

TRADEMARK ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

ETAS ID: TM313818

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|------------------------------|------------------------------|
| SUBMISSION TYPE: | NEW ASSIGNMENT |
| NATURE OF CONVEYANCE: | TRADEMARK SECURITY AGREEMENT |
| SEQUENCE: | 6 |

CONVEYING PARTY DATA

| Name | Formerly | Execution Date | Entity Type |
|-------------------|----------|----------------|-------------------|
| Ferro Corporation | | 07/31/2014 | CORPORATION: OHIO |

RECEIVING PARTY DATA

| | |
|------------------------|-------------------------------------|
| Name: | PNC BANK, NATIONAL ASSOCIATION |
| Street Address: | 500 FIRST AVENUE |
| City: | PITTSBURGH |
| State/Country: | PENNSYLVANIA |
| Postal Code: | 15219 |
| Entity Type: | NATIONAL ASSOCIATION: UNITED STATES |

PROPERTY NUMBERS Total: 44

| Property Type | Number | Word Mark |
|----------------------|---------|-------------|
| Registration Number: | 2988075 | ACE |
| Registration Number: | 1393723 | ALOX |
| Registration Number: | 1221372 | AMERICAL |
| Registration Number: | 4325446 | AQUARELEASE |
| Registration Number: | 1041567 | CATA-CHEK |
| Registration Number: | 0839806 | CE-RITE |
| Registration Number: | 2438817 | CERMARK |
| Registration Number: | 2597392 | CERMARK |
| Registration Number: | 2581488 | CERMARK |
| Registration Number: | 2444691 | CERMARK |
| Registration Number: | 1004166 | CONDUCTROX |
| Registration Number: | 2711906 | COOL COLORS |
| Registration Number: | 0710108 | |
| Registration Number: | 0794281 | |
| Registration Number: | 0419066 | |
| Registration Number: | 2845284 | ECLIPSE |
| Registration Number: | 3664035 | EVOLUTION |
| Registration Number: | 0545912 | FERRO |
| Registration Number: | 0549848 | FERRO |

TRADEMARK

| Property Type | Number | Word Mark |
|----------------------|---------|------------|
| Registration Number: | 0684616 | FERRO |
| Registration Number: | 1382917 | FERROCON |
| Registration Number: | 1280330 | FERROFLEX |
| Registration Number: | 1382918 | FERROFLO |
| Registration Number: | 1455961 | FERROPAK |
| Registration Number: | 1836504 | GEODE |
| Registration Number: | 3207819 | LENSMAX |
| Registration Number: | 1011327 | MICRO-CHEK |
| Registration Number: | 0923047 | MIRAMAX |
| Registration Number: | 1779957 | PDI |
| Registration Number: | 1105842 | PERC |
| Registration Number: | 1045181 | PLAS-CHEK |
| Registration Number: | 3559830 | RUFLUX |
| Registration Number: | 0265127 | SANTICIZER |
| Registration Number: | 1048383 | SATINAL |
| Registration Number: | 1112060 | SPECTRAFLO |
| Registration Number: | 3655259 | SURESTOP |
| Registration Number: | 3844868 | SURESTOP |
| Registration Number: | 2674257 | SYNPRO |
| Registration Number: | 1041570 | THERM-CHEK |
| Registration Number: | 0812789 | TIZOX |
| Registration Number: | 3655260 | TRUPLANE |
| Registration Number: | 1063622 | UV-CHEK |
| Registration Number: | 0781180 | VIBROXIDE |
| Registration Number: | 0708245 | ZOX |

CORRESPONDENCE DATA

Fax Number: 7147558290

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.

