Workshop, October 18, 2016
Conference, October 19-20, 2016
FREE Vendor Night, October 19, 2016

SMWC VENDOR DISPLAY NIGHT is a FREE Event open to EVERYONE!

October 19, 2016  4pm to 7 pm
Experience new technologies, sample the culinary talents of Laurel Manor, and enjoy an evening of conversation, friendships, and networking.

Lightweight Material Joining Workshop
Where: AET Integration, Inc. Troy, MI
When: October 18, 2016

Welding Solutions for Lightweight Vehicles
41 Technical Presentations in 2 days!
Where: Laurel Manor, Livonia, MI
When: October 19-20, 2016

See www.awsdetroit.org for Registration, Maps, Dates, Presentations and More!
I’d like to start by thanking everyone who helped to put together another successful Student Night in September. Although you might think it simple, giving away $60,000 in scholarships is not accomplished without a great deal of effort and planning from the Detroit Section’s Scholarship Committee. Don Maatz Jr., Rod Bereznicki and Tom Sparschuall did an excellent job filtering through the long list of applications to select this year’s winners. Thank you team and thank you to all those students pursuing an education in welding; you are the future of this industry and we hope that you continue to interact with the Detroit Section as you transition into your full time careers. As a section we have an established history of providing needed and well deserved scholarships to the students in Detroit and surrounding areas, a legacy that we do not plan to abandon any time soon. If you know a potential future student, make sure that you make them aware of the scholarship opportunities afforded through the AWS Detroit Section.

Besides the students who were present to receive their awards, we were very fortunate to have AWS National President, David L. McQuaid as our special guest speaker. David provided a very thorough, experience based talk on “Heat Straightening and Weld Repairs performed in accordance with AWS D1.5 Bridge Welding Code”. His talk stressed the importance of both adhering to the code and paying attention to even the finest of details in all that we do. I’m sure that the students and all attendees took something positive away from the presentation. As a Section we would like to thank David for taking time out of his schedule to visit us and contribute to such an important event for our section.

What do we have to look forward to in October? Well another great Sheet Metal Weld Conference of course! This year the bi-annual event is focused on Welding Solutions for Light Weight Vehicle designs. With more and more automotive platforms incorporating aluminum, magnesium and mixed material joining – I’m sure there will be several very hot and relevant topics covered at this year’s event. The conference has a new venue, the Laurel Manor in Livonia, but begins with a one day workshop at AET Integration in Troy. In recent years the workshop has been an excellent opportunity to obtain hands-on experience on the subject in question and I’m sure this year’s workshop will not disappoint. If you are interested, you need to register now, seating is limited and this has a history of being a very popular event. If you do not have plans on attending this year’s conference and you are a part of the local welding community, I strongly suggest that you reconsider. This conference is a world class event, offering the opportunity for hands-on experience, cutting edge insights and the opportunity to network and interact with both the suppliers of the latest technology and industry professionals who know how to use it. This year’s event is being held October 18-20, so if you do plan to register, please do it soon by going to our website at www.awsdetroit.org/smwc.html.

Respectfully,
Tyler Alexander

AWS Technical Nights are open to everyone! We encourage that members bring students and non-members to learn more about our organization and industry.
CRAW Info

As you’re aware, the American Welding Society (AWS) offers many professional certifications to help advance your career and set yourself apart from the competition, such as their well-known Certified Welder (CW) and Certified Welding Inspector (CWI) programs. However, you may not be aware that the AWS also offers professional certifications for Robotic Arc Welding Operators and Technicians (CRAW). The CRAW program allows many welding personnel employed in various welding sectors to measure themselves against standards for their occupation. It signifies that the CRAW Operator or Technician has demonstrated the capability of working with various codes, standards, and specifications. In addition, since proof of active practice or re-examination is required every three (3) years, certification also signifies that the CRAW Operator or Technician is current with the welding industry. Unfortunately, the AWS Detroit Section no longer schedules exam dates in advance. For those of you interested in pursuing CRAW certification, exams are scheduled “on request” only. For additional information, please contact Mr. Keith Lloyd (ABB, Inc.) at (248) 391-8421. For specific exam requirements, please visit the AWS website at www.aws.org.

