2020 MEDIA KIT
The Leading Monthly Publication Exploring Thin Film Vacuum Deposition & Coating

Of VT&C’s 30,000 total print circulation, 15,000+ subscribers are from the manufacturing side which we have broken down into the following 37 key markets:

- Aerospace, Military & Defense, Marine
- Automotive Industry or Suppliers Exclusively to the Industry
- Bearings
- Building & Construction Including Materials
- Electrical, Passive Electronic, or Other Types of Industrial Components
- Consumer Electronic Products or Systems
- Crystals
- Compound Semiconductors
- Computers & Peripherals
- Data Storage Systems, Devices or Components, Print Heads, Recording Heads
- Decorative Coatings, Shower Heads, Faucets, Sinks, Tubs
- Food Industry for Human or Animal Consumption, Beverages, Candy, Chewing Gum
- Fiber Optic Component, Systems or Materials
- Flat Panels, Displays, Monitors, Touch Screens
- Glass: Architectural, Commercial, Consumer, Laboratory, Optical
- Holography
- Heating & Cooling: Refrigeration, Heating, Air Conditioning
- Imaging Systems
- Instrumentation
- Industrial Controls for All Industries
- Lasers, Systems, and Components, Laser Optics
- Lighting for All Industries
- Medical
- Motion Control & Robotics
- Multi-Industry Groups, Multiple Non-related Product Groups
- Optics and Ophthalmic: Lenses, Mirrors, Prisms, Materials
- Optoelectronics
- Packaging for All Industries
- Plastics
- Power Industry, Including Power Systems, Batteries, Fuel Cells
- Safety & Security
- Sensors
- Semiconductors & Other Solid State Devices
- Tool Coatings, Tools: Industrials, Consumer including Razors & Blades, Lighters, Pens
- Telecommunications
- Thin Film Coating Services, Thin Films or Thin Film Materials, Other Related Services
- X-Ray Tubes, Cathode Ray Tubes
- Fluids, Lubricants, Chemicals & Gases; and many more.

VT&C has a high editorial content with only 25-35 percent of the total folio content being advertisements, thus resulting in a high ratio of editorial content. The policies of the publisher are extremely user-friendly to companies that advertise and thus, support the magazine financially. Most advertisers fall into the following major groups:

1. Companies that manufacture vacuum processing equipment and the materials used in the process. The processes most often covered are physical vapor deposition, plasma processing, chemical vapor deposition, crystal growing, etc. The materials most commonly advertised in VT&C are sputtering targets and materials, evaporation sources, substrates, and chemicals. Process controllers are also advertised heavily, as are e-beam sources, ion beam sources, sputtering sources, and rf power supplies

2. Companies that supply vacuum components such as pumps, valves, flanges & fittings, seals and feedthroughs, bellows, chambers, traps, chillers and heaters.

3. Manufacturers of instruments used in the deposition or other vacuum processes such as metrology systems, spectrometers, vacuum gauges, leak detectors, flatness, thickness and hardness testers. Gases and gas-handling systems are also highly appropriate

4. Providers (or Suppliers) of Thin Film Coating services, plasma cleaning services, and other vacuum processing services are also found frequently.
Albert Biwas, Ph.D., Contributing Editor

Column: Nanotechnology

Albert is an entrepreneur and a scientist. He has published 100+ papers in international journals and three text books in electronic engineering and holds several patents. He was Associate Professor in Electrical Engineering in the Center for Nano Science and Technology at the University of Notre Dame, Indiana. He has several years of experience in scientific research initiatives and leading research projects in nanocomposites, materials for sustainable energy and materials for biomedical applications and nanotechnology in various academic settings. He is a member of the editorial board of Particulate Science and Technology Journal and Journal of Advanced Mechanical Engineering. Abhijit has been on the US National Science Foundation proposal review panel and is an invited reviewer for research proposals in science and engineering for the Romanian Research Council in Romania and the Technology Foundations in the Netherlands. He has presented numerous invited and keynote talks at national and international meetings in the areas of nanoscience and nanotechnology and has directed several nanomaterials R&D programs with budgets totaling over $10 million that have been funded by the Department of Defense and other Federal Agencies in collaborations with university, industry and government lab partners. In addition, Abhijit has been a reviewer and adjudicator of more than 30 international journals in nanotechnology, medicine, physics, chemistry, materials science and engineering. Abhijit co-founded two companies. He can be reached at abhijit@yahoo.com