Phone: 714-540-1235

Email: ipdocket@lw.com

Correspondent Name: LATHAM & WATKINS LLP

Address Line 1: 650 TOWN CENTER DRIVE, SUITE 2000

Address Line 4: COSTA MESA, CALIFORNIA 92626

ATTORNEY DOCKET NUMBER: 030786-0429

NAME OF SUBMITTER: Anna T Kwan

SIGNATURE: /atk/

DATE SIGNED: 08/12/2014

Total Attachments: 7

TRADEMARK

REEL: 005342 FRAME: 0481

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TRADEMARK SECURITY AGREEMENT

This TRADEMARK SECURITY AGREEMENT, July 31, 2014 (this "Agreement"), is made by Ferro Corporation, an Ohio corporation, and Ferro Electronic Materials Inc., a Delaware corporation (collectively, the "Grantors"), in favor of PNC BANK, NATIONAL ASSOCIATION, as the collateral agent (together with its successor(s) thereto in such capacity, the "Collateral Agent") for each of the Secured Parties. Terms used herein but not defined herein shall have the meaning ascribed to such terms in the Security Agreement or in the Credit Agreement, as applicable.

W I T N E S S E T H:

WHEREAS, this Agreement is made pursuant to the Credit Agreement, dated as of July 31, 2014 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Credit Agreement"), among Ferro Corporation, an Ohio corporation (the "Company"), the Designated Borrowers from time to time party thereto, the lenders from time to time party thereto, PNC Bank, National Association, as administrative agent for the Lenders and as collateral agent for the Secured Parties and as an Issuer, and the various financial institutions and other Persons from time to time party thereto as lenders;

WHEREAS, in connection with the Credit Agreement, the Grantors have executed and delivered a Pledge and Security Agreement, dated as of July 31, 2014 (as amended, restated, amended and restated, supplemented or otherwise modified from time to time, the "Security Agreement");

WHEREAS, pursuant to the Credit Agreement and pursuant to clause (e) of Section 4.5 of the Security Agreement, the Grantors are required to execute and deliver this Agreement and to grant to the Collateral Agent a continuing security interest in all of the Trademark Collateral (as defined below) to secure all Obligations; and

WHEREAS, the Grantors have duly authorized the execution, delivery and performance of this Agreement; and

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Grantors agree, for the benefit of each Secured Party, as follows:

SECTION 1. Definitions. Unless otherwise defined herein or the context otherwise requires, terms used in this Agreement, including its preamble and recitals, have the meanings provided in the Security Agreement.

SECTION 2. Grant of Security Interest. The Grantors hereby assigns, pledges, hypothecates, charges, mortgages, delivers, and transfers to the Collateral Agent, for its benefit and the ratable benefit of each other Secured Party, and hereby grants to the Collateral Agent, for its benefit and the ratable benefit of each other Secured Party, a continuing security interest in all of the following property, whether now or hereafter existing or acquired by the Grantors (the "Trademark Collateral");

(a) (i) all of its trademarks, trade names, corporate names, company names, business names, fictitious business names, trade styles, service marks, certification marks, collective marks, logos and other source or business identifiers, and all goodwill of the business associated therewith, now existing or hereafter adopted or acquired including those referred to in Item A of Schedule I hereto, whether currently in use or not, all registrations and recordings thereof and all applications in connection therewith, whether pending or in preparation for filing, including registrations, recordings and applications in the United States Patent and Trademark Office or in any office or agency of the United States of America or any State thereof or any other country or political subdivision thereof or otherwise, and all common-law rights relating to the foregoing, and (ii) the right to obtain all reissues, extensions or renewals of the foregoing (collectively referred to as the "Trademark");

(b) all Trademark licenses for the grant by or to the Grantors of any right to use any Trademark, including each Trademark license referred to in Item B of Schedule I hereto;

(c) all of the goodwill of the business connected with the use of, and symbolized by the items described in, clause (a), and to the extent applicable clause (b);

(d) the right to sue third parties for past, present and future infringements of any Trademark Collateral described in clause (a) and, to the extent applicable, clause (b); and

(e) all Proceeds of, and rights associated with, the foregoing, including any claim by the Grantors against third parties for past, present or future infringement or dilution of any Trademark, Trademark registration or Trademark license, or for any injury to the goodwill associated with the use of any such Trademark or for breach or enforcement of any Trademark license and all rights corresponding thereto throughout the world.

Notwithstanding the foregoing, the Trademark Collateral shall not include any intent-to-use United States Trademark applications for which an amendment to allege use or statement of use has not been filed under 15 U.S.C. § 1501(c) or 15 U.S.C. § 1501(d), respectively, with the United States Patent and Trademark Office, solely to the extent, if any, that, and solely during the period, if any, in which, the grant of a security interest therein would impair the validity or enforceability of any registration that issues from such intent-to-use application under applicable federal law, and provided that upon such filing, such intent-to-use applications shall be included in the Trademark Collateral.