Patron’s Fund

The time is once upon us to ask you for your generosity in contributing to the 2016-2017 Patrons’ Fund. I have already begun sending e-mails to all of last year’s patrons as well as reaching out to new businesses and individuals. If you have not yet been contacted and you would like more information on becoming a Patron, please contact me and I would be happy to provide you with information and/or answer any questions that you may have.

In addition to our traditional mail campaign, our newly re-designed website features a “Pay Now” button as a convenient way to contribute. Just visit our website at www.awsdetroit.org and click on “SCHOLARSHIPS” in the top banner, then scroll down to “Become a Patron.” That’s where you’ll find the “Pay Now” button, and as always, we contribute 100% of these funds directly towards scholarships for students who are pursuing careers in Welding Engineering and Welding Technology.

Each year the American Welding Society Detroit Section sponsors many students with these funds, and because this is such an important part of giving back to the industry that supports us, we hope you can help us by being a proud supporter in this effort. Last year through your efforts we were able to raise $10,630. This year I would like to set our sights on $15,000. Although, I said that last year too and even though we didn’t quite make it, I would like to be extra bold in an effort to reach this goal this year. I’m sure that most everyone reading this has had some personal experience where you realized that our next generation workforce of welding professionals could use a boost in their career training and education, and that’s what this fund is all about.

To be a Patron of the American Welding Society Detroit Section, all it takes is a minimum $100 contribution. Patrons are made known to the membership in the monthly technical bulletin, on the AWS website, and are further acknowledged by listing them in the annual Ladies Night Program. You can either contribute on our website or mail a check to my attention at the address below. Also, if you know of someone or a company that may be interested, please pass them along and I’ll take it from there.

If you are a Patron, we thank you for your support, and ask you to please consider increasing your contribution. Whether a longtime Patron or a first time Patron, your help will assist us to bring about an educated future workforce, and please know that your kind consideration is greatly appreciated.

Warmest regards,
Eric Lichtfusz
AWS-Patron’s Committee, Chair
12068 Market St.
Livonia, MI., 48150
734.466.6504
eric.lichtfusz@roush.com
October Hotline

Nelson® Stud Welding introduces the Pinnacle™ Cordless Stud Welder

(Elerya, OH) Nelson Stud Welding, the leader in stud welding systems, has introduced its first cordless battery-powered stud welder: The Pinnacle NCD+ 500b.

The Pinnacle’s patent-pending design delivers thousands of welds on a single battery charge, from a compact, lightweight package; just 18 lbs. (8 kg). It’s ultra-portable and easy to carry around the jobsite. Use the padded shoulder strap to transport the unit with you as you work; no need for a generator or power cord!

The high capacity lithium ion battery is removable for charging; just use a second charged battery to continue working. It fully charges in just 2 hours from a simple household 120V power outlet with the included charging unit.

The Pinnacle’s other convenient features include: 31 ft. of welding cable creates a large diameter welding area, microprocessor controlled safety and diagnostic functions, Nelson’s familiar graphical gun display, and compatibility with all other Nelson products and accessories.


Nelson® Stud Welding, a Nelson Fastener Systems Company, is the leading global manufacturer and distributor of weld stud fasteners and application equipment serving a broad range of markets including the automotive, construction and industrial markets.

Professional Career Opportunity
QUALITY DIRECTOR:
The Quality Director is responsible for leading and directing the core systems and processes surrounding the assurance of quality products being manufactured at the company. The position provides technical direction from industry wide best practices, and innovative techniques to be applied during product manufacturing. The director provides organizational structure, roles and responsibilities and ensures symmetry between the functions in the quality group.

Essential duties and requirements of the job:
1. Cultivate a deep understanding of the company’s core values of teamwork, innovation, passion, and communication and evaluate team members for alignment
2. Drives a culture that is focused on Safety, Quality and Productivity by instilling:
   - Adherence to Safety Policies from all staff