Iker Bayar, Ph.D., Contributing Editor

Column: Nanotechnology

Dr. Iker Bayar is a Researcher at the Smart Materials Group at the Italian Institute of Technology in Genoa and a visiting Professor at the University of Virginia, Department of Materials Science and Engineering. He obtained his Ph.D. on Mechanical and Industrial Engineering from the University of Illinois. Later on he worked as a post-doctoral researcher at the University of Ataka-FoToBasics on polymer nanocomposites and applications and returned to the Aerospace Engineering Department at the University of Illinois. Between 2008-2010 he worked at the University of Illinois at Urbana-Champaign as a research assistant professor in the Department of Mechanical and Aerospace Engineering before joining ITI in 2010. Dr. Bayar’s current research interests include fabrication and characterization of functional polymer nanocomposites, preparation and characterization of biotechnical nanocomposites for antimicrobial applications and drug delivery, processing of novel composites and functionalities for MEMS/NEMS, smart materials for self-actuation and functionalization. Dr. Bayar advises a number of graduate students and post doctoral colleagues. He has published over 80 research papers and holds several patents.

Narendra Parmar, Ph.D., Contributing Editor

Column: Nanotechnology

Narendra Parmar received his Ph.D. in Physics from the Department of Physics and Astronomy, Washington State University (WSU), Pullman in 2012 specializing in ZnO semiconductor crystal. In his Ph.D. thesis work carried out under the supervision of Prof. Kevin Lynen, he worked on defect engineering and p-type doped ZnO bulk single crystals grown by melt, hydrothermally as well as chemical vapor transport methods. He has several years of experience in the design, development and optimization of ZnO-based electronic devices. He has several years of experience in the design, development and optimization of ZnO-based electronic devices. He has given several invited conferences at national and international conferences. In addition to research, he is serving as a editorial board member for several international journals. He has been a contributing editor for the Nanotechnology column in Vacuum Technology and Coating’s magazine for the past couple of years.

Biochemistry at Brigham Young University. Limbert has nearly 250 publications. He is an editor of Applied Surface Science, an Elsevier journal with an impact factor of 7.7. He is a fellow of The American Vacuum Society. He has an h-index of 30 and his i10 is 69. Limbert’s research focuses on the development and characterization of new materials for separation science and for data storage, and on mathematical methods for data analysis.

Robert (Bob) A. Langel, Ph.D., Associate Editor

Retired from Oak Ridge National Laboratory in 1994 and Sandia National Laboratories in 1999. He has participated research in the fields of atomic and molecular physics, solid state physics, material science, vacuum science and technology, super atmospheric phenomena, fusion power, and high energy accelerators and published over 130 scientific papers. He is an associate editor of Vacuum Technology and Coating’s magazine, teaches vacuum related courses for American Vacuum Society and Society of Vacuum Coaters, served on the Board of Directors of the AVS, served as Chairman of the AVS and the IUVSTA Plasma Science, Technology and Engineering Committee, and consults on vacuum science and technology, and microwave material processing.