SECTION 3. Security Agreement. This Agreement has been executed and delivered by the Grantors for the purpose of registering the security interest of the Collateral Agent in the Trademark Collateral with the United States Patent and Trademark Office and corresponding offices in other countries of the world. The security interest granted hereby has been granted as a supplement to, and not in limitation of, the security interest granted to the Collateral Agent for its benefit and the ratable benefit of each other Secured Party under the Security Agreement. The

Security Agreement (and all rights and remedies of the Collateral Agent and each Secured Party thereunder) shall remain in full force and effect in accordance with its terms.

SECTION 4. Release of Liens. Upon (i) the Disposition of Trademark Collateral in accordance with the Credit Agreement or (ii) the occurrence of the Termination Date, the security interests granted herein shall automatically terminate with respect to (A) such Trademark Collateral (in the case of clause (i)) or (B) all Trademark Collateral (in the case of clause (ii)). Upon any such Disposition or termination, the Collateral Agent will, at the Grantors' sole expense, deliver to the Grantors, without any representations, warranties or recourse of any kind whatsoever, all Trademark Collateral held by the Collateral Agent hereunder, and execute and deliver to the Grantors such Documents as the Grantors shall reasonably request to evidence such termination.

SECTION 5. Acknowledgment. The Grantors do hereby further acknowledge and affirm that the rights and remedies of the Collateral Agent with respect to the security interest in the Trademark Collateral granted hereby are more fully set forth in the Security Agreement, the terms and provisions of which (including the remedies provided for therein) are incorporated by reference herein as if fully set forth herein. To the extent any conflict exists, the Security Agreement shall control.

SECTION 6. Loan Document. This Agreement is a Loan Document executed pursuant to the Credit Agreement and shall (unless otherwise expressly indicated herein) be construed, administered and applied in accordance with the terms and provisions thereof, including Article X thereof.

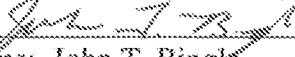
SECTION 7. Governing Law, Entire Agreement. THIS AGREEMENT SHALL BE DEEMED TO BE A CONTRACT MADE UNDER AND GOVERNED BY THE INTERNAL LAWS OF THE STATE OF NEW YORK (INCLUDING FOR SUCH PURPOSE SECTIONS 5-1401 AND 5-1402 OF THE GENERAL OBLIGATIONS LAW OF THE STATE OF NEW YORK) AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER (INCLUDING, WITHOUT LIMITATION, ANY CLAIMS SOUNDING IN CONTRACT OR TORT LAW ARISING OUT OF THE SUBJECT MATTER HEREOF AND ANY DETERMINATIONS WITH RESPECT TO POST-JUDGMENT INTEREST) SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE INTERNAL LAWS OF THE STATE OF NEW YORK. This Agreement and the other Loan Documents constitute the entire understanding among the parties hereto with respect to the subject matter hereof and thereof and supersede any prior agreements, written or oral, with respect thereto.

SECTION 8. Counterparts. This Agreement may be executed by the parties hereto in several counterparts, each of which shall be deemed to be an original and all of which shall constitute together but one and the same agreement.

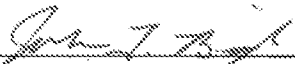
* * * * *

IN WITNESS WHEREOF, each of the parties hereto has caused this Security Agreement to be duly executed and delivered as of the date first written above.

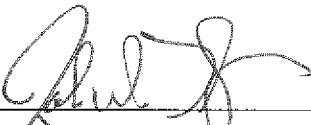
FERRO CORPORATION

By: 
Name: John T. Bingle
Title: Treasurer

FERRO ELECTRONIC MATERIALS INC.

