

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5360794

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	SECURITY INTEREST
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
MACDERMID OFFSHORE SOLUTIONS, LLC	01/31/2019
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	BARCLAYS BANK PLC, AS COLLATERAL AGENT
<b>Street Address:</b>	745 SEVENTH AVENUE
<b>Internal Address:</b>	27TH FLOOR
<b>City:</b>	NEW YORK
<b>State/Country:</b>	NEW YORK
<b>Postal Code:</b>	10019
<b>PROPERTY NUMBERS Total: 8</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	14017786
Application Number:	13044613
Application Number:	14157928
Application Number:	12173284
Application Number:	12549579
Application Number:	12469337
Application Number:	14041669
Application Number:	13475030
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(212)751-4864
<i>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.</i>	
<b>Phone:</b>	212-906-1216
<b>Email:</b>	angela.amaru@lw.com
<b>Correspondent Name:</b>	LATHAM & WATKINS LLP C/O ANGELA M. AMARU
<b>Address Line 1:</b>	885 THIRD AVENUE
<b>Address Line 4:</b>	NEW YORK, NEW YORK 10022
<b>ATTORNEY DOCKET NUMBER:</b>	030786-0725
<b>NAME OF SUBMITTER:</b>	ANGELA M. AMARU

<b>SIGNATURE:</b>	/s/ Angela M. Amaru
<b>DATE SIGNED:</b>	02/05/2019
<b>Total Attachments: 39</b> source=PSP - Patent Security Agreement Executed#page1.tif source=PSP - Patent Security Agreement Executed#page2.tif source=PSP - Patent Security Agreement Executed#page3.tif source=PSP - Patent Security Agreement Executed#page4.tif source=PSP - Patent Security Agreement Executed#page5.tif source=PSP - Patent Security Agreement Executed#page6.tif source=PSP - Patent Security Agreement Executed#page7.tif source=PSP - Patent Security Agreement Executed#page8.tif source=PSP - Patent Security Agreement Executed#page9.tif source=PSP - Patent Security Agreement Executed#page10.tif source=PSP - Patent Security Agreement Executed#page11.tif source=PSP - Patent Security Agreement Executed#page12.tif source=PSP - Patent Security Agreement Executed#page13.tif source=PSP - Patent Security Agreement Executed#page14.tif source=PSP - Patent Security Agreement Executed#page15.tif source=PSP - Patent Security Agreement Executed#page16.tif source=PSP - Patent Security Agreement Executed#page17.tif source=PSP - Patent Security Agreement Executed#page18.tif source=PSP - Patent Security Agreement Executed#page19.tif source=PSP - Patent Security Agreement Executed#page20.tif source=PSP - Patent Security Agreement Executed#page21.tif source=PSP - Patent Security Agreement Executed#page22.tif source=PSP - Patent Security Agreement Executed#page23.tif source=PSP - Patent Security Agreement Executed#page24.tif source=PSP - Patent Security Agreement Executed#page25.tif source=PSP - Patent Security Agreement Executed#page26.tif source=PSP - Patent Security Agreement Executed#page27.tif source=PSP - Patent Security Agreement Executed#page28.tif source=PSP - Patent Security Agreement Executed#page29.tif source=PSP - Patent Security Agreement Executed#page30.tif source=PSP - Patent Security Agreement Executed#page31.tif source=PSP - Patent Security Agreement Executed#page32.tif source=PSP - Patent Security Agreement Executed#page33.tif source=PSP - Patent Security Agreement Executed#page34.tif source=PSP - Patent Security Agreement Executed#page35.tif source=PSP - Patent Security Agreement Executed#page36.tif source=PSP - Patent Security Agreement Executed#page37.tif source=PSP - Patent Security Agreement Executed#page38.tif source=PSP - Patent Security Agreement Executed#page39.tif	

## PATENT SECURITY AGREEMENT

PATENT SECURITY AGREEMENT dated as of January 31, 2019 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “Patent Security Agreement”), made by each of the signatories hereto other than the Collateral Agent (as defined below) (together with any other entity that may become a party hereto as provided herein, the “Grantors”), in favor of BARCLAYS BANK PLC, as collateral agent (in such capacity and together with its successors, the “Collateral Agent”) for (i) the banks and other financial institutions or entities (the “Lenders”) from time to time parties to the Credit Agreement dated as of January 31, 2019 (as amended, restated, supplemented or otherwise modified from time to time, the “Credit Agreement”), among Platform Specialty Products Corporation, a Delaware limited liability company, MacDermid, Incorporated, a Connecticut corporation, the other guarantors party thereto from time to time, the Lenders and other financial institutions party thereto from time to time, and Barclays Bank PLC, as administrative agent and as collateral agent and (ii) the other Secured Parties.

### WITNESSETH:

WHEREAS, Grantors are party to that certain Pledge and Security Agreement dated as of January 31, 2019 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the “Pledge and Security Agreement”) made by each of the Grantors and the other grantors party thereto in favor of the Collateral Agent, pursuant to which the Grantors are required to execute and deliver this Patent Security Agreement.

NOW, THEREFORE, in consideration of the premises and to induce the Secured Parties to enter into the Credit Agreement, the Grantors hereby agree with the Collateral Agent, as follows:

SECTION 1. Defined Terms. Unless otherwise defined herein, capitalized terms have the meaning given to them in the Pledge and Security Agreement.

#### SECTION 2. Grant of Security Interest in Patent Collateral.

Each Grantor hereby grants to the Collateral Agent, for the ratable benefit of the Secured Parties, a security interest in all of the following property of such Grantor, in each case, wherever located and now owned or at any time hereafter acquired by such Grantor or in which such Grantor now has or at any time in the future may acquire any right, title and interest (collectively, the “Patent Collateral”), as collateral security for the prompt and complete payment and performance when due (whether at the stated maturity, by acceleration, or otherwise) of such Grantor’s Obligations:

(i) all letters of patent of the United States, any other country, union of countries or any political subdivision of any of the foregoing, all reissues and extensions thereof, including any of the foregoing listed on Schedule I hereto,

(ii) all applications for letters of patent of the United States or any other country or union of countries or any political subdivision of any of the foregoing and all divisions, continuations and continuations-in-part thereof, including any of the foregoing listed on Schedule I hereto,

(iii) the right to, and to obtain, any reissues or extensions of the foregoing,

(iv) the right to sue or otherwise recover for past, present and future infringement of any of the foregoing, and

(v) all Proceeds of the foregoing, including license fees, royalties, income, payments, claims, damages and proceeds of suit;

provided that notwithstanding any other provision set forth in this Section 2, this Patent Security Agreement shall not, at any time, constitute a grant of a security interest in any property that is, at such time, an Excluded Asset.

SECTION 3. The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Collateral Agent for the Secured Parties pursuant to the Pledge and Security Agreement and each Grantor hereby acknowledges and affirms that the rights and remedies of the Collateral Agent with respect to the security interest in the Patent Collateral made and granted hereby are more fully set forth in the Pledge and Security Agreement, the terms and provisions of which are incorporated by reference herein as if fully set forth herein. In the event that any provision of this Patent Security Agreement is deemed to conflict with the Pledge and Security Agreement, the provisions of the Pledge and Security Agreement shall control.

SECTION 4. APPLICABLE LAW. **THIS PATENT SECURITY AGREEMENT AND ANY DISPUTE, CLAIM OR CONTROVERSY ARISING OUT OF OR RELATING TO THIS PATENT SECURITY AGREEMENT (WHETHER ARISING IN CONTRACT, TORT OR OTHERWISE) SHALL BE GOVERNED BY, AND CONSTRUED AND INTERPRETED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK WITHOUT REGARD TO CONFLICTS OF LAW RULES THAT WOULD RESULT IN THE APPLICATION OF A DIFFERENT GOVERNING LAW (OTHER THAN ANY MANDATORY PROVISIONS OF THE UCC RELATING TO THE LAW GOVERNING PERFECTION AND EFFECT OF PERFECTION OR PRIORITY OF THE SECURITY INTERESTS).**

SECTION 5. Counterparts. This Patent Security Agreement may be executed by one of more of the parties to this Patent Security Agreement on any number of separate counterparts (including by facsimile and electronic PDF delivery), and all of said counterparts taken together shall be deemed to constitute one and the same instrument.

*[Remainder of Page Intentionally Left Blank]*

IN WITNESS WHEREOF, each Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first set forth above.

ALENT, INC.

ALPHA ASSEMBLY SOLUTIONS INC.

(f/k/a/ Alpha Metals Inc.)

MACDERMID ACUMEN, INC.

MACDERMID ENTHONE AMERICA LLC

(f/k/a OMG Electronic Chemicals, LLC)

MACDERMID ENTHONE INC.

(f/k/a Enthone Inc.)


MACDERMID GRAPHICS SOLUTIONS, LLC

(f/k/a MacDermid Printing Solutions, LLC)

MACDERMID OFFSHORE SOLUTIONS, LLC

MACDERMID, INCORPORATED

NAPP SYSTEMS INC.

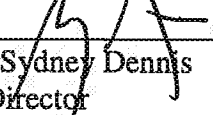
By:   
\_\_\_\_\_  
Name: John E. Capps  
Title: Secretary

[Signature Page to Patent Security Agreement]

**PATENT**  
**REEL: 049823 FRAME: 0059**

Accepted and Agreed:

**BARCLAYS BANK PLC,**  
as Collateral Agent

By:  \_\_\_\_\_  
Name: Sydney Dennis  
Title: Director

[Signature Page to Patent Security Agreement]

**PATENT**  
**REEL: 049823 FRAME: 0060**

**SCHEDULE I**  
**TO**  
**PATENT SECURITY AGREEMENT**

PATENTS AND PATENT APPLICATIONS:

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alert, Inc.	RELEASABLE MICROCAPSULE AND ADHESIVE CURING SYSTEM USING THE SAME	10/271,511	10/16/2002	6,936,644	8/30/2005	Granted
Alpha Assembly Solutions Inc.	Production of Graphene	15/265385	9/14/2016			Published
Alpha Assembly Solutions Inc.	Advanced Solder Alloys for Electronic Interconnects	15/286759	10/6/2016			Published
Alpha Assembly Solutions Inc.	Method for Manufacturing Metal Powder	15/302712	10/7/2016	10130995	11/20/2018	Granted
Alpha Assembly Solutions Inc.	Stretchable Interconnects for Flexible Electronic Surfaces	15/326224	1/16/2017			Published
Alpha Assembly Solutions Inc.	Low Temperature High Reliability Alloy for Solder Hierarchy	15/326180	1/13/2017			Published
Alpha Assembly Solutions Inc.	Engineered Residue Solder Paste Technology	15/318829	12/14/2016			Published
Alpha Assembly Solutions Inc.	High Reliability Lead-Free Solder Alloy		5/2/2017			Pending
Alpha Assembly Solutions Inc. <sup>1</sup>	Particles and Inks and Films Using Them	13/168465	6/24/2011	9217088	12/22/2015	Granted
Alpha Assembly Solutions Inc.	Conductive Patterns and Methods of Using Them	15/439555	2/22/2017			Published
Alpha Assembly Solutions Inc.	Method for Producing a High Aspect Ratio Conductive Pattern on a Substrate	11/857871	9/19/2007	9615463	4/4/2017	Granted
Alpha Assembly Solutions Inc.	Materials for Use with Interconnectors of Electrical Devices and Related Methods	11/873838	10/17/2007	10123430	11/6/2018	Granted
Alpha Assembly Solutions Inc.	Solder Preforms and Solder Alloy Assembly Methods	15/716963	9/27/2017			Published
Alpha Assembly Solutions Inc.	Solder Preforms and Solder Alloy Assembly Methods	14/386601	3/15/2013	9801285	10/24/2017	Granted
Alpha Assembly Solutions Inc.	Flux Formulations	15/390861	12/27/2016	9751159	9/5/2017	Granted

