**Plastics Joining Seminar**

**DATES:**  
April 3 - 4 • October 2 - 3

**LOCATION:**  
Branson’s Danbury CT Headquarters Facility  
41 Eagle Rd., Danbury CT 06810

**COST:** $695 per person

*Includes:* Course material, continental breakfast, lunch and dinner on the first evening

**REGISTRATION:**  
Fill out the registration form:  
e-mail - Regina.Watson@Emerson.com or fax to 203-796-0363

**Other 2018 seminar dates for USA and Mexico:**  
One-day seminars are also available at various locations. These seminars cover the same topics listed above, in a condensed version. Please call the corresponding office to inquire about pricing and registration.

Branson’s Regional Technical centers also provide in-house customized engineering seminars upon request. Call one of our offices to set up an appointment today.

- Billerica, MA / 978-262-9040
- Buffalo Grove, IL / 847-229-0800
- Detroit, MI / 586-276-0150
- Atlanta, GA / 770-962-2111
- San Dimas, CA / 909-305-2080
- Monterrey, MX / 011 52 811 332 0261

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**Global Technologies. Local Solutions.**

With 1600+ employees in over 70 sites worldwide, we can rapidly respond to our customers’ needs, wherever they are located. Branson understands local markets and regulations, and the open collaboration among our global offices and extensive staff of application specialists quickly produces solutions for customers.

Branson is a leading innovator in Emerson, a diversified global manufacturing and technology company.

Contact us today.
JOIN US FOR OUR PLASTIC JOINING SEMINAR!

Branson’s Plastics Joining seminar is a great opportunity for anyone to acquire in-depth knowledge from the experts in the plastics joining industry regarding part design, material selection and determining the best process and equipment for your application.

It is a comprehensive two-day seminar focused on theory and design for assembling thermoplastic materials with ultrasonics. It involves classroom and hands-on training. Our experts in the applications, equipment and acoustic tooling design present sessions covering ultrasonics:

**Session 1: Basic Theory and Equipment**
- Fundamentals of the ultrasonics process
- Equipment configurations
- Advantages and limitation
- 15, 20, 30 and 40kHz

**Session 2: Acoustic and Fixture Technology**
- Acoustic theory and material
- Coatings
- Finite element analysis
- Specialized design concept
- Fixture types and function

**Session 3: Thermoplastic Materials**
- Fundamental of polymer science
- Material compatibility
- Factors affecting weldability

**Session 4: Part Designs**
- Joint design concepts
- Problematic part features (size/geometry)
- Common design issues

**Session 5: Other Ultrasonic Assembly Techniques**
- Staking, swaging, spot welding
- Insertion, degating

**Session 6: Textile and Film Processing**
- Types of materials
- Welding techniques and equipment

**Session 7: Equipment Setup**
- Overview of process parameters
- Optimization of process parameters
- Tooling setup and equipment features

**Session 8: Non-Ultrasonic Welding Processes**
- Vibration welding, hot plate welding
- Spin welding, thermal welding
- Laser welding

**Lab Session (hands-on):**
- Equipment and tooling setup
- Process parameters for ultrasonic welding, staking, insertion
- Troubleshooting

Special consultations can be arranged to discuss your application challenges with our experts. Bring them with you!