# Electronic Version v1.1 Stylesheet Version v1.1

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:	AINT-GOBAIN CERAMICS & PLASTICS, INC.		
Street Address:	ne 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 REEL: 020827 FRAME: 0003

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PATENT REEL: 020827 FRAME: 0004

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
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 for the filed) when they become known.

Page 1 of 3

**REEL: 020827 FRAME: 0005** 

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.

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			Robert A. Rizzuto
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Executed on	, 200	_ by	Ramanujam Vedantham
Witnessed on	, 200_	by _	Witness Signature

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### ASSIGNMENT OF INVENTION

For	good	and	valuable	consideration,	the	receipt	of	which	is	hereby	acknowledged,
I, an	Assign	or na	med 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,

Chinnakaruppan, Robert A. Rizzuto, and Ramanujam Vedantham.

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 A	pplication exec	cuted on or about to cuted on	~~~		nent,	; 
U.S. Applicat	ion No.:	, filed on o.: <u>PCT/</u>		, or		· · · · · · · · · · · · · · · · · · ·
ENTITLED:	SAPPHIRE SAME, and r	SUBSTRATES aming as	AND	METHODS	OF	MAKING
INVENTOR(S):	Brahmananda	ım V. Tanikella, M	atthew	A. Simpson, Pa	alania	ppan

("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	C.F.R.	§ 3.21	for rec	ordi	ıg this As	signme	nt, l	auth	orize and	request	that the
application	number	and	filing	date	be	inserted	here,	if	not	already	shown	above,
(/	······································	filed					) when	they	/ beco	ine know	n.	

Page 1 of 3

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

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.

Executed on	, 200 by, Brahmanandam V. Tanikella
Witnessed on	, 200 by Witness Signature
Executed on Dec 5	, 200 7 by Matthew A. Simpson
	, 200_7 by June Witness Signature

Executed on	, 200 by	Palaniappan Chinnakaruppan
		y, Witness Signature
Executed on	, 200 by	Robert A. Rizzuto
		Witness Signature
Executed on	•	· .
Witnessed on	, 200 b	y, Witness Signature

### ASSIGNMENT OF INVENTION

For	good	and	valuable	consideration,	the	receipt	of	which	is	hereby	acknowledged,
I, an	Assign	or na	med below	7,							

Brahmanandam V. Tanikella of Northboro, MA 01532 USA

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

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 A	pplication executed on or ab	out the date	of this Assigm	ment,	
U.S. Patent A	pplication executed on		>		
U.S. Provision	nal Application	, filed	on		?
U.S. Applicati	ion No.: <u>11/963,420</u> , filed on	December	21, 2007, or		
International	Application No.: <u>PCT/</u>		_, filed on		*
ENTITLED:	SAPPHIRE SUBSTRATES SAME, and naming as	TES AND	METHODS	OF	MAKING
INVENTOR(S):	Brahmanandam V. Tanikel Chinnakaruppan, Robert A		-	-	

("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 rec	cordi	ng this A	ssignme	nt, l	auth	orize and	l request	that the
application	number	and	filing	date	be	inserted	here,	if	not	already	shown	above,
(/		, filed					) when	they	beco	ome knov	vn.	

**REEL: 020827 FRAME: 0011** 

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 b	y, Brahmanandam V. Tanikella
Witnessed on	, 200	by, Witness Signature
Executed on	, 200 b	y, Matthew A. Simpson
Witnessed on	, 200	by, Witness Signature

REEL: 020827 FRAME: 0012

Executed on 02,30M	_, 200_&	by	Palaniappan Chinnakaruppan	_,
Witnessed on 02, Jan		by _	Jum Hyw Witness Signature	
Executed on	_, 200	by	Robert A. Rizzuto	<del>.</del> _•
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Executed on	, 200	by	Ramanujam Vedantham	***************************************
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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

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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 Ap U.S. Patent Ap U.S. Provision	plication exec	uted on		of this Assignr _, on	nent,	
U.S. Applicati	on No.:	, filed on		, filed on		**************************************
ENTITLED:	SAPPHIRE SAME, and n	SUBSTRATES aming as	AND	METHODS	OF	MAKING

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.

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application	number	and	filing	date	be	inserted	here,	if	not	already	shown	above,
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Page 1 of 3

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

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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.

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

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Executed on <u>Decen</u>	nhop (8, 2007 by	Robert A. Rizzuto
		Witness Signature
Executed on	, 200 by	Ramanujam Vedantham
Witnessed on	, 200 by	Witness Signature

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### ASSIGNMENT OF INVENTION

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l, an	Assign	or na	med below	7,							

Brahmanandam V. Tanikella of Northboro, MA 01532 USA

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Corporation, having a principal place of business at One New Bond

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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:

	pplication executed on c			ignment	,
	nal Application				<del>ر</del>
	ion No.:, fi				
	Application No.: PCT/				***************************************
ENTITLED:	SAPPHIRE SUBSTI	RATES AN	ND METHO	DS OF	MAKING
INVENTOR(S):	Brahmanandam V. Tan Chinnakaruppan, Robe				

("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 rec	ordii	ng this A	ssignme	mt, l	auth	orize and	request	that the
application	number	and	filing	date	be	inserted	here,	if	not	already	shown	above,
(/		, filed					_) when	they	beco	me know	'n.	

Page 1 of 3

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

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.

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Executed on	, 200 by	Brahmanandam V. Tanikella
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Witnessed on	, 200 by _	Witness Signature
Executed on	_, 200 by	Robert A. Rizzuto
Witnessed on	, 200 by	Witness Signature
Executed on Del 18th	_, 200 <u></u> tby	Ramanujam Vedantham
		Daird Landerson.