<sup>1</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alpha Assembly Solutions Inc.	Dual Side Reinforcement Flux for Encapsulation	14/908986	1/29/2016	9786629	10/10/2017	Granted
Alpha Assembly Solutions Inc.	Rosin-Free Thermosetting Flux Formulations	15/109352		6/30/2016	10/31/2017	Granted
Alpha Assembly Solutions Inc.	Composite and Multilayered Silver Films for Joining Electrical and Mechanical Components	14/915067	2/26/2016			Published
Alpha Assembly Solutions Inc.	Lead-Free, Silver-Free Solder Alloys	15/028988	4/13/2016			Published
Alpha Assembly Solutions Inc.	Electrical Connection Tape	15/549535	8/8/2017			Published
Alpha Assembly Solutions Inc.	Sintering Materials and Attachment Methods Using Same	15/316684	12/6/2016			Published
Alpha Assembly Solutions Inc.	RF SHIELD WITH SELECTIVELY INTEGRATED SOLDER	15/426320	2/7/2017			Published
Alpha Assembly Solutions Inc.	Conductive Compositions and Methods of Using Them	15/148320	5/6/2016	10059827	8/28/2018	Granted
Alpha Assembly Solutions Inc.	Conductive Compositions and Methods of Using Them	12/567523	9/25/2009	8564140	10/22/2013	Granted
Alpha Assembly Solutions Inc.	Conductive Compositions and Methods of Using Them	14/058553	10/21/2013	9355938	5/31/2016	Granted
Alpha Assembly Solutions Inc.	HIGH IMPACT TOUGHNESS ALLOY	15/644331	7/7/2017			Published
Alpha Assembly Solutions Inc.	HIGH IMPACT SOLDER TOUGHNESS ALLOY	16/003202	6/8/2018			Published
Alpha Assembly Solutions Inc.	METAL RECOVERY	14/900493	12/21/2015			Published
Alpha Assembly Solutions Inc.	JOINING TO ALUMINIUM	14/909888	2/3/2016	10065274	9/4/2018	Granted
Alpha Assembly Solutions Inc.	Applications of Engineered Graphenes	62/655409	4/10/2018			Pending
Alpha Assembly Solutions Inc.	Sintered Nano Copper Paste and Film	62/689962	6/26/2018			Pending
Alpha Assembly Solutions Inc.	Engineered Flux for Solder Paste					Unfiled
Alpha Assembly Solutions Inc. <sup>2</sup>	Soldering Flux Vehicle Additive and Fine Pitch Printing Method	10036952	12/21/2001	6936115	8/30/2005	Granted
Alpha Assembly Solutions Inc. <sup>3</sup>	Flip chip with integrated flux and underfill	09067381	4/27/1998	6265776	7/24/2001	Granted
Alpha Assembly Solutions Inc. <sup>4</sup>	Stencil incorporating electronic tag	09231490	1/14/1999	6123024	9/26/2000	Granted

<sup>2</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>3</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>4</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.



Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alpha Assembly Solutions Inc. <sup>5</sup>	Flip chip with integrated mask and underfill	092566166	3/10/1999	6228678	5/8/2001	Granted
Alpha Assembly Solutions Inc. <sup>6</sup>	Flip chip with integrated mask and underfill	09266166	3/10/1999	6228678	5/8/2001	Granted
Alpha Assembly Solutions Inc. <sup>7</sup>	Flip chip with integrated flux and underfill	09266232	3/10/1999	6194788	2/27/2001	Granted
Alpha Assembly Solutions Inc. <sup>8</sup>	Process for silver plating in printed circuit board manufacture	09282729	3/31/1999	6319543	11/20/2001	Granted
Alpha Assembly Solutions Inc. <sup>9</sup>	Post-treatment for copper on printed circuit boards	09345675	6/30/1999	6294220	9/25/2001	Granted
Alpha Assembly Solutions Inc. <sup>10</sup>	Wafer coating method for flip chips	09395553	9/14/1999	6323062	11/27/2001	Granted
Alpha Assembly Solutions Inc. <sup>11</sup>	Flip chip having integral mask and underfill providing two-stage bump formation	09395558	9/14/1999	6228681	5/8/2001	Granted
Alpha Assembly Solutions Inc. <sup>12</sup>	Soldering Flux	09728264	12/1/2000	6599372	7/29/2003	Granted
Alpha Assembly Solutions Inc. <sup>13</sup>	Low-residue, low-solder-ball flux	09834196	4/12/2001	6524398	2/25/2003	Granted
Alpha Assembly Solutions Inc. <sup>14</sup>	Thermal interface material and heat sink configuration	10151741	5/20/2002	6653741	11/25/2003	Granted
Alpha Assembly Solutions Inc. <sup>15</sup>	Rapid surface cooling of solder droplets by flash evaporation	10363420	8/15/2003	7097806	8/29/2006	Granted

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- <sup>5</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>6</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>7</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>8</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>9</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>10</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
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- <sup>12</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>13</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>14</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>15</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alpha Assembly Solutions Inc. <sup>16</sup>	Thermoplastic fluxing underfill composition and method	10458925	6/11/2003	7166491	1/23/2007	Granted
Alpha Assembly Solutions Inc. <sup>17</sup>	Thermal interface material and solder preforms	10722288	11/25/2003	7187083	3/6/2007	Granted
Alpha Assembly Solutions Inc. <sup>18</sup>	UNDERFILL FLUXING CURATIVE	10817138	4/2/2004	7213739	5/8/2007	Granted
Alpha Assembly Solutions Inc. <sup>19</sup>	METHOD OF APPLYING A PATTERN OF PARTICLES TO A SUBSTRATE	10888286	7/9/2004	7585549	9/8/2009	Granted
Alpha Assembly Solutions Inc. <sup>20</sup>	COATING SOLDER METAL PARTICLES WITH A CHARGE DIRECTOR MEDIUM	10888619	7/9/2004	7413771	8/19/2008	Granted
Alpha Assembly Solutions Inc. <sup>21</sup>	COATED STENCIL WITH REDUCED SURFACE TENSION	10899679	7/26/2004	7093746	8/22/2006	Granted
Alpha Assembly Solutions Inc. <sup>22</sup>	LOW VOIDING NO FLOW FLUXING UNDERFILL FOR ELECTRONIC DEVICES	10911908	8/5/2004	7247683	7/24/2007	Granted
Alpha Assembly Solutions Inc. <sup>23</sup>	SOLDER PREFORMS FOR USE IN ELECTRONIC ASSEMBLY	11012457	12/15/2004	7533793	5/19/2009	Granted
Alpha Assembly Solutions Inc. <sup>24</sup>	Multilayered Metal Nano and Micron Particles	15318895	12/14/2016			Pending
Alpha Assembly Solutions Inc. <sup>25</sup>	Jettable Inks For Solar Cell and Semiconductor Fabrication	15312799	11/21/2016			Pending

- <sup>16</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>17</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>18</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>19</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>20</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>21</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>22</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>23</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>24</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>25</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alpha Assembly Solutions Inc. <sup>26</sup>	Low Pressure Sintering Powder	15302827	10/7/2016			Pending
Alpha Assembly Solutions Inc. <sup>27</sup>	Lead-free and antimony-free tin solder reliable at high temperatures	14878056	10/8/2015			Pending
Alpha Assembly Solutions Inc. <sup>28</sup>	Lead-free and antimony-free tin solder reliable at high temperatures	14698450	4/28/2015			Pending
Alpha Assembly Solutions Inc. <sup>29</sup>	Sintering powder	14438888	4/28/2015			Pending
Alpha Assembly Solutions Inc. <sup>30</sup>	Lead-free and antimony-free tin solder reliable at high temperatures	14434470	4/9/2015			Pending
Alpha Assembly Solutions Inc. <sup>31</sup>	Systems and methods for void reduction in a solder joint	14347035	3/25/2014			Pending
Alpha Assembly Solutions Inc. <sup>32</sup>	Solder compositions	14236480	3/21/2014			Pending
Alpha Assembly Solutions Inc. <sup>33</sup>	High impact toughness solder alloy	14236432	3/21/2014			Pending
Alpha Assembly Solutions Inc. <sup>34</sup>	Solvent systems for metals and inks	14095559	12/3/2013			Pending
Alpha Assembly Solutions Inc. <sup>35</sup>	Methods for attachment and devices produced using the methods	14027530	9/16/2013			Pending

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- <sup>26</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>27</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>28</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>29</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>30</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>31</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>32</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>33</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>34</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>35</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alpha Assembly Solutions Inc. <sup>36</sup>	Sintering materials and attachment methods using same	13287820	11/2/2011			Pending
Alpha Assembly Solutions Inc. <sup>37</sup>	Flux formulations	12497065	7/2/2009			Pending
Alpha Assembly Solutions Inc. <sup>38</sup>	Process for silver plating in printed circuit board manufacture	13471203	5/14/2012	RE45279	12/9/2014	Granted
Alpha Assembly Solutions Inc. <sup>39</sup>	Process for silver plating in printed circuit board manufacture	13655159	10/18/2012	RE45175	10/7/2014	Granted
Alpha Assembly Solutions Inc. <sup>40</sup>	Flux formulations	14077995	11/12/2013	9566668	2/14/2017	Granted
Alpha Assembly Solutions Inc. <sup>41</sup>	Electrical contacts	12052104	3/20/2008	9362424	6/7/2016	Granted
Alpha Assembly Solutions Inc. <sup>42</sup>	Solder alloy	11720578	7/25/2008	9221131	12/29/2015	Granted
Alpha Assembly Solutions Inc. <sup>43</sup>	Solder alloy	12036497	2/25/2008	8641964	2/4/2014	Granted
Alpha Assembly Solutions Inc. <sup>44</sup>	Solvent systems for metals and inks	11857818	9/19/2007	8597548	12/3/2013	Granted
Alpha Assembly Solutions Inc. <sup>45</sup>	Methods of attaching a die to a substrate	12175375	7/17/2008	8555491	10/15/2013	Granted
Alpha Assembly Solutions Inc. <sup>46</sup>	Methods for producing electrical conductors	12052166	3/20/2008	8312623	11/20/2012	Granted

