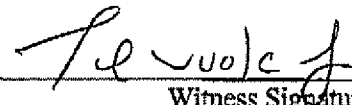
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Witnessed on 12-5, 2007 by ,
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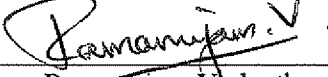
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To comply with 37 C.F.R. § 3.21 for recording this Assignment, I authorize and request that the application number and filing date be inserted here, if not already shown above, (____ / _____, filed _____) when they become known.

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

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