PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5496361

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ADAM D POLCYN	04/14/2019
ANDREW V WAGNER	03/22/2019
HARRY BUHAY	04/15/2019
ABHINAV BHANDARI	03/18/2019
JAMES J FINLEY	01/16/2019
PAUL R OHODNICKI JR	04/03/2019
DENNIS J O'SHAUGHNESSY	01/15/2019
JEFFREY A BENIGNI	03/18/2019
PAUL A MEDWICK	01/15/2019
JAMES P THIEL	04/10/2019

RECEIVING PARTY DATA

Name:	VITRO, S.A.B. DE C.V.
Street Address:	AV. RICARDO MARGAIN ZOZAYA #400
Internal Address:	COL. VALLE DE CAMPESTRE, SAN PEDRO GARZA
City:	NUEVO LEON
State/Country:	MEXICO
Postal Code:	66265

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15842118

CORRESPONDENCE DATA

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: twolski@webb.com
Correspondent Name: THOMAS C. WOLSKI

Address Line 1: 420 FORT DUQUESNE BOULEVARD

Address Line 2: THE WEBB LAW FIRM

Address Line 4: PITTSBURGH, PENNSYLVANIA 15219

PATENT REEL: 049016 FRAME: 0551

505449560

ATTORNEY DOCKET NUMBER:	09006598D1	
NAME OF SUBMITTER:	THOMAS C. WOLSKI	
SIGNATURE:	/Thomas C. Wolski/	
DATE SIGNED:	04/29/2019	
Total Attachments: 15		
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PATENT REEL: 049016 FRAME: 0552

ASSIGNMENT

IN CONSIDERATION of good and valuable considerations received from VITRO, S.A.B. de C.V., a Mexican corporation, having a place of business at Av. Richardo Margain Zozaya #400, Col. Valle del Campestre, San Pedro Garza Garcia, Nuevo León, Mexico 66265 and intending to be legally bound hereby, I,

NAME	CITY	COUNTY	STATE/COUNTRY
Adam D. Polcyn	Pittsburgh	Allegheny	PA/USA
Andrew V. Wagner	Pittsburgh	Allegheny	PA/USA
Harry Buhay	Allison Park	Allegheny	PA/USA
Abhinav Bhandari	Cranberry	Butler	PA/USA
James J. Finley	Pittsburgh	Allegheny	PA/USA
Paul R. Ohodnicki, Jr.	Allison Park	Allegheny	PA/USA
Dennis J. O'Shaughnessy	Allison Park	Allegheny	PA/USA
Jeffrey A. Benlgni	McGrann	Armstrong	PA/USA
Paul A. Medwick	Allison Park	Allegheny	PA/USA
James P. Thiel	Lihue	Kausi	HI/USA

do hereby sell, assign and set over unto VITRO, S.A.B. de C.V., the entire right, title and interest in and to my invention of improvements in

SOLAR CONTROL COATNGS WITH DISCONTINUOUS METAL LAYER

as set forth in my application for Letters Patent of the United States of America, U.S. Serial No. 15/842,118, filed December 14, 2017, executed by

Adam D. Polcyn on the	day of	, 2018;
Andrew V. Wagner on the	day of	2018;
Harry Buhay on the $\angle S$ day of		
Abhinav Bhandari on the	day of	2018;
James J. Finley on the day of		
Paul R. Ohodnicki, Jr. on the		
Dennis J. O'Shaughnessy on the	day of	, 2018;
Jeffrey A. Benigni on the		

FULL NAME OF ASSIGNOR: Harry Buhay	#E3ihrison.	530 Palmer ram University of Parties, PA 19067
_tBuhay ECUTED this_15_day of_APRIL	, 2019	COMMONWEALTH OF PENNSYLVANIA HOTARIAL SEAL JOANN V KIRK HOTARIAL SEAL JOANN TWR. SUCKS COUNTY My Commission Expires Jan 26, 2021
ITNESS: DELLA LLACE Physics	***************************************	
FULL NAME OF ASSIGNOR:	RESIDENCE	125 Blue Ridge Drive Cranberry, PA 16065
Abhinav Bhandari		
XECUTED this day of	, 2018	
K KEND DESTRICT		
WITNESS:		
		E: 111 Cornwall Drive Pittsburgh, PA 15238
Name: 5. FULL NAME OF ASSIGNOR:		:E: 111 Cornwall Drive
Name: 5. FULL NAME OF ASSIGNOR: James J. Finley	RESIDENC	E: 111 Cornwall Drive Pittsburgh, PA 15238
Name: 5. FULL NAME OF ASSIGNOR: James J. Finley	RESIDENC	E: 111 Cornwall Drive Pittsburgh, PA 15238
5. FULL NAME OF ASSIGNOR: James J. Finley	RESIDENC	E: 111 Cornwall Drive Pittsburgh, PA 15238