<sup>36</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>37</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>38</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>39</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>40</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>41</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>42</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>43</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>44</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>45</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>46</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alpha Assembly Solutions Inc. <sup>47</sup>	Electrical conductors and methods of making and using them	12175381	7/17/2008	8304062	11/6/2012	Granted
Alpha Assembly Solutions Inc. <sup>48</sup>	Metallic particles for electrokinetic or electrostatic deposition	12191691	8/14/2008	8252417	8/28/2012	Granted
Alpha Assembly Solutions Inc. <sup>49</sup>	Reducing joint embrittlement in lead-free soldering processes	12036604	2/25/2008	8191757	6/5/2012	Granted
Alpha Assembly Solutions Inc. <sup>50</sup>	Particles and inks and films using them	11462089	8/3/2006	7968008	6/28/2011	Granted
Alpha Assembly Solutions Inc. <sup>51</sup>	Electroformed stencils for solar cell front side metallization	12201654	8/29/2008	7749883	7/6/2010	Granted
Alpha Assembly Solutions Inc. <sup>52</sup>	Mask and method for electrokinetic deposition and patterning process on substrates	11419128	5/18/2006	7678255	3/16/2010	Granted
Alpha Assembly Solutions Inc. <sup>53</sup>	Thermal interface material and solder preforms	11682729	3/6/2007	7663242	2/16/2010	Granted
Alpha Assembly Solutions Inc. <sup>54</sup>	Coated solder metal particles	12191710	8/14/2008	7655304	2/2/2010	Granted
Alpha Assembly Solutions Inc. <sup>55</sup>	Preparation of metallic particles for electrokinetic or electrostatic deposition	11065764	2/25/2005	7413805	8/19/2008	Granted
Alpha Assembly Solutions Inc.	Materials for use with interconnects of electrical devices and related methods	11873838	10/17/2007	10123430	11/6/2018	Granted
Alpha Assembly Solutions Inc.	Advanced Solder Alloys For Electronic Interconnects	15286759	10/6/2016			Pending
Alpha Assembly Solutions Inc.	Method for Die and Clip Attachment	15545607	7/21/2017			Pending

- <sup>47</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
- <sup>48</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
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- <sup>50</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.
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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Alpha Assembly Solutions Inc.	Engineered Polymer-Based Electronic Materials	15562195	9/27/2017			Pending
Alpha Assembly Solutions Inc. <sup>56</sup>	Sintering Materials and Attachment Methods Using Same	15017975	2/8/2016			Pending
Alpha Assembly Solutions Inc. <sup>57</sup>	High Impact Solder Toughness Alloy	15419564	1/30/2017			Pending
Alpha Assembly Solutions Inc. <sup>58</sup>	Lead-Free Solder Compositions	62785293	12/27/2018			Pending
MacDermid Acumen, Inc.	Process for Improving the Adhesion of Polymeric Materials to Metal Surfaces	09/274641	3/23/1999	6162503	12/19/2000	Granted
MacDermid Acumen, Inc.	Process for Enhancing the Adhesion of Organic Coatings to Metal Surfaces	09/421204	10/21/1999	6206981	3/27/2001	Granted
MacDermid Acumen, Inc.	Process for Improving the Adhesion of Polymeric Materials to Metal Surfaces	09/590046	6/8/2000	6383272	5/7/2002	Granted
MacDermid Acumen, Inc.	Process for Improving the Adhesion of Polymeric Materials to Metal Surfaces	10/090048	2/27/2002	6503566	1/7/2003	Granted
MacDermid Acumen, Inc.	Process for Improving the Adhesion of Polymeric Materials to Metal Surfaces	09/598857	6/21/2000	6419784	7/16/2002	Granted
MacDermid Acumen, Inc.	Process for Improving the Adhesion of Polymeric Materials to Metal Surfaces	09/643813	8/22/2000	6554948	4/29/2003	Granted
MacDermid Acumen, Inc.	Method for Enhancing the Solderability of a Surface	09/677904	10/3/2000	6375822	4/23/2002	Granted
MacDermid Acumen, Inc.	Flux Composition and Corresponding Soldering Method	09/672577	9/28/2000	6474536	11/5/2002	Granted
MacDermid Acumen, Inc.	Method for the Manufacture of Printed Circuit Boards	09/687880	10/13/2000	6656370	12/2/2003	Granted
MacDermid Acumen, Inc.	Paint Stripping Composition and Process Containing Methyl Benzoate and Formic Acid	09/949191	9/7/2001	6417149	7/9/2002	Granted
MacDermid Acumen, Inc.	Composition and Process for Cleaning Inks from Various Substrates Including Printing Plates	09/710976	11/9/2000	6261381	7/17/2001	Granted
MacDermid Acumen, Inc.	Process for Enhancing the Adhesion of Organic Coatings to Metal Surfaces	09/718910	11/22/2000	6379750	4/30/2002	Granted

<sup>56</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

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<sup>58</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Acumen, Inc.	Process & Composition for High Speed Plating of Tin & Tin Alloys	09/965743	9/28/2001	6562221	5/13/2003	Granted
MacDermid Acumen, Inc.	Method for the Manufacture of Printed Circuit Boards with Plated Resistors	09/784242	2/15/2001	6585904	7/1/2003	Granted
MacDermid Acumen, Inc.	Method for the Manufacture of Printed Circuit Boards with Plated Resistors	10/419651	4/21/2003	7034231	4/25/2006	Granted
MacDermid Acumen, Inc.	High Temperature Continuous Electrodeposition of Electroless Plating Solutions	09/788766	2/20/2001	6391177	5/21/2002	Granted
MacDermid Acumen, Inc.	Composition & Method for Inhibiting Corrosion of Aluminum & Aluminum Alloys Using Mercapto Substituted Silanes	09/802087	3/8/2001	6461682	10/8/2002	Granted
MacDermid Acumen, Inc. <sup>59</sup>	Electroplating Composition and Process	09/803631	3/9/2001	6582582	6/24/2003	Granted
MacDermid Acumen, Inc. <sup>60</sup>	Composition and Process for Inhibiting Corrosion of Metallic Substrates	09/906370	7/16/2001	6508958	1/21/2003	Granted
MacDermid Acumen, Inc.	Composition and Process for Inhibiting Corrosion of Metallic Substrates	10/328197	12/23/2002	6706214	3/16/2004	Granted
MacDermid Acumen, Inc.	Electroless Nickel Plating Solution & Process for its Use	09/945011	8/31/2001	6500482	12/31/2002	Granted
MacDermid Acumen, Inc.	Non-Chrome Passivation Process for Zinc & Zinc Alloys	09/938234	8/23/2001	6524403	2/25/2003	Granted
MacDermid Acumen, Inc.	Process for Plating Particulate Matter	09/946404	9/5/2001	6586047	7/1/2003	Granted
MacDermid Acumen, Inc.	Noneyanide Copper Plating Process for Zinc & Zinc Alloys	10/096411	3/12/2002	6827834	12/7/2004	Granted
MacDermid Acumen, Inc.	Magnesium Conversion Coating Composition and Method of Using Same	10/076897	2/14/2002	6692583	2/17/2004	Granted
MacDermid Acumen, Inc.	Method of Stripping Silver from a Printed Circuit Board	10/106522	3/25/2002	6783690	8/31/2004	Granted
MacDermid Acumen, Inc.	Method for the Manufacture of Printed Circuit Boards with Integral Plated Resistors	10/271817	10/16/2002	6767445	7/27/2004	Granted
MacDermid Acumen, Inc.	Method of Fabricating Electronic Interconnect Devices Using Direct Imaging of Dielectric Composite Material	10/372747	2/24/2003	6762073	7/13/2004	Granted

<sup>59</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

<sup>60</sup> Appropriate documentation to be filed with the USPTO to update owner name from Alpha Metals, Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Acumen, Inc.	Coating for Silver Plated Circuits	10/412932	4/14/2003	6773757	8/10/2004	Granted
MacDermid Acumen, Inc.	Polytetrafluoroethylene Dispersion for Electroless Nickel Plating Applications	10/431251	5/7/2003	6837923	1/4/2005	Granted
MacDermid Acumen, Inc.	Method of Forming a Metal Pattern on a Substrate	10/820236	4/6/2004	7378225	5/27/2008	Granted
MacDermid Acumen, Inc.	Protective U.V. Curable Cover Layer for Optical Media	10/694375	10/27/2003	6972143	12/6/2005	Granted
MacDermid Acumen, Inc.	Methods of Cleaning Copper Surfaces in the Manufacture of Printed Circuit Boards	10/705026	11/10/2003	7063800	6/20/2006	Granted
MacDermid Acumen, Inc.	Process for Preparing a Non-Conductive Substrate for Electroplating	10/798522	3/11/2004	7128820	10/31/2006	Granted
MacDermid Acumen, Inc.	Selective Catalytic Activation of Non-Conductive Substrates	10/837109	4/30/2004	7255782	8/14/2007	Granted
MacDermid Acumen, Inc.	Integral Plated Resistor and Method for the Manufacture of Printed Circuit Boards Comprising the Same	10/925589	8/25/2004	7022464	4/4/2006	Granted
MacDermid Acumen, Inc.	Process for Preparing a Non-Conductive Substrate for Electroplating	10/964212	10/13/2004	7214304	5/8/2007	Granted
MacDermid Acumen, Inc.	Controlling the Hardness of Electrodeposited Copper Coatings by Variation of Current Profile	10/943113	9/16/2004	7329334	2/12/2008	Granted
MacDermid Acumen, Inc.	Pretreatment of Magnesium Substrates for Electroplating	11/205516	8/17/2005	7704366	4/27/2010	Granted
MacDermid Acumen, Inc.	Microetching Solution	11/209471	8/23/2005	7393461	7/1/2008	Granted
MacDermid Acumen, Inc.	Method of Using Ultrasonics to Plate Silver	11/300254	12/14/2005	7429400	9/30/2008	Granted
MacDermid Acumen, Inc.	Developer Solution and Process for Use	11/290118	11/30/2005	7094523	8/22/2006	Granted
MacDermid Acumen, Inc.	Microetching Composition and Method of Using the Same	11/316010	12/21/2005	7456114	11/25/2008	Granted
MacDermid Acumen, Inc.	Microetching Composition and Method of Using the Same	11/893068	8/14/2007	7875558	1/25/2011	Granted
MacDermid Acumen, Inc.	Polyimide Substrate and Method of Manufacturing Printed Wiring Board Using the Same	11/386631	3/22/2006	7666471	2/23/2010	Granted
MacDermid Acumen, Inc.	Copper Electroplating of Printing Cylinders	11/403628	4/13/2006	7153408	12/26/2006	Granted
MacDermid Acumen, Inc.	Process for Electrochemically Plating Copper	11/398048	4/5/2006	7575666	8/18/2009	Granted
MacDermid Acumen, Inc.	Process for Improving the Adhesion of Polymeric Materials to Metal Surfaces	11/503780	8/14/2006	7704562	4/27/2010	Granted