VACUUM TECHNOLOGY & COATING’S EDITORIAL STAFF

Peter M Martini, Ph.D., Executive Editor

Column & Blog: Thin Film Technology, Surface Engineering & Back-to-Basics

Dr. Martini has been the Executive Editor for Vacuum Technology and Coating magazine since 2005, and the Thin Film Technology column since 2000. He is an Emeritus Fellow at Pacific Northwest National Laboratory, and retired from PNNL in 2008 as a Laboratory Fellow. He worked for PNNL for over twenty nine years where he specialized in developing thin film coatings for energy, biomedical, space and defense applications. He is a SVC Mentor, Past President and Program Chair. He holds over forty five patents in the field of thin films and has won numerous awards and recognitions in thin film technology and microfabrication research. He edited the totally revised Third Edition of Handbook of Deposition Technologies for Films and Coatings (Elsevier) and recently authored Introduction to Surface Engineering and Functionally Engineered Materials (Wiley/Scrivener). Peter has written over 500 technical publications and given over 200 presentations, has won three R&D 100 Awards for his work in microfabrication and barrier coatings for flat panel displays, has two U.S. patents, one R&D 100 Award, three R&D 100 Honorable Mentions, the 2010 Battelle Technology of the Year (2003) for his work with the photolytic artificial leaf, voted Distinguished Inventor, and Battelle 2005 Inventor of the Year. He also teaches short courses on Photovoltaics, Smart Materials and Energy Materials and Applications, Peter’s Blog over the basic science and technology of vacuum deposition processes.

Terrence Thompson, Technical Editor

Column & Blog: Product Showcase and Observations & Opportunities Blog

Terrence (Terry) Thompson is a technical editor for Vacuum Technology & Coating magazine. He is a microelectronics manufacturing industry veteran with more than three decades of expertise in technology publishing. He serves as executive editor of Walter & Device Packaging and Interconnect magazine, and was the editor of Chip Scale Review and High-Density Interconnect magazines that all addressed semiconductor chip and wafer-level test, packaging and assembly. He has also held the top editorial post with Solid State Technology and Micro-Optics World magazines. He was the editorial director for Microelectronics Manufacturing (now online Micro-Optics Manufacturing Technology) magazines. He also was the founder and publisher of the Display Technology Report newsletter on advanced displays and related technologies. Earle Thompson was the editor of Assembly magazine.

Thompson conceived, organized and ran three major industry technical conferences: the Assembly Technology Expo (later the Assembly & Automation Expo, now the Automation Technology Expo), the HiP EXPO and Conference, and the International Wafer Level Packaging Conference (IWLPC).

He has made technical presentations on microelectronics manufacturing at major conferences and seminars in the USA, Japan and Mexico. Mt Thompson’s manufacturing career began as a manufacturing engineer at AT&T He later worked at Motorola Inc. followed by General Instrument Corp. He is a Certified Manufacturing Engineer in automation with the Society of Manufacturing Engineers and also contributed chapters to the Society of Manufacturing Engineers’ books on automation. Terry’s Blog, Observations & Opportunities, addresses global technology and market high-growth areas for vacuum-centric processes and materials going forward.

Steve Hansen, Contributing Editor

Column: Guides to Vacuum Technology

Steve Hansen is a consultant specializing in vacuum technology related product development and education. He retired from NIST in 2009, the company he joined in 1995. In his years with NIST he was responsible for developing vacuum instruction, personnel and training courses as well as NIST line of vacuum and plasma training equipment. He was also responsible for the calibration production line and the US service operations for several of the company’s product lines. Steve’s background also includes many years in the semiconductor industry where he was involved in process development.

Matthew R. Linford, Ph.D., Contributing Editor

Column: Characterization of Thin Films and Materials

Matthew R. Linford received his B.S. in chemistry from BYU. He then obtained an M.S. in Materials Science and a Ph.D. in Chemistry from SIMM. His post-doc was at the Max Planck Institute of Colloids and Interfaces in Germany. He is now a professor in the Department of Chemistry and of Biochemistry at Brigham Young University. Limbert has nearly 250 publications. He is an editor of Applied Surface Science, an Elsevier journal with an impact factor of 7.7. He is a fellow of The American Vacuum Society. He has an h-index of 30 and his i10 is 69. Limbert’s research focuses on the development and characterization of new materials for separation science and for data storage, and on mathematical methods for data analysis.