By: 
Name: John T. Bingle
Title: Treasurer







PNC BANK, NATIONAL ASSOCIATION, as
Collateral Agent


By: 
Name: John W. Thompson
Title: SVP

SCHEDULE I
to Trademark Security Agreement

Item A. Issued Trademarks, Pending Trademark Applications and Trademark Applications in Preparation

Trademark Registrations

| Trademark | Reg. No. | Reg. Date | Owner |
|--|----------|-------------------|----------------------------------|
| TICON | 0433994 | November 4, 1947 | Ferro Electronic Materials, Inc. |
| ACE | 2988075 | August 23, 2005 | Ferro Corporation |
| ALOX | 1393723 | May 20, 1986 | Ferro Corporation |
| AMERICAL  | 1221372 | December 28, 1982 | Ferro Corporation |
| AQUARELEASE | 4325446 | April 23, 2013 | Ferro Corporation |
| CATA-CHEK | 1041567 | June 22, 1976 | Ferro Corporation |
| CE-RITE | 0839806 | December 5, 1967 | Ferro Corporation |
| CERMARK | 2438817 | March 27, 2001 | Ferro Corporation |
| CERMARK | 2597392 | July 23, 2002 | Ferro Corporation |
| CERMARK  | 2581488 | June 18, 2002 | Ferro Corporation |
| CERMARK  | 2444691 | April 17, 2001 | Ferro Corporation |
| CONDUCTROX | 1004166 | February 11, 1975 | Ferro Corporation |
| COOL COLORS | 2711906 | April 29, 2003 | Ferro Corporation |
| Design Only  | 0710108 | January 24, 1961 | Ferro Corporation |
| Design Only  | 0794281 | August 17, 1965 | Ferro Corporation |
| Design Only  | 0419066 | February 5, 1946 | Ferro Corporation |
| ECLIPSE | 2845284 | May 25, 2004 | Ferro Corporation |
| EVOLUTION | 3664035 | August 4, 2009 | Ferro Corporation |
| FERRO | 0545912 | July 31, 1951 | Ferro Corporation |
| FERRO | 0549848 | October 23, 1951 | Ferro Corporation |
| FERRO | 0684616 | September 8, 1959 | Ferro Corporation |
| FERROCON | 1382917 | February 18, 1986 | Ferro Corporation |
| FERROFLEX | 1280330 | June 5, 1984 | Ferro Corporation |

| Trademark | Reg. No. | Reg. Date | Owner |
|---|-----------------|--------------------|-------------------|
| FERROFLO | 1382918 | February 18, 1986 | Ferro Corporation |
| FERROPAK | 1455961 | September 8, 1987 | Ferro Corporation |
| GEODE | 1836504 | May 17, 1994 | Ferro Corporation |
| LENSMAX | 3207819 | February 13, 2007 | Ferro Corporation |
| MICRO-CHEK | 1011327 | May 27, 1975 | Ferro Corporation |
| MIRAMAX | 0923047 | November 2, 1971 | Ferro Corporation |
| PDI | 1779957 | July 6, 1993 | Ferro Corporation |
| PERC | 1105842 | November 14, 1978 | Ferro Corporation |
| PLAS-CHEK | 1045181 | August 3, 1976 | Ferro Corporation |
| RUFLUX | 3559830 | January 13, 2009 | Ferro Corporation |
| SANTICIZER | 0265127 | December 17, 1929 | Ferro Corporation |
| SATINAL | 1048383 | September 21, 1976 | Ferro Corporation |
| SPECTRAFLO | 1112060 | January 30, 1979 | Ferro Corporation |
| SURESTOP | 3655259 | July 14, 2009 | Ferro Corporation |
| SURESTOP | 3844868 | September 7, 2010 | Ferro Corporation |
| SYNPRO  | 2674257 | January 14, 2003 | Ferro Corporation |
| THERM-CHEK | 1041570 | June 22, 1976 | Ferro Corporation |
| TIZOX | 0812789 | August 16, 1966 | Ferro Corporation |
| TRUPLANE | 3655260 | July 14, 2009 | Ferro Corporation |
| UV-CHEK | 1063622 | April 19, 1977 | Ferro Corporation |
| VIBROXIDE | 0781180 | December 8, 1964 | Ferro Corporation |
| ZOX | 0708245 | December 13, 1960 | Ferro Corporation |

Item B. Trademark Licenses