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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Acumen, Inc.	Metal Surface Treatment Composition	11/796660	4/27/2007	7645393	1/12/2010	Granted
MacDermid Acumen, Inc.	Method of Recycling Electroless Nickel Waste	11/728757	3/27/2007	7833583	11/16/2010	Granted
MacDermid Acumen, Inc.	Acid Copper Electroplating Bath Composition	11/821206	6/22/2007	7887693	2/15/2011	Granted
MacDermid Acumen, Inc.	Process for Improving the Adhesion of Polymeric Materials to Metal Surfaces	12/350380	1/8/2009	8088246	1/3/2012	Granted
MacDermid Acumen, Inc.	Acid-Resistance Promoting Composition	12/156613	6/3/2008	8518281	8/27/2013	Granted
MacDermid Acumen, Inc.	Method of Electrolytically Dissolving Nickel into Electroless Nickel Plating Solutions	12/046864	3/12/2008	8177956	5/15/2012	Granted
MacDermid Acumen, Inc.	Method for Enhancing the Solderability of a Surface	12/244136	10/2/2008	7631798	12/15/2009	Granted
MacDermid Acumen, Inc.	Process for Plating Chromium from a Trivalent Chromium Plating Bath	12/261352	10/30/2008	7780840	8/24/2010	Granted
MacDermid Acumen, Inc.	Process for Improving Adhesion of Polymeric Materials to Metal Surfaces	12/436260	5/6/2009	8512504	8/20/2013	Granted
MacDermid Acumen, Inc.	Organic Polymer Coatings for Protection Against Creep Corrosion	12/383650	3/27/2009	8263177	9/11/2012	Granted
MacDermid Acumen, Inc.	Chromium Alloy Coating with Enhanced Resistance to Corrosion in Calcium Chloride Environments	12/409629	3/24/2009	9765437	9/19/2017	Granted
MacDermid Acumen, Inc.	Chromium Alloy Coating with Enhanced Resistance to Corrosion in Calcium Chloride Environments	15/678771	8/16/2017			Published
MacDermid Acumen, Inc.	Selective Deposition of Metal on Plastic Substrates	12/488158	6/19/2009	8974860	3/10/2015	Granted
MacDermid Acumen, Inc.	Surface Treatment of Silicon	12/509619	7/27/2009	7989346	8/2/2011	Granted
MacDermid Acumen, Inc.	Nickel-Chromium Alloy Stripper for Flexible Wiring Boards	12/573298	10/5/2009	8486281	7/16/2013	Granted
MacDermid Acumen, Inc.	Light Induced Plating of Metals on Silicon Photovoltaic Cells	13/681722	11/20/2012	8956687	2/17/2015	Granted
MacDermid Acumen, Inc.	Light Induced Electroless Plating	12/549547	8/28/2009	8722142	5/13/2014	Granted
MacDermid Acumen, Inc.	Light Induced Electroless Plating	13/188615	7/22/2011	8337942	12/25/2012	Granted
MacDermid Acumen, Inc.	Nano-Oxide Process for Bonding Copper/Copper Alloy and Resin	12/697425	2/1/2010	8308893	11/13/2012	Granted
MacDermid Acumen, Inc.	Method for Improving Plating on Non-Conductive Substrates	13/741446	1/15/2013	9067238	6/30/2015	Granted

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Acumen, Inc.	Method for Improving Plating on Non-Conductive Substrates	12/693548	1/26/2010	8974869	3/10/2015	Granted
MacDermid Acumen, Inc.	Improved Method of Producing Polymeric Phenazonium Compounds	14/181866	2/17/2014	9040700	5/26/2015	Granted
MacDermid Acumen, Inc.	Improved Method of Producing Polymeric Phenazonium Compounds	13/238832	9/21/2011	8735580	5/27/2014	Granted
MacDermid Acumen, Inc.	Method of Producing Polymeric Phenazonium Compounds	12/890013	9/24/2010	8691987	4/8/2014	Granted
MacDermid Acumen, Inc.	Dark Colored Chromium Based Electrodeposits	13/593690	8/24/2012	9347144	5/24/2016	Granted
MacDermid Acumen, Inc.	Dark Colored Chromium Based Electrodeposits	12/940249	11/5/2010	8273235	9/25/2012	Granted
MacDermid Acumen, Inc.	Electrolytic Dissolution of Chromium from Chromium Electrodes	12/947059	11/16/2010	8512541	8/20/2013	Granted
MacDermid Acumen, Inc.	Aluminum Treatment Compositions	13/021026	2/4/2011	8496762	7/30/2013	Granted
MacDermid Acumen, Inc.	Adhesion Promoting Composition for Metal Leadframes	13/954328	7/30/2013	9030008	5/12/2015	Granted
MacDermid Acumen, Inc.	Adhesion Promoting Composition for Metal Leadframes	13/018668	2/1/2011	8524540	9/3/2013	Granted
MacDermid Acumen, Inc.	Color Control of Trivalent Chromium Deposits	13/398111	2/16/2012	9758884	9/12/2017	Granted
MacDermid Acumen, Inc.	Etching of Plastic Using Acidic Solutions Containing Trivalent Manganese	14/467105	8/25/2014			Published
MacDermid Acumen, Inc.	Etching of Plastic Using Acidic Solutions Containing Trivalent Manganese	15/357385	11/21/2016			Published
MacDermid Acumen, Inc.	Electrolytic Generation of Manganese (III) Ions in Strong Sulfuric Acid Using an Improved Anode	13/677798	11/15/2012	9752241	9/5/2017	Granted
MacDermid Acumen, Inc.	Etching of Plastic Using Acidic Solutions Containing Trivalent Manganese	13/356004	1/23/2012			Published
MacDermid Acumen, Inc.	Electrolytic Generation of Manganese (III) Ions in Strong Sulfuric Acid	13/795382	3/12/2013	9534306	1/3/2017	Granted
MacDermid Acumen, Inc.	Etching of Plastic Using Acidic Solutions Containing Trivalent Manganese	15/934127	3/23/2018			Published
MacDermid Acumen, Inc.	Additives for Producing Copper Electrodeposits Having Low Oxygen Content	13/480887	5/25/2012	9243339	1/26/2016	Granted
MacDermid Acumen, Inc.	Regeneration of Etch Solutions Containing Trivalent Manganese in Acid Media	13/870232	4/25/2013			Appealed
MacDermid Acumen, Inc.	Electroless Nickel Plating Solution and Method	13/961018	8/7/2013			Published

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Acumen, Inc.	Aqueous Electroless Nickel Plating Bath and Method of Using the Same	14/293216	6/2/2014			Published
MacDermid Acumen, Inc.	Zinc and Zinc Alloy Electroplating Additives and Electroplating Methods	10/333484	5/29/2003	7109375	9/19/2006	Granted
MacDermid Acumen, Inc.	Electrolyte Media for the Deposition of Tin Alloys and Methods for Depositing Tin Alloys	10/470792	7/30/2003	7309411	12/18/2007	Granted
MacDermid Acumen, Inc.	Electroplating of Metals on Transparent Conductive Oxide Substrates	14/204241	3/11/2014	9783901	10/10/2017	Granted
MacDermid Acumen, Inc.	Passivation of Micro-Discontinuous Chromium Deposited from a Trivalent Electrolyte	14/200546	3/7/2014			Appealed
MacDermid Acumen, Inc.	High Phosphorus Electroless Nickel	14/294437	6/3/2014	9708693	7/18/2017	Granted
MacDermid Acumen, Inc.	Treatment for Electroplating Racks to Avoid Rack Metallization	14/454131	8/7/2014	9809899	11/7/2017	Granted
MacDermid Acumen, Inc.	Treatment of Etch Baths	14/870738	9/30/2015			Published
MacDermid Acumen, Inc.	Dark Coloured Chromium Based Electrodeposits	15/134469	4/21/2016			Published
MacDermid Acumen, Inc.	Sealing Anodized Aluminum Using a Low-Temperature Nickel-Free Process	15/405417	1/13/2017	10138566	11/27/2018	Published
MacDermid Acumen, Inc.	Electroless Silver Plating Bath and Method of Using the Same	14831403	8/20/2015			Pending
MacDermid Acumen, Inc.	Solutions of Organic Salts as Pretreatments for Plastic Prior to Etching	14831266	8/20/2015			Pending
MacDermid Acumen, Inc.	High Speed Copper Plating Process	13786728	3/6/2013			Pending
MacDermid Acumen, Inc.	Direct Electroless Palladium Plating on Copper	13609705	9/11/2012			Pending
MacDermid Acumen, Inc.	Steel Pre-Paint Treatment Composition	13568277	8/7/2012			Pending
MacDermid Acumen, Inc.	Additive for Use in Wash Step of PET Recycling Process	13438149	4/3/2012			Pending
MacDermid Acumen, Inc.	Coatings Having Enhanced Corrosion Performance and Method of Using the Same	13398242	2/16/2012			Pending
MacDermid Acumen, Inc.	Low Etch Process for Direct Metallization	13353428	1/19/2012			Pending
MacDermid Acumen, Inc.	PROCESS FOR PLATING UPON A POLYMERIC SURFACE	09183137	10/30/1998	6168836	1/2/2001	Granted
MacDermid Acumen, Inc.	Photosensitive resin composition useful in fabricating printing plates	09620884	7/21/2000	6197459	3/6/2001	Granted
MacDermid Acumen, Inc.	Photosensitive resin composition useful in fabricating printing plates	09143427	8/28/1998	6214522	4/10/2001	Granted

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Acumen, Inc.	Tin plating electrolyte compositions	09051784	12/17/1998	6217738	4/17/2001	Granted
MacDermid Acumen, Inc.	Method for the manufacture of printed circuit boards with plated resistors	09603978	6/27/2000	6281090	8/28/2001	Granted
MacDermid Acumen, Inc.	Fluxing agents for the reflowing of electro-deposited tinplate	09147972	11/3/1999	6409850	6/25/2002	Granted
MacDermid Acumen, Inc.	Process for improving the adhesion of polymeric materials to metal surfaces	09598857	6/21/2000	6419784	7/16/2002	Granted
MacDermid Acumen, Inc.	Direct imaging process for forming resist pattern on a surface, and use thereof in fabricating printing plates	10190873	7/8/2002	6632588	10/14/2003	Granted
MacDermid Acumen, Inc.	Integral plated resistor and method for the manufacture of printed circuit boards comprising the same	10925589	8/25/2004	7022464	4/4/2006	Granted
MacDermid Acumen, Inc.	Process for improving the adhesion of polymeric materials to metal surfaces	10304514	11/26/2002	7186305	3/6/2007	Granted
MacDermid Acumen, Inc.	Process for preparing a non-conductive substrate for electroplating	10964212	10/13/2004	7214304	5/8/2007	Granted
MacDermid Acumen, Inc.	Method for the manufacture of printed circuit boards with plated resistors	11348941	2/6/2006	7279108	10/9/2007	Granted
MacDermid Acumen, Inc.	Controlling the hardness of electrodeposited copper coatings by variation of current profile	10943113	9/16/2004	7329334	2/12/2008	Granted
MacDermid Acumen, Inc.	Method of using ultrasonics to plate silver	11300254	12/14/2005	7429400	9/30/2008	Granted
MacDermid Acumen, Inc.	Polyimide substrate and method of manufacturing printed wiring board using the same	11386631	3/22/2006	7666471	2/23/2010	Granted
MacDermid Acumen, Inc.	Microetching composition and method of using the same	11893068	8/14/2007	7875558	1/25/2011	Granted
MacDermid Acumen, Inc.	Method of electrolytically dissolving nickel into electrodeless nickel plating solutions	12046864	3/12/2008	8177956	5/15/2012	Granted
MacDermid Acumen, Inc.	Process for Improving Adhesion of Polymeric Materials to Metal Surfaces	12436260	5/6/2009	8512504	8/20/2013	Granted
MacDermid Acumen, Inc.						
MacDermid Acumen, Inc. and Hewlett-Packard Development Company, L.P.	Method for automatically forming ink and media-dependent color transforms for diverse colored inks and ink types, validating color gamut, and applying said inks	09260925	3/2/1999	6419340	7/16/2002	Granted