With a nearly lifelong interest in vacuum technology, Steve founded the educational journal “the Bell Jar” in 1992. A web presence was established in 1994. With a target audience of amateur scientists and educators, the American Vacuum Society has considered “the Bell Jar” to be of sufficient significance to warrant a place on the society’s “Vacuum Science & Technology Timeline: 1500-2007”.

Steve continues to be active with monthly columns in Vacuum Technology & Coating. He is also involved with educational development. Steve received his BSEE degree from Northeastern University in 1972 and is the holder of two patents in the field of semiconductor manufacturing. He and his wife now reside in Chel’s Head, Maine.

Robert (Bob) A. Langel, Ph.D., Associate Editor

Retired from Oak Ridge National Laboratory in 1994 and Sandia National Laboratories in 1999. He has performed research in the fields of atomic and molecular physics, solid state physics, material science, vacuum science and technology, super atmospheric phenomena, fusion power, and high energy accelerators and published over 130 scientific papers. He is an associate editor
Dr. Shyamasri Biswas received her Ph.D. in Biotechnology jointly from Banaras Hindu University, India and the University of Potsdam in Germany in 2003. She was awarded the prestigious German Academic Exchange Service (DAAD) sandwich model international scholarship and carried out her Ph.D. thesis work in the Department of Physical Biochemistry at the University of Potsdam, Germany. She also received the Council for Scientific and Industrial Research fellowship in India. Dr. Biswas has held research positions in protein biochemistry, structural biology, biotechnology and molecular biology at top-tier US institutions. Her most recent affiliation has been with the University of Florida where she has worked as a postdoctoral scientist in the Department of Biochemistry and Molecular Biology. Dr. Biswas has published over twenty peer-reviewed research papers in prestigious international journals in the field of biotechnology that include Nature Structural Biology, Journal of Biological Chemistry, Structure and Biochemistry. She has also given several talks at national and international meetings and has been an invited reviewer for a number of international journals. Dr. Biswas has used high vacuum and ultra-high vacuum synchrotron facilities for her protein crystallography work. High resolution protein structures were solved using synchrotron light sources which facilitated drug design against clinically relevant proteins. In addition she has also utilized low vacuum equipment like mass spectrometer, FPLC and CD for characterization of proteins.

Please note: This text is an excerpt from a larger document and does not provide a comprehensive summary of the entire content.
VACUUM TECHNOLOGY & COATING’S 2020
PRODUCT SHOWCASE & EDITORIAL CALENDAR

January 2020, subject to change

<table>
<thead>
<tr>
<th>ISSUE DATE</th>
<th>PRODUCT SHOWCASE/EDITORIAL FEATURE</th>
</tr>
</thead>
</table>
| January 2020 | Heaters, Furnaces, Ovens, Chillers, Coolers, Accessories and Services for Vacuum Processing Showcases describes furnaces, heaters, ovens, chillers, coolers, cryotrap, cryopumps and related products including cold boxes, cold cabinets, cold traps, compressors, cryocoolers, cryogenics, cryopumps, dewars, dewar thermal insulation, cryogenics, and related equipment.
| February 2020 | Deposition, Coating, Cleaning & Etching Processing Equipment Includes sputter, etching and coating plus plasma cleaning and etching systems.
| March 2020 SVC TechCon | SVC Special Showcase Issue Includes photos, headline, 100 words of text, contact information (company name, contact, phone, email, and website).
| April 2020 | Vacuum Hardware: Valves, Chambers, Feedthroughs, Seals, Flanges, Fittings & Related Component Includes valves, chambers, feedthroughs, seals, flanges, fittings, handling manipulation equipment, collars, adaptors, bellows, viewports, traps, piping, and other related hardware.
| May 2020 | Power Supplies, RF Generators & Accessories for Vacuum Thin-Film Deposition and Coating Includes power supplies used in a wide variety of vacuum-based production deposition and coating applications.
| June 2020 Semicon West | Materials: Oils, Fluids, Gases, Chemicals & Lubricants Includes vacuum fluids, oils, lubricants, metals, ceramics, chemicals, gases and other materials used in vacuum processing equipment operation, installation and maintenance.
| July 2020 | Thin-Film Deposition Rate Monitors & Controllers Describes thin-film deposition rate and thickness monitors, optical monitors, etch monitors, deposition controllers, quartz crystal sensors, and related products.
| August 2020 | Gas Analytical Systems, Instrumentation, Metrology, Control, Handling & Distribution Gas analytical instrumentation for production, R&D and other vacuum applications: molecular beam systems, analytical systems, measurement systems, and related systems.
| September 2020 AVS Symposium | Deposition & Evaporation Sources & Materials Includes sputtering targets, evaporation sources, ion sources, cathodes, coatings and other materials used in various deposition and coating applications.
| October 2020 MRS Fall Meeting | Deposition, Coating, Cleaning & Etching Vacuum Processing Equipment Includes sputtering, etching and coating plus plasma cleaning and etching systems.
| December 2020 | Vacuum Pumps Covers the wide variety of roughing pumps, high-vacuum pumps, very-high-vacuum pumps, cryopumps including vacuum pumps used in all manufacturing processes and R&D applications.