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Dennis J. O'Shaughnessy	Allison Park	Allegheny	PA/USA
Jeffrey A. Benigni	McGrann	Armstrong	PA/USA
Paul A. Medwick	Allison Park	Allegheny	PA/USA
James P. Thiel			

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Adam D. Polcyn on the 14	day of	MARCH	.2018: 2019
Andrew V. Wagner on the 22			
Harry Buhay on the day of _	***************************************	, 20,18;	2019
Abhinav Bhandari on the	day of		2018-
James J. Finley on the $\underline{\rlap/ \&}$ day of $_$	Jana	<u> </u>	2019
James J. Finley on the <u>/ /-</u> day of _ Paul R. Ohodnicki, Jr. on the	day of		, 2018;
Dennis J. O'Shaughnessy on the	15.	day of Jackson	× / 2018; 20 9
Jeffrey A. Benigni on the <u>/ 多</u>	day of	March	, 2018:

PATENT REEL: 049016 FRAME: 0555

ASSIGNMENT

IN CONSIDERATION of good and valuable considerations received from VITRO, S.A.B. de C.V., a Mexican corporation, having a place of business at Av. Richardo Margain Zozaya #400, Col. Valle del Campestre, San Pedro Garza Garcia, Nuevo León, Mexico 66265 and intending to be legally bound hereby, I,

NAME	<u>ar</u>	COUNTY	STATE/COUNTRY
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Paul R. Ohodnicki, Jr.	Allison Park	Ällegheny	PA/USA
Dennis J. O'Shaughnessy	Allison Park	Allegheny	PĀ/USA
Jeffrey A. Benigni	McGrann	Armstrong	PA/USA
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James P. Thiel	Lihue	Kauai	HI/USA

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Adam D. Polcyn on the	day of		2018;
Andrew V. Wagner on the	day of		2019;
Harry Buhay on the day of	;	, 2019);
Abhinav Bhandari on the 18	day of	March	, 2019;
James J. Finley on the day of			
Paul R. Ohodnicki, Jr. on the	_day of		, 2019;
Dennis J. O'Shaughnessy on the	d	lay of	, 2018
Jeffrey A. Benigni on the	_ day of		, 2019:

o 1∫ ⊗

ASSIGNMENT

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NAME Adam D. Polcyn Andrew V. Wagner Harry Buhay Abhinav Bhandari James J. Finley Paul R. Ohodnicki, Jr. Dennis J. O'Shaughnessy	CITY Pittsburgh Pittsburgh Allison Park Cranberry Pittsburgh Allison Park Allison Park	COUNTY Allegheny Allegheny Allegheny Butler Allegheny Allegheny	STATE/COUNTRY PA/USA PA/USA PA/USA PA/USA PA/USA PA/USA
Paul R. Ohodnicki, Jr.	•		•
Jeffrey A. Benigni	Allison Park	Allegheny	PA/USA
	McGrann	Armstrong	PA/USA
Paul A. Medwick	Allison Park	Allegheny	PA/USA
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Adam D. Polcyn on the day of	2018
Andrew V. Wagner on the day of	2019:
Harry Buhay on the day of 2019	
Abhinav Bhandari on the day of	
James J. Finley on the day of2018	:
Paul R. Ohodnicki, Jr. on the <u>SQD</u> day of <u>APPIC</u>	. 2019-
Dennis J. O'Shaughnessy on theday of	. 2018
Jeffrey A. Benigni on the day of	2019:
Paul A. Medwick on theday of	

- 1 -

Paul A. Medwick on the	day of	<u> </u>	2018;
James P. Thiel on the	day of	, 2018;	

in and for the United States and all foreign countries, the same to be held and enjoyed by VITRO, S.A.B. de C.V., its successors, assigns, or legal representatives, to the full ends of the terms for which all Letters Patent therefor may be granted, as fully and entirely as the same would have been held and enjoyed by me if this assignment and sale had not been made.