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc	Inhibitor Composition for Racks When Using Chrome Free Etches in a Plating on Plastics Process	15551052	8/15/2017			Pending
MacDermid Enthone Inc.	Flexible Color Adjustment for Dark CR (III) Platings	15/762599	9/23/2016			Published
MacDermid Enthone Inc.	System and Process for Recovering Catalytic Precious Metal from Aqueous Galvanic Processing Solution	15/754224	8/15/2016			Published
MacDermid Enthone Inc.	Use of Water Soluble and Air Stable Phosphadamananes as stabilizer in Electrolytes for Electroless Metal Deposition	15/765637	10/6/2016			Pending
MacDermid Enthone Inc.	Use of water soluble lanthanide compounds as stabilizer in electrolytes for electroless metal deposition	15/616540	6/7/2017			Published
MacDermid Enthone Inc.	Cobalt Filling of Interconnects	15/641756	7/5/2017			Pending
MacDermid Enthone Inc.	Process for Metallization of Copper Pillars in the Manufacture of Microelectronics	15/617482	6/8/2017			Pending
MacDermid Enthone Inc.	Leveler Compositions for use in Copper Deposition in Manufacture of Microelectronics	15/412809	1/23/2017			Published
MacDermid Enthone Inc.	Cobalt Filling of Interconnects in Microelectronics	15/739314	6/30/2016			Pending
MacDermid Enthone Inc.	SILVER PLATING IN ELECTRONICS MANUFACTURE [Silver]	14/666990	3/24/2015	9730321	8/8/2017	Granted
MacDermid Enthone Inc.	DEFECTIVITY AND PROCESS CONTROL OF ELECTROLESS DEPOSITION IN MICROELECTRONICS APPLICATIONS	11/243,631	10/5/2005	7,611,988	11/3/2009	Granted
MacDermid Enthone Inc.	[Cobalt] DEFECTIVITY AND PROCESS CONTROL OF ELECTROLESS DEPOSITION IN MICROELECTRONICS APPLICATIONS	11/243,624	10/5/2005	7,611,987	11/3/2009	Granted
MacDermid Enthone Inc.	CORROSION PROTECTION OF BRONZES [Cobalt]	11/766642	6/21/2007	10017863	7/10/2018	Granted
MacDermid Enthone Inc.	CHROMIUM-FREE PICKLE FOR PLASTIC SURFACES	14/702020	5/1/2015	9752074	9/5/2017	Granted
MacDermid Enthone Inc.	COMPOSITION AND METHOD FOR THE DEPOSITION OF CONDUCTIVE	13/882330	2/5/2014	10021782	7/10/2018	Granted

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc.	POLYMERS ON DIELECTRIC SUBSTRATES (ENVISION HDI)					
MacDermid Enthone Inc.	PROCESS FOR FILLING VIAS IN THE MANUFACTURE OF MICROELECTRONICS (Anodic Pulse to Reduce Additive Build Up) [SC Cu]	15/148738	5/6/2016	10103029	10/16/2018	Granted
MacDermid Enthone Inc.	AQUEOUS ELECTROLYTE COMPOSITION HAVING A REDUCED AIRBORNE EMISSION, METHOD AND USE OF THIS COMPOSITION	14/916706	3/4/2016	10081876	9/5/2018	Granted
MacDermid Enthone Inc.	LEVELERS FOR COPPER DEPOSITION IN MICROELECTRONICS	14/854561	9/15/2015			Published
MacDermid Enthone Inc.	AQUEOUS STRIPPING COMPOSITION FOR METAL SURFACES	14/893854	11/24/2015	9834689	12/5/2017	Granted
MacDermid Enthone Inc.	COMPOSITIONS INCLUDING A HIGH MOLECULAR WEIGHT ACID SUITABLE FOR CONDUCTIVE POLYMER FORMATION ON DIELECTRIC SUBSTRATES	15/545208	7/20/2017			Published
MacDermid Enthone Inc.	Elimination of H <sub>2</sub> S in Immersion Tin Plating Solution	15/607925	5/30/2017			Pending
MacDermid Enthone Inc.	Textured Hardcoat Films	15/717275	9/27/2017			Pending
MacDermid Enthone Inc.	Carbon Based Direct Plating Process	15/973814	5/8/2018			Pending
MacDermid Enthone Inc.	Electrolytic Deposition of Tin/Tin-X and Plating Method	16/059086	8/9/2018			Pending
MacDermid Enthone Inc.	NEAR NEUTRAL pH PICKLE ON MULTI-METALS	15/977526	5/11/2018			Pending
MacDermid Enthone Inc. <sup>61</sup>	Advanced Solder Alloys For Electronic Interconnects	15286759	10/6/2016			Pending
MacDermid Enthone Inc. <sup>62</sup>	METHOD FOR DIRECT METALLIZATION OF NON-CONDUCTING SUBSTRATES	11423474	6/12/2006			Pending

<sup>61</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>62</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>63</sup>	METHOD AND DEVICE FOR COATING SUBSTRATE SURFACES	12278256	12/15/2008			Pending
MacDermid Enthone Inc. <sup>64</sup>	CORROSION PROTECTION OF BRONZES	12665908	8/9/2010			Pending
MacDermid Enthone Inc. <sup>65</sup>	Electrolyte and method for deposition of matte metal layer	13003398	6/15/2011			Pending
MacDermid Enthone Inc. <sup>66</sup>	Method for deposition of hard chrome layers	13125622	4/22/2011			Pending
MacDermid Enthone Inc. <sup>67</sup>	Corrosion-protective wax composition containing polyaniline in a doped form and a liquid paraffin	13638442	1/9/2013			Pending
MacDermid Enthone Inc. <sup>68</sup>	Copper filling of through silicon vias	13699910	12/12/2012			Pending
MacDermid Enthone Inc. <sup>69</sup>	Process for filling vias in the microelectronics	13981974	1/8/2014			Pending
MacDermid Enthone Inc. <sup>70</sup>	Aqueous solution and method for the formation of a passivation layer	14001360	2/10/2014			Pending
MacDermid Enthone Inc. <sup>71</sup>	Apparatus for electrochemical deposition of a metal	14234080	1/24/2014			Pending
MacDermid Enthone Inc. <sup>72</sup>	Electrodeposition of silver with fluoropolymer nanoparticles	14776879	9/15/2015			Pending

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- <sup>63</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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- <sup>68</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>73</sup>	Electrodeposition of Copper	15037267	5/17/2016			Pending
MacDermid Enthone Inc. <sup>74</sup>	Copper Electrodeposition in Microelectronics	15291340	10/12/2016			Pending
MacDermid Enthone Inc. <sup>75</sup>	Ductility agents for nickel-tungsten alloys	09046869	3/24/1998	6045682	4/4/2000	Granted
MacDermid Enthone Inc. <sup>76</sup>	Electroless nickel cobalt phosphorous composition and plating process	08963999	11/4/1997	6146702	11/14/2000	Granted
MacDermid Enthone Inc. <sup>77</sup>	Water soluble brighteners for zinc and zinc alloy electrolytes	09394839	9/13/1999	6238542	5/29/2001	Granted
MacDermid Enthone Inc. <sup>78</sup>	Bismuth coating protection for copper	09403900	1/18/2000	6331201	12/18/2001	Granted
MacDermid Enthone Inc. <sup>79</sup>	Printed circuit board manufacture	08939656	9/29/1997	6395329	5/28/2002	Granted
MacDermid Enthone Inc. <sup>80</sup>	Process for selective deposition of osp coating on copper, excluding deposition on gold	09383718	8/26/1999	6524644	2/25/2003	Granted
MacDermid Enthone Inc. <sup>81</sup>	Chemical compounds made of intrinsically conductive polymers and metals	09463453	4/17/2000	6632380	10/14/2003	Granted
MacDermid Enthone Inc. <sup>82</sup>	Method for coating workpieces	09786300	7/13/2001	6635165	10/21/2003	Granted
MacDermid Enthone Inc. <sup>83</sup>	Process for metallizing a plastic surface	09831008	5/3/2001	6712948	3/30/2004	Granted

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- <sup>73</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>74</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>75</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>76</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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- <sup>83</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.



Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>84</sup>	System for the electrodialytic regeneration of an electrodeless bath electrolyte	10092976	3/7/2002	6723218	4/20/2004	Granted
MacDermid Enthone Inc. <sup>85</sup>	Electroplating chemistry for the cu filling of submicron features of vi/sil/si interconnect	09716975	11/20/2000	6776893	8/17/2004	Granted
MacDermid Enthone Inc. <sup>86</sup>	Process for the extended use of electrolytes	10148090	10/3/2002	6797141	9/28/2004	Granted
MacDermid Enthone Inc. <sup>87</sup>	Process for the non-galvanic tin plating of copper or copper alloys	10129998	7/31/2002	6821323	11/23/2004	Granted
MacDermid Enthone Inc. <sup>88</sup>	Method for the deposition of a chromium alloy	10169959	10/3/2002	6837981	1/4/2005	Granted
MacDermid Enthone Inc. <sup>89</sup>	Printed circuit board manufacture	10118417	4/8/2002	6860925	3/1/2005	Granted
MacDermid Enthone Inc. <sup>90</sup>	Copper bath composition for electrodeless and/or electrolytic filling of vias and trenches for integrated circuit fabrication	10358596	2/5/2003	6897152	5/24/2005	Granted
MacDermid Enthone Inc. <sup>91</sup>	ADHESION PROMOTION IN PRINTED CIRCUIT BOARDS	10619198	7/14/2003	7232478	6/19/2007	Granted
MacDermid Enthone Inc. <sup>92</sup>	CAPPING OF METAL INTERCONNECTS IN INTEGRATED CIRCUIT ELECTRONIC DEVICES	10867346	6/14/2004	7268074	9/11/2007	Granted
MacDermid Enthone Inc	COPPER ELECTRODEPOSITION IN MICROELECTRONICS	11272999	11/14/2005	7303992	12/4/2007	Granted