Product Showcase Listing fee waived for Advertisers, $395 for non-Advertisers. Contact Andrew Cowan for further information.

Terrence Thompson, Technical Editor
Phone: 1-847-515-1255 • E-mail: tethompson@aol.com
## Online-Print Value Program

![Typical ad stats report](www.vtcmag.com)

### March 2019

<table>
<thead>
<tr>
<th>Metric</th>
<th>Total</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profile Views</strong></td>
<td>8452</td>
<td>443</td>
</tr>
<tr>
<td>VTCMag.com users that clicked to view the company's profile page</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Website Clicks From Profile</strong></td>
<td>43</td>
<td>9</td>
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<tr>
<td>VTCMag.com users that clicked the company website link from the VTC profile page</td>
<td></td>
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<tr>
<td><strong>Website Clicks from Buyer’s Guide</strong></td>
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<td>VTCMag.com users that clicked the company website link from the VTC Buyer’s Guide page</td>
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<td></td>
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<tr>
<td><strong>Website Click from Ad List</strong></td>
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<td>40</td>
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<tr>
<td>VTCMag.com users that clicked the company website link from the Ad List Page</td>
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<tr>
<td><strong>Clicks from Product Showcase</strong></td>
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<td>185</td>
</tr>
<tr>
<td>VTCMag.com users that clicked the company product showcase listings</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Website Click from March Digital Magazine</strong></td>
<td>274</td>
<td>21</td>
</tr>
<tr>
<td>Visitors to the Digital Magazine that clicked the company print ad</td>
<td></td>
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<tr>
<td><strong>Website Click from Catalog &amp; Literature</strong></td>
<td>246</td>
<td>NA</td>
</tr>
<tr>
<td>VTCMag.com users that clicked the company website link from the Catalog &amp; Literature listings</td>
<td></td>
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</tr>
</tbody>
</table>

### Web Banner Activity

- **Jan-2019**: Impressions 32,561 / Clicks 41
- **Feb-2019**: Impressions 32,341 / Clicks 34
- **Mar-2019**: Impressions 31,061 / Clicks 34

![Vacuum Technology & Coating](www.vtcmag.com)
Introducing the NEW

444Plus 1-Year Program

(package price)

Included in the program is the choice of:

➤ 4 1/4 pg ads ................... $10,000 Gross
➤ 4 1/3 pg ads ................... $13,000 Gross
➤ 4 1/2 pg ads ................... $16,000 Gross

What you get:

➤ Each package includes 4 months of banner advertising in either the leaderboard or skyscraper banner positions
➤ 4 Product Showcase listings in the months related to the company’s products/services
➤ Company profile in the VTCMag.com Advertiser List and Index, Company listing in the Buyer's Guide, and activity tracking.