AND I HEREBY AUTHORIZE VITRO, S.A.B. de C.V., to make application for and to receive Letters Patent for said invention in any or all foreign countries in its own name, or in any name, at its election.

AND I HEREBY COVENANT AND AGREE that we will execute or procure any further necessary assurance of the title to said invention and Letters Patent; and that we will at any time, upon the request and at the expense of VITRO, S.A.B. de C.V., execute and deliver any and all papers that may be necessary or desirable to perfect the title to said invention or any Letters Patent which may be granted therefor, VITRO, S.A.B. de C.V., its successors, assigns, or other legal representatives, and that we will, at any time, upon the request and at the expense of VITRO, S.A.B. de C.V., testify in any legal proceeding, sign all lawful papers, execute any additional, divisional, continuing or reissue applications for patents for said invention, or any part or parts thereof, make all rightful oaths and generally do all lawful acts to aid VITRO, S.A.B. de C.V., its successors, assigns, or other legal representatives to obtain and enforce patent protection on said invention in all countries, without further compensation, but at the expense of VITRO, S.A.B. de C.V., its successors, assigns, or other legal representatives.

AND I HEREBY AUTHORIZE AND REQUEST the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States for said invention, or resulting from said application, or from any division, reissue, or extension thereof, to VITRO, S.A.B. DE C.V., as sole assignee.

Application No. 15/842,118 Attorney Docket No. 0900659801

Paul A. Medwick on the	_ day of, 201:	3,
James P. Thiel on the 10 day of	<u> 1815 / 2012 2018;</u>	

in and for the United States and all foreign countries, the same to be held and enjoyed by VITRO, S.A.B. de C.V., its successors, assigns, or legal representatives, to the full ends of the terms for which all Letters Patent therefor may be granted, as fully and entirely as the same would have been held and enjoyed by me if this assignment and sale had not been made.

AND I HEREBY AUTHORIZE VITRO, S.A.B. de C.V., to make application for and to receive Letters Patent for said invention in any or all foreign countries in its own name, or in any name, at its election.

AND I HEREBY COVENANT AND AGREE that we will execute or procure any further necessary assurance of the title to said invention and Letters Patent; and that we will at any time, upon the request and at the expense of VITRO, S.A.B. de C.V., execute and deliver any and all papers that may be necessary or desirable to perfect the title to said invention or any Letters Patent which may be granted therefor, VITRO, S.A.B. de C.V., its successors, assigns, or other legal representatives, and that we will, at any time, upon the request and at the expense of VITRO, S.A.B. de C.V., testify in any legal proceeding, sign all lawful papers, execute any additional, divisional, continuing or reissue applications for patents for said invention, or any part or parts thereof, make all rightful oaths and generally do all lawful acts to aid VITRO, S.A.B. de C.V., its successors, assigns, or other legal representatives to obtain and enforce patent protection on said invention in all countries, without further compensation, but at the expense of VITRO, S.A.B. de C.V., its successors, assigns, or other legal representatives.

AND I HEREBY AUTHORIZE AND REQUEST the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States for said invention, or resulting from said application, or from any division, reissue, or extension thereof, to VITRO, S.A.B. DE C.V., as sole assignee.

~ 2 ~

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my seal.

FULL NAME OF ASSIGNOR: Adam D. Polcyn	RESIDENCE: 122 Crofton Drive Pittsburgh, PA 15238	
EXECUTED this 14 day of MARCH	3018 2019	
WITNESS: THOUSE MARCIA L. HOUSE		
2. FULL NAME OF ASSIGNOR: Andrew V. Wagner	RESIDENCE: 304 North Pasadena Driv Pittsburgh, PA 15215	e
EXECUTED this 22 day of March	,2018	
WITNESS: THOUSE NAME: MARCIA L. HOUSE		

3. FULL NAME OF ASSIGNOR: Harry Buhay	RESIDENCE: 1952 Del Prado Court Allison Park, PA 15101
EXECUTED this day of	
WITNESS:	
Name:	**
4. FULL NAME OF ASSIGNOR: Abhinav Bhandari	RESIDENCE: 125 Blue Ridge Drive Cranberry, PA 16066
EXECUTED this day of	, 2018
WITNESS:	
Name:	
5. FULL NAME OF ASSIGNOR: James J. Finley	RESIDENCE: 111 Cornwall Drive Pittsburgh, PA 15238
EXECUTED this / day of January	2019
WITNESS: 2 Parcia / House Name: MARCIA L. HOUSE	