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- <sup>84</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc.	DEFECT REDUCTION IN ELECTRODEPOSITED COPPER FOR SEMICONDUCTOR APPLICATIONS	10091106	3/4/2002	7316772	1/8/2008	Granted
MacDermid Enthone Inc. <sup>93</sup>	Cobalt and nickel electroless plating in microelectronic devices	11085304	3/21/2005	7332193	2/19/2008	Granted
MacDermid Enthone Inc. <sup>94</sup>	Capping of metal interconnects in integrated circuit electronic devices	11/852,513	9/10/2007	7393781	7/1/2008	Granted
MacDermid Enthone Inc. <sup>95</sup>	Defectivity and process control of electroless deposition in microelectronics applications	11230912	9/20/2005	7410899	8/12/2008	Granted
MacDermid Enthone Inc. <sup>96</sup>	Method for treating laser-structured plastic surfaces	11102038	4/8/2005	7578888	8/25/2009	Granted
MacDermid Enthone Inc. <sup>97</sup>	Method for etching non-conductive substrate surfaces	11554100	10/30/2006	7578947	8/25/2009	Granted
MacDermid Enthone Inc. <sup>98</sup>	Defectivity and process control of electroless deposition in microelectronics applications	11243876	10/5/2005	7615491	11/19/2009	Granted
MacDermid Enthone Inc. <sup>99</sup>	Insoluble anode	11279512	4/12/2006	7666283	2/23/2010	Granted
MacDermid Enthone Inc. <sup>100</sup>	Copper metallization of through silicon via	12185641	8/4/2008	7670950	3/2/2010	Granted
MacDermid Enthone Inc. <sup>101</sup>	Adhesion promotion in printed circuit boards	11759456	6/7/2007	7682432	3/23/2010	Granted

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- <sup>93</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>94</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>102</sup>	Manufacture of electrodeless cobalt deposition compositions for microelectronics applications	11549775	6/7/2007	7704306	4/27/2010	Granted
MacDermid Enthone Inc. <sup>103</sup>	Tin-silver solder bumping in electronics manufacture	11463355	8/9/2006	7713859	5/11/2010	Granted
MacDermid Enthone Inc. <sup>104</sup>	Organic solderability preservative comprising high boiling temperature alcohol	11620857	1/8/2007	7794531	9/14/2010	Granted
MacDermid Enthone Inc. <sup>105</sup>	Direct metallization of electrically non-conductive polyimide substrate surfaces	11756048	5/31/2007	7815785	10/19/2010	Granted
MacDermid Enthone Inc. <sup>106</sup>	Copper electrodeposition in microelectronics	11846385	8/28/2007	7815786	10/19/2010	Granted
MacDermid Enthone Inc.	Method for supplying a plating composition with deposition metal ion during a plating operation	11420339	5/25/2006	7846316	12/7/2010	Granted
MacDermid Enthone Inc. <sup>107</sup>	Process and electrolytes for deposition of metal layers	10678601	10/3/2003	7846503	12/7/2010	Granted
MacDermid Enthone Inc. <sup>108</sup>	Metallic surface enhancement	11736647	4/18/2007	7883738	2/8/2011	Granted
MacDermid Enthone Inc. <sup>109</sup>	Copper deposition for filling features in manufacture of microelectronic devices	12446176	4/17/2009	7968455	6/28/2011	Granted
MacDermid Enthone Inc. <sup>110</sup>	Anti-tarnish coatings	11944287	11/21/2007	7972655	7/5/2011	Granted

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- <sup>102</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>103</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>104</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>105</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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- <sup>107</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>108</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>109</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>110</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>111</sup>	Surface preparation process for damascene copper deposition	12238139	9/25/2008	7998859	8/16/2011	Granted
MacDermid Enthone Inc. <sup>112</sup>	Copper electrodeposition in microelectronics	10963369	10/12/2004	8002962	8/23/2011	Granted
MacDermid Enthone Inc. <sup>113</sup>	Maintenance of metalization baths	11039088	1/19/2005	8057678	11/15/2011	Granted
MacDermid Enthone Inc. <sup>114</sup>	ADHESION PROMOTION IN PRINTED CIRCUIT BOARDS	11759624	6/7/2007	8142840	3/27/2012	Granted
MacDermid Enthone Inc. <sup>115</sup>	ELECTROLYTE AND PROCESS FOR DEPOSITING A MATT METAL LAYER	12168680	7/7/2008	8192607	6/5/2012	Granted
MacDermid Enthone Inc. <sup>116</sup>	METHOD FOR REMOVING IMPURITIES FROM A METAL DEPOSITION PROCESS SOLUTION	11563335	11/27/206	8202431	6/19/2012	Granted
MacDermid Enthone Inc. <sup>117</sup>	SELF ASSEMBLED MOLECULES ON IMMERSION SILVER COATINGS	12268144	11/10/2008	8216645	7/10/2012	Granted
MacDermid Enthone Inc. <sup>118</sup>	COMPOSITE COATINGS FOR WHISKER REDUCTION	12254207	10/20/2008	8226807	7/24/2012	Granted
MacDermid Enthone Inc. <sup>119</sup>	GALVANIC BATH AND PROCESS FOR DEPOSITING ZINC-BASED LAYERS	12617202	11/12/2009	8282806	10/9/2012	Granted

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- <sup>111</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>112</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>113</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>114</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>115</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>120</sup>	SILVER PLATING IN ELECTRONICS MANUFACTURE	10902398	7/29/2004	8349393	1/8/2013	Granted
MacDermid Enthone Inc. <sup>121</sup>	DEPOSITION OF CONDUCTIVE POLYMER AND METALLIZATION OF NON-CONDUCTIVE SUBSTRATES	12440355	3/25/2009	8366901	2/5/2013	Granted
MacDermid Enthone Inc. <sup>122</sup>	Method and composition for electrodeposition of copper in microelectronics with dipyrityl-based levelers	12324335	11/26/2008	8388824	3/5/2013	Granted
MacDermid Enthone Inc. <sup>123</sup>	Electrolyte Composition and Method for the Deposition of a Zinc-Nickel Alloy Layer on a Cast Iron Or Steel Substrate	11778011	7/13/2007	8435398	5/7/2013	Granted
MacDermid Enthone Inc. <sup>124</sup>	Copper electrodeposition in microelectronics	13/214,525	8/22/2011	8608933	12/17/2013	Granted
MacDermid Enthone Inc. <sup>125</sup>	Anti-tarnish coatings	13/176,411	7/5/2011	8703243	4/22/2014	Granted
MacDermid Enthone Inc. <sup>126</sup>	Metallic surface enhancement	12596559	2/2/2010	8741390	6/3/2014	Granted
MacDermid Enthone Inc. <sup>127</sup>	Method and composition for electrodeposition of copper in microelectronics with dipyrityl-based levelers	13/785,946	3/5/2013	8771495	7/8/2014	Granted
MacDermid Enthone Inc. <sup>128</sup>	Cyanide free electrolyte composition for the galvanic deposition of a copper layer	13054048	4/18/2011	8808525	8/19/2014	Granted

<sup>120</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>121</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>122</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

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<sup>125</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>126</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>127</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>129</sup>	Composite coatings for whisker reduction	13/556,522	7/24/2012	8906217	12/9/2014	Granted
MacDermid Enthone Inc. <sup>130</sup>	Method for the deposition of a metal layer comprising a beta-amino acid	13382131	3/7/2012	8962070	2/24/2015	Granted
MacDermid Enthone Inc. <sup>131</sup>	Silver plating in electronics manufacture	13/735,779	1/7/2013	8986434	3/24/2015	Granted
MacDermid Enthone Inc. <sup>132</sup>	CHROMIUM-FREE PICKLE FOR PLASTIC SURFACES	12672980	8/12/2010	9023228	5/5/2015	Granted
MacDermid Enthone Inc. <sup>133</sup>	Adhesion promotion in printed circuit boards	13/431,560	3/27/2012	9040117	5/26/2015	Granted
MacDermid Enthone Inc. <sup>134</sup>	SOLDERABILITY ENHANCEMENT BY SILVER IMMERSION PRINTED CIRCUIT BOARD MANUFACTURE	10099936	3/13/2002	9072203	6/30/2015	Granted
MacDermid Enthone Inc. <sup>135</sup>	IMMERSION TIN SILVER PLATING IN ELECTRONICS MANUFACTURE	12607375	10/28/2009	9175400	11/3/2015	Granted
MacDermid Enthone Inc. <sup>136</sup>	CYANIDE-FREE ELECTROLYTE COMPOSITION, AND METHOD FOR THE DEPOSITION OF SILVER OR SILVER ALLOY LAYERS ON SUBSTRATES	12445049	10/13/2009	9212427	12/15/2015	Granted
MacDermid Enthone Inc. <sup>137</sup>	ELECTROLYTIC DEPOSITION OF METAL-BASED COMPOSITE COATINGS COMPRISING NANO-PARTICLES	12747681	7/19/2010	9217205	12/22/2015	Granted

- <sup>129</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>130</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>131</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
- <sup>132</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.
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Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>138</sup>	Defect reduction in electrodeposited copper for semiconductor applications	11/971,061	1/8/2008	9222188	12/29/2015	Granted
MacDermid Enthone Inc. <sup>139</sup>	METHOD FOR THE POST-TREATMENT OF METAL LAYERS	13129300	7/25/2011	9222189	12/29/2015	Granted
MacDermid Enthone Inc. <sup>140</sup>	BETA-AMINO ACID COMPRISING PLATING FORMULATION	14630268	2/24/2015	9249513	2/2/2016	Granted
MacDermid Enthone Inc. <sup>141</sup>	ADHESION PROMOTION IN PRINTED CIRCUIT BOARDS	13558019	7/25/2012	9338896	5/10/2016	Granted
MacDermid Enthone Inc. <sup>142</sup>	COPPER ELECTRODEPOSITION IN MICROELECTRONICS	14108954	12/17/2013	9493884	11/15/2016	Granted
MacDermid Enthone Inc. <sup>143</sup>	PROCESS FOR ELECTROLESS COPPER DEPOSITION ON LASER-DIRECT STRUCTURED SUBSTRATES	14350971	4/10/2014	9538665	1/3/2017	Granted
MacDermid Enthone Inc. <sup>144</sup>	METHOD FOR DIRECT METALLIZATION OF NON-CONDUCTIVE SUBSTRATES	13636087	2/4/2013	9617644	4/11/2017	Granted
MacDermid Enthone Inc. <sup>145</sup>	Cyanide-free Electrolyte Composition and Method	14962863	12/8/2015	9657402	5/23/2017	Granted
MacDermid Enthone Inc.	Selective Plating of three dimensional surfaces to produce	16201092	11/27/2018			Pending