Online-Print Value Program

To qualify for the Buyer's Guide Print & Online Program you must:

• Advertise 3x or more with 1/2 page print ads or larger
• OR 4x or more for 1/3 page or 1/4 page print ads

What you get:

• No Charge for print Product Showcase Listings
• Eligible for Product Showcase Listings in Featured Showcases section on VTCMag.com
• Online Buyer's Guide Listings
• Company profile on VT&C online Profile page
• Listings on our Ad List and Ad Index webpages
• Ad stats reports

Print Ad Rates (Effective November 1, 2019)

<table>
<thead>
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<th>Package</th>
<th>1 Time</th>
<th>3 Times</th>
<th>6 Times</th>
<th>9 Times</th>
<th>12 Times</th>
<th>24 Times</th>
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<tbody>
<tr>
<td>FULL PAGE</td>
<td>4 color</td>
<td>$6,200 Gross</td>
<td>$6,000 Gross</td>
<td>$5,550 Gross</td>
<td>$5,520 Gross</td>
<td>$5,400 Gross</td>
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<tr>
<td>FULL PAGE</td>
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<td>$4,900 Gross</td>
<td>$4,700 Gross</td>
<td>$4,500 Gross</td>
<td>$4,400 Gross</td>
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<td>$2,990 Gross</td>
<td>$2,950 Gross</td>
<td>$2,800 Gross</td>
<td>$2,750 Gross</td>
<td>$2,650 Gross</td>
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<tr>
<td>1/4 PAGE</td>
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<td>$2,200 Gross</td>
<td>$2,080 Gross</td>
<td>$2,020 Gross</td>
<td>$2,000 Gross</td>
<td>$1,970 Gross</td>
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Print Ad Specifications

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<th>Ad Size</th>
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<tr>
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<td>8 1/8</td>
<td>11 1/8</td>
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<tr>
<td>1/2 PAGE (NON-BLEED):</td>
<td>4 1/2</td>
<td>5 1/8</td>
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<tr>
<td>1/2 PG ISLAND:</td>
<td>4 1/2</td>
<td>7 3/8</td>
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<tr>
<td>1/2 PAGE VERTICAL:</td>
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<tr>
<td>1/2 PAGE HORIZONTAL:</td>
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<tr>
<td>1/3 PAGE VERTICAL:</td>
<td>2 3/16</td>
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<tr>
<td>1/3 PAGE HORIZONTAL:</td>
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</tr>
<tr>
<td>1/4 PAGE:</td>
<td>3 1/2</td>
<td></td>
</tr>
</tbody>
</table>

* Standard ad sizes in inches. † Live matter: For safety, keep at least .375” from trim. Please contact Andrew Cowan for further information.

Online Banner Activity

| Jan-2019 | 444 ads | 122 impressions s.203.227 | Clicks 0 |
| Feb-2019 | 444 ads | 122 impressions s.203.227 | Clicks 0 |
| Mar-2019 | 444 ads | 122 impressions s.203.227 | Clicks 0 |

For all production related questions please e-mail or call our production department:
E-mail: sue@taube-violante.com
Phone: 203-849-8200

Material Handling:
E-mail preferred, for very large ad material, please contact Production for FTP instructions.

All print material to be provided as CMYK files. Any print ad materials provided with PMS or RGB color(s) will be converted to CMYK. Publisher not responsible for match colors.

Production Department:
(Sales/Inquiries and Office)
Sue Taube | Art Director/Production Manager
Phone: 1-203-849-8200
E-mail: sue@taube-violante.com

Advertising Sales:
(Sales)
Gregg Hutchings | Sales
Phone: 1-203-606-5773
E-mail: Gregg@vtcmag.com

Business Office:
(Sales/Inquiries and Office)
Andrew Cowan | Associate Publisher
Phone: 1-336-432-9627
E-mail: andrew@vtcmag.com