FULL NAME OF ASSIGNOR: Harry Buhay		RESIDENCE	530 Palme Yardley, P		rive	
* <u>**</u>	**************************************					
EXECUTED this day of		, 2019				
WITNESS:						
Name:						
FULL NAME OF ASSIGNOR: Abhinav Bhandari		« RESIDENCE:	6590 Dorse Solon, OH			
Attandari_			S S	S. S		
EXECUTED this 18 day of	Masch	, 2019				
WITNESS: MEHAECT.	GLETYN					
Morros or Comme		- 33				
Name:						
*						
5. FULÉ NAME OF ASSIGNOR:		****				
James J. Finley		RESIDENCE:	111 Cornwa Pittsburgh,		8	
**************************************	and the same of th					
EXECUTED thisday of	8 8					
WITNESS:						
Name:						

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	Accounted Docket MO: 0300628801
6. FULL NAME OF ASSIGNOR: Paul R. Ohodnicki, Jr.	RESIDENCE: 3943 Bonita Drive Allison Park, PA 15101
EXECUTED this day of	
Name:	
7. FULL NAME OF ASSIGNOR: Dennis J. O'Shaughnessy	RESIDENCE: 4219 Wembledon Drive Allison Park, PA 15101
EXECUTED this <u>/5</u> day of <u>Samouny</u>	2019 2018
WITNESS: TANDIA A HOUSE NAME MARCIA L. HOUSE	
8. FULL NAME OF ASSIGNOR: Jeffrey A. Benigni	RESIDENCE: 141 Byron Street P.O. Box 234 McGrann PA 16236
EXECUTED this day of	, 2018
Name:	

Application No. 15/842,118 Attorney Docket No. 0900659801

Paul R. Ohodnicki, Jr. Allison Park, PA 15101 DalMolesca. WITNESS: 7. FULL NAME OF ASSIGNOR: RESIDENCE: 4219 Wembledon Drive Dennis J. O'Shaughnessy Allison Park, PA 15101 EXECUTED this ______ day of ______, 2018 WITNESS: Name: 8. FULL NAME OF ASSIGNOR: RESIDENCE: 102 Water Street Jeffrey A. Benigni P.O. Box 158 Manorville, PA 16238 EXECUTED this _____ day of ______ 2019

-5-

WITNESS:

Name: 9.

6. FULL NAME OF ASSIGNOR: Paul R. Ohodnicki, Jr.	RESIDENCE: 4012 Gwynedd Drive Allison Park, PA 15101

EXECUTED thisday of	
WITNESS:	
Name:	***************************************
7. FULL NAME OF ASSIGNOR-	
7. FULL NAME OF ASSIGNOR: Dennis J. O'Shaughnessy	RESIDENCE: 4219 Wembledon Drive
oceans to anaugmensy	Allison Park, PA 15101
EXECUTED thisday of	2018
WITNESS:	
	········
Name:	
8. FULL NAME OF ASSIGNOR:	RÉSIDENCE: 102 Water Street
Jeffrey A. Benigni	P.O. 8ox 158
	Manorville, PA 16238
EXECUTED this <u>1514</u> day of <u>2500</u>	. 2019
	and the second s
witness;	
190 JU	
Name:	keetieet

9. FULL NAME OF ASSIGNOR: Paul A. Medwick EXECUTED this	RESIDENCE: 2810 Shetland Place; #231 Allison-Park, PA-15101 1014 Dec Vica P4 Wexford, PA 15090 2019 2018
Name: 10. FULL NAME OF ASSIGNOR:	RESIDENCE:
James P. Thiel EXECUTED this day of	2018
WITNESS:	

Application No. 15/842,118 Attorney Docket No. 0900659801

	FULL NAME OF ASSIGNOR: Paul A. Medwick	RESIDENCE:	2810 Shetland Place, #231 Allison Park, PA 15101
	CUTED this day of	, 2018	
Nam	e:		
	ULL NAME OF ASSIGNOR: ames P. Thiel		4171 Lahi Place Lihue, HI 96766
EXEC	UTED this day of		
ANTÑ Vame V. +	B	·	