<sup>138</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>139</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>140</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>141</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>142</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>143</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>144</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>145</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Enthone Inc. <sup>146</sup>	Self Assembled molecules on immersion silver coat	13545030	7/10/2012	8323741	12/4/2012	Granted
MacDermid Enthone Inc. <sup>147</sup>	Method and Composition for electrodeposition	14325601	7/8/2014	9613858	4/4/2017	Granted
MacDermid Enthone Inc. <sup>148</sup>	Electroplating composition Bath [Gold]	09069442	4/29/1998	6576114	6/10/2003	Granted
MacDermid Enthone Inc.	Etching of Plastic Using Acidic Solutions Containing Trivalent Manganese	15/667002	8/2/2017			Published
MacDermid Graphics Solutions, LLC	Printing Sleeves and Methods for Producing Same	09/744824	1/29/2001	6742453	6/1/2004	Granted
MacDermid Graphics Solutions, LLC	Processless Digitally Imaged Printing Plate Using Microspheres	10/105898	3/25/2002	6806018	10/19/2004	Granted
MacDermid Graphics Solutions, LLC	Processless Digitally Imaged Photopolymer Elements Using Microspheres	10/768799	1/30/2004	6989220	1/24/2006	Granted
MacDermid Graphics Solutions, LLC	UV Absorbing Support Layers & Flexographic Printing Elements Comprising Same	09/415811	10/11/1999	6413699	7/2/2002	Granted
MacDermid Graphics Solutions, LLC	UV Absorbing Support Layers & Flexographic Printing Elements Comprising Same	10/752484	1/6/2004	RE39835	9/11/2007	Granted
MacDermid Graphics Solutions, LLC	Laser Image Printing Plates Comprising A Multi-Layer Slip Film	09/507840	2/22/2000	6367381	4/9/2002	Granted
MacDermid Graphics Solutions, LLC	Printing Sleeve with an Integrated Printing Surface	10/754297	1/9/2004	6966259	11/22/2005	Granted
MacDermid Graphics Solutions, LLC	Method of Preexposing Relief Image Printing Plate	10/853342	5/25/2004	7632625	12/15/2009	Granted
MacDermid Graphics Solutions, LLC	Apparatus and Method for Thermally Developing Flexographic Printing Elements	10/891351	7/14/2004	7041432	5/9/2006	Granted
MacDermid Graphics Solutions, LLC	Apparatus and Method for Thermally Developing Flexographic Printing Sleeves	10/811763	3/29/2004	6998218	2/14/2006	Granted
MacDermid Graphics Solutions, LLC	System for Thermal Development of Flexographic Printing Plates	10/837107	4/30/2004	7044055	5/16/2006	Granted
MacDermid Graphics Solutions, LLC	System for Thermal Development of Flexographic Printing Plates	11/297725	12/8/2005	7152529	12/26/2006	Granted

<sup>146</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>147</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.

<sup>148</sup> Appropriate documentation to be filed with the USPTO to update owner name from Enthone Inc.



Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Graphics Solutions, LLC	Edge Cure Prevention Process	10/830560	4/23/2004	7055429	6/6/2006	Granted
MacDermid Graphics Solutions, LLC	Method for Bump Exposing Relief Image Printing Plates	10/894979	7/20/2004	7125650	10/24/2006	Granted
MacDermid Graphics Solutions, LLC	Edge Cure Prevention Composition and Process for Using the Same	10/977049	10/29/2004	7179583	2/20/2007	Granted
MacDermid Graphics Solutions, LLC	Flexo Processor	11/055196	2/10/2005	7237482	7/3/2007	Granted
MacDermid Graphics Solutions, LLC	Method for Thermally Processing Photosensitive Printing Sleeves	10/987624	11/12/2004	7081331	7/25/2006	Granted
MacDermid Graphics Solutions, LLC	Method for Thermally Processing Photosensitive Printing Sleeves	11/439026	5/23/2006	7232649	6/19/2007	Granted
MacDermid Graphics Solutions, LLC	Compressible Flexographic Printing Plate Construction	10/965315	10/14/2004	7318994	1/15/2008	Granted
MacDermid Graphics Solutions, LLC	Compressible Flexographic Printing Plate Construction	11/986074	11/20/2007	8071269	12/6/2011	Granted
MacDermid Graphics Solutions, LLC	Method and Apparatus for Applying Surface Treatments to Photosensitive Printing Elements During Thermal Development	10/990087	11/16/2004	7247344	7/24/2007	Granted
MacDermid Graphics Solutions, LLC	Edge Cure Prevention Process	10/992123	11/18/2004	7060417	6/13/2006	Granted
MacDermid Graphics Solutions, LLC	Thermal Development System and Method of Using the Same	11/159704	6/23/2005	7202008	4/10/2007	Granted
MacDermid Graphics Solutions, LLC	Printing Element with an Integral Printing Surface	12/469721	5/21/2009	7947427	5/24/2011	Granted
MacDermid Graphics Solutions, LLC	Photopolymer Printing Form with Reduced Processing Time	11/289814	11/30/2005	7625691	12/1/2009	Granted
MacDermid Graphics Solutions, LLC	Carrier Sheet for a Photosensitive Printing Element	12/620715	11/18/2009	9069255	6/30/2015	Granted
MacDermid Graphics Solutions, LLC	Method of Creating a Digital Mask for Flexographic Printing Elements In Situ	12/413753	3/30/2009	8098270	1/17/2012	Granted
MacDermid Graphics Solutions, LLC	Method of Creating a Digital Mask for Flexographic Printing Elements In Situ	11/333022	1/17/2006	7531285	5/12/2009	Granted
MacDermid Graphics Solutions, LLC	Method of Pre-Exposing Relief Image Printing Plate	11/890827	8/8/2007	7767383	8/3/2010	Granted

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Graphics Solutions, LLC	Method and Apparatus for Thermal Processing of Photosensitive Printing Elements	12/183461	7/31/2008	8739701	6/3/2014	Granted
MacDermid Graphics Solutions, LLC	Means for Attaching a Printing Plate to a Printing Cylinder	12/367650	2/9/2009	8833258	9/16/2014	Granted
MacDermid Graphics Solutions, LLC	Method for Improving Print Performance in Flexographic Printing Plates	15/638878	6/30/2017			Published
MacDermid Graphics Solutions, LLC	Method for Improving Print Performance in Flexographic Printing Plates	12/660451	2/26/2010	9720326	8/1/2017	Granted
MacDermid Graphics Solutions, LLC	Method for Improving Print Performance in Flexographic Printing Plates	12/571523	10/1/2009	8158331	4/17/2012	Granted
MacDermid Graphics Solutions, LLC	Method for Improving Print Performance in Flexographic Printing Plates	13/411762	3/5/2012	8470517	6/25/2013	Granted
MacDermid Graphics Solutions, LLC	Method of Producing a Relief Image from a Liquid Photopolymer Resin	12/794238	6/4/2010	8476000	7/2/2013	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Print Performance in Flexographic Printing Plates	12/984699	1/5/2011	8492074	7/23/2013	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Print Performance in Flexographic Printing Plates	14/315883	6/26/2014	9298092	3/29/2016	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Print Performance in Flexographic Printing Plates	12/826773	6/30/2010	8795950	8/5/2014	Granted
MacDermid Graphics Solutions, LLC	Photosensitive Resin Laminate and Thermal Processing of the Same	14/136547	12/20/2013	9086630	7/21/2015	Granted
MacDermid Graphics Solutions, LLC	Photosensitive Resin Laminate and Thermal Processing of the Same	13/030810	2/18/2011	8652761	2/18/2014	Granted
MacDermid Graphics Solutions, LLC	Slip Film for Relief Image Printing Element	13/169296	6/27/2011	8771926	7/8/2014	Granted
MacDermid Graphics Solutions, LLC	Method of Controlling Surface Roughness of a Flexographic Printing Plate	14/081200	11/15/2013	9291891	3/22/2016	Granted
MacDermid Graphics Solutions, LLC	Method of Controlling Surface Roughness of a Flexographic Printing Plate	13/182533	7/14/2011	8632958	1/21/2014	Granted
MacDermid Graphics Solutions, LLC	Laminated Flexographic Printing Sleeves and Methods of Making the Same	13/205107	8/8/2011	8871431	10/28/2014	Granted
MacDermid Graphics Solutions, LLC	Improved Laminating Apparatus and Method of Using the Same	13/355769	1/23/2012	8697337	4/15/2014	Granted
MacDermid Graphics Solutions, LLC	Photosensitive Resin Laminate and Thermal Processing of the Same	14/016443	9/3/2013	9223218	12/29/2015	Granted

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Graphics Solutions, LLC	Photosensitive Resin Laminate and Thermal Processing of the Same	13/091466	4/21/2011	8551688	10/8/2013	Granted
MacDermid Graphics Solutions, LLC	Methods for Improving Print Performance of Flexographic Printing Elements	13/183558	7/15/2011	8669041	3/11/2014	Granted
MacDermid Graphics Solutions, LLC	Integrated Membrane Lamination and UV Exposure System and Method of Using the Same	13/372060	2/13/2012	8524442	9/3/2013	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Print Performance in Flexographic Printing Plates	14/302512	6/12/2014	9046778	6/2/2015	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Print Performance in Flexographic Printing Plates	13/595473	8/27/2012	8790864	7/29/2014	Granted
MacDermid Graphics Solutions, LLC	Clean Flexographic Printing Plate and Method of Making the Same	13/409374	3/1/2012	9114601	8/25/2015	Granted
MacDermid Graphics Solutions, LLC	Liquid Platemaking with Laser Engraving	13/467325	5/9/2012	9096090	8/4/2015	Granted
MacDermid Graphics Solutions, LLC	Liquid Platemaking Process	13/477556	5/22/2012	8735049	5/27/2014	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Surface Cure in Digital Flexographic Printing Plates	14/328857	7/11/2014	9329480	5/3/2016	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Surface Cure in Digital Flexographic Printing Plates	15/086402	3/31/2016	9751353	9/5/2017	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Surface Cure in Digital Flexographic Printing Plates	13/591375	8/22/2012	8808968	8/19/2014	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Print Performance in Flexographic Printing Plates	13/892406	5/13/2013	9040226	5/26/2015	Granted
MacDermid Graphics Solutions, LLC	Apparatus for Thermal Processing of Flexographic Printing Elements	13/965537	8/13/2013	9649786	5/16/2017	Granted
MacDermid Graphics Solutions, LLC	Photosensitive Resin Composition	14/160799	1/22/2014	10025183	7/17/2018	Granted
MacDermid Graphics Solutions, LLC	Clean Flexographic Printing Plates and Method of Making the Same	14/458659	8/13/2014	9217928	12/22/2015	Granted
MacDermid Graphics Solutions, LLC	Method for Creating Surface Texture on Flexographic Printing Elements	14/183948	2/19/2014	9256129	2/9/2016	Granted
MacDermid Graphics Solutions, LLC	Flexographic Printing Plate with Improved Cure Efficiency	14/539171	11/12/2014	9740099	8/22/2017	Granted

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Graphics Solutions, LLC	Method of Making Relief Image Printing Plates	14/693062	4/22/2015	9703201	7/11/2017	Granted
MacDermid Graphics Solutions, LLC	Carrier Sheet and Method of Using the Same	14/830833	8/20/2015	9757919	9/12/2017	Granted
MacDermid Graphics Solutions, LLC	Method of Creating Hybrid Printing Dots in a Flexographic Printing Plate	14/829163	8/18/2015	9678429	6/13/2017	Granted
MacDermid Graphics Solutions, LLC	Customizable Printing Plates and Method of Making the Same	15/040617	2/10/2016	9925757	3/27/2018	Granted
MacDermid Graphics Solutions, LLC	Method and Apparatus for Producing Liquid Flexographic Printing Plates	15/493498	4/21/2017	10139730	11/27/2018	Granted
MacDermid Graphics Solutions, LLC	Method and Apparatus for Producing Liquid Flexographic Printing Plates	14/935963	11/9/2015	9740103	8/22/2017	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Light Stability of Flexographic Printing Plates Featuring Flat Top Dots	15/067622	3/11/2016	10108087	10/23/2018	Granted
MacDermid Graphics Solutions, LLC	Method of Improving Light Stability of Flexographic Printing Plates Featuring Flat Top Dots	15/485504	4/12/2017			Published
MacDermid Graphics Solutions, LLC	Improved Method of Making a Flexographic Printing Plate	15/498844	4/27/2017			Pending
MacDermid Graphics Solutions, LLC	Method of Producing a Relief Image from a Liquid Photopolymer Resin	15/484314	4/11/2017			Published
MacDermid Graphics Solutions, LLC	Flexographic Printing Plate with Improved Storage Stability	15/590068	5/9/2017			Pending
MacDermid Graphics Solutions, LLC <sup>149</sup>	Laser imaged printing plates	09898152	7/3/2001	6916596	7/12/2005	Granted
MacDermid Graphics Solutions, LLC <sup>150</sup>	LASER IMAGED PRINTING PLATES	09921589	8/3/2001	6756181	6/29/2004	Granted
MacDermid Graphics Solutions, LLC <sup>151</sup>	LASER IMAGED PRINTING PLATES	10153946	5/23/2002	6605410	8/12/2003	Granted

<sup>149</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>150</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>151</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Graphics Solutions, LLC <sup>152</sup>	Processless digitally imaged photopolymer elements using microspheres	10/768,799	1/30/2004	6989220	1/24/2006	Granted
MacDermid Graphics Solutions, LLC <sup>153</sup>	PROCESSLESS DIGITALLY IMAGED PRINTING PLATE USING MICROSPHERES	10105898	3/25/2002	6806018	10/19/2004	Granted
MacDermid Graphics Solutions, LLC <sup>154</sup>	AQUEOUS DEVELOPABLE PHOTOSENSITIVE POLYURETHANE-METHACRYLATE	09535353	3/24/2000	6423472	7/23/2002	Granted
MacDermid Graphics Solutions, LLC <sup>155</sup>	COMPOSITE RELIEF IMAGE PRINTING PLATES	09417043	10/12/1999	6312872	11/6/2001	Granted
MacDermid Graphics Solutions, LLC <sup>156</sup>	Laser Imaged Printing Plates	15608210	5/30/2017			Pending
MacDermid Graphics Solutions, LLC <sup>157</sup>	Method of Improving Print Performance in Flexographic Printing Plates	15463379	3/20/2017			Pending
MacDermid Graphics Solutions, LLC <sup>158</sup>	Method of Improving Print Performance in Flexographic Printing Plates	15463341	3/20/2017			Pending
MacDermid Graphics Solutions, LLC <sup>159</sup>	Method of Making a Flexographic Printing Plate	15224979	8/1/2016			Pending
MacDermid Graphics Solutions, LLC	Method for Creating Surface Texture on Flexographic Printing Elements	14985638	12/31/2015			Pending

<sup>152</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>153</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>154</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>155</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>156</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>157</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>158</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

<sup>159</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Graphics Solutions, LLC <sup>160</sup>	Apparatus for Thermal Processing of Flexographic Printing Elements	14937267	11/10/2015			Pending
MacDermid Graphics Solutions, LLC <sup>161</sup>	Laminating Apparatus and Method of Using the Same	14191529	2/27/2014			Pending
MacDermid Graphics Solutions, LLC <sup>162</sup>	Loading/Unloading System for Printing Plates	13653916	10/17/2012			Pending
MacDermid Graphics Solutions, LLC <sup>163</sup>	Biodegradable Film for Flexographic Printing Plate Manufacture and Method of Using the Same	12939388	11/4/2010			Pending
MacDermid Graphics Solutions, LLC <sup>164</sup>	Method of Controlling Surface Roughness of a Flexographic Printing Plate	12348981	1/6/2009			Pending
MacDermid Graphics Solutions, LLC <sup>165</sup>	Apparatus and Method for Thermally Developing Flexographic Printing Elements	12267642	11/10/2008			Pending
MacDermid Graphics Solutions, LLC <sup>166</sup>	Apparatus for thermal processing of Flexographic Printing	15485336	4/12/2017			Pending
MacDermid Graphics Solutions, LLC	Method and Apparatus for Producing Liquid Flexographic Printing Plates	15493498	4/21/2017	10139730	11/27/2018	Granted
MacDermid Graphics Solutions, LLC	Slip Film for Relief Image Printing Element	13169296	6/27/2011	8771926	7/8/2014	Granted
MacDermid Graphics Solutions, LLC	Photosensitive Resin Laminate and Thermal Processing of the Same	13030810	2/18/2011	8652761	2/18/2014	Granted
MacDermid Graphics Solutions, LLC	Method of Controlling Surface Roughness of a Flexographic Printing Plate	13182533	7/14/2011	8632958	1/21/2014	Granted

- <sup>160</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC
- <sup>161</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC
- <sup>162</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC
- <sup>163</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC
- <sup>164</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC
- <sup>165</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC
- <sup>166</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Graphics Solutions, LLC	SLIP FILM COMPOSITIONS CONTAINING LAYERED SILICATES	10946937	9/22/2004	7736836	6/15/2010	Granted
MacDermid Graphics Solutions, LLC	METHOD FOR BUMP EXPOSING RELIEF IMAGE PRINTING PLATES	10894979	7/20/2004	7125650	10/24/2006	Granted
MacDermid Graphics Solutions, LLC	APPARATUS AND METHOD FOR THERMALLY DEVELOPING FLEXOGRAPHIC PRINTING SLEEVES	10811763	3/29/2004	6998218	2/14/2006	Granted
MacDermid Graphics Solutions, LLC	PROCESSLESS DIGITALLY IMAGED PHOTOPOLYMER ELEMENTS USING MICROSPHERES	10768799	1/30/2004	6989220	1/24/2006	Granted
MacDermid Graphics Solutions, LLC <sup>167</sup>	Method of Making Relief Image Printing Elements	15145230	5/3/2016	100336956	7/31/2018	Granted
MacDermid Graphics Solutions, LLC	Method of Making a Flexographic Printing Plate	15224979	8/1/2016			Pending
MacDermid Offshore Solutions, LLC	Hydraulic Fluid Compositions	14/017786	9/4/2013	8809241	8/19/2014	Granted
MacDermid Offshore Solutions, LLC	Hydraulic Fluid Compositions	13/044613	3/10/2011	8563484	10/22/2013	Granted
MacDermid Offshore Solutions, LLC	Thermally Stable Subsea Control Hydraulic Fluid Compositions	14/157928	1/17/2014	9458408	10/4/2016	Granted
MacDermid Offshore Solutions, LLC	Thermally Stable Subsea Control Hydraulic Fluid Compositions	12/173284	7/15/2008	8759265	6/24/2014	Granted
MacDermid Offshore Solutions, LLC	Environmental Subsea Control Hydraulic Fluid Compositions	12/549579	8/28/2009	8575077	11/5/2013	Granted
MacDermid Offshore Solutions, LLC	Thermally Stable Subsea Control Hydraulic Fluid Compositions	12/469337	5/20/2009	8633141	1/21/2014	Granted
MacDermid Offshore Solutions, LLC	Thermally Stable Subsea Control Hydraulic Fluid Compositions	14/041669	9/30/2013	9096812	8/4/2015	Granted
MacDermid Offshore Solutions, LLC	Composition for Removing Scale Deposits	13/475030	5/18/2012	9145508	9/29/2015	Granted
MacDermid Offshore Solutions, LLC	Environmental subsea control hydraulic fluid compositions	12549579	8/28/2009	8575077	11/5/2013	Granted

<sup>167</sup> Appropriate documentation to be filed with the USPTO to update owner name from MacDermid Printing Solutions, LLC

Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
MacDermid Offshore Solutions, LLC	Thermally stable subsea control hydraulic fluid compositions	14157928	1/17/2014	9458408	10/4/2016	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	13/463087	5/3/2012	RE45842	1/12/2016	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	13/463110	5/3/2012	RE45881	2/9/2016	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	09/251641	2/17/1999	6200451	3/13/2001	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	10/341859	1/14/2003	6905587	6/14/2005	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	13/371848	2/13/2012	RE45297	12/23/2014	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	10/456329	6/6/2003	7267259	9/11/2007	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	09/698370	10/26/2000	6444109	9/3/2002	Granted
MacDermid, Incorporated	Method for Enhancing the Solderability of a Surface	09/821205	3/29/2001	6544397	4/8/2003	Granted
MacDermid, Incorporated	Re-Examination of Ferrier 5,733,599 (MacDermid) METHOD FOR ENHANCING THE SOLDERABILITY OF A SURFACE	90/012,575	9/14/2012	5733599	3/7/2013	Granted
MacDermid, Incorporated/Chemtech Systems (co-owned)	Nickel pH Adjustment Method and Apparatus	12/858887	8/18/2010	8980068	3/17/2015	Granted
Napp Systems, Inc.	High Performance, Photoimageable Resin Composition & Printing Plates Prepared Therefrom	09/823904	3/30/2001	6579664	6/17/2003	Granted
Napp Systems, Inc.	High Performance Photoimageable Resin Composition & Printing Plates Prepared Therefrom	10/386315	3/11/2003	6780566	8/24/2004	Granted
Napp Systems, Inc.	Apparatus & Method For The Enhanced Imagewise Exposure of a Photosensitive Material	09/382214	8/24/1999	6262825	7/17/2001	Granted
Napp Systems, Inc.	Solvent-Developable Printing Formulations with Improved Processing Characteristics	09/624104	7/24/2000	6551756	4/22/2003	Granted



Owner	Title	Application No.	Filing Date	Patent No.	Issue Date	Status
Napp Systems, Inc.	Highly Reflective Substrates for the Digital Imaging of Photopolymer Printing Plates	10/462977	6/16/2003	7005232	2/28/2006	Granted
Napp Systems, Inc.	Highly Reflective Substrates for the Digital Imaging of Photopolymer Printing Plates	11/267435	11/4/2005	7083896	8/1/2006	Granted
Napp Systems, Inc.	High Performance Water-Based Primer	10/805769	3/22/2004	7217756	5/15/2007	Granted
Napp Systems, Inc.	Apparatus for the Rapid Development of Photosensitive Printing Elements	10/970881	10/22/2004	7156630	1/2/2007	Granted
Napp Systems, Inc.	Flexo Cushion	12/037429	2/26/2008	8943969	2/3/2015	Granted

**PATENT**

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**RECORDED: 02/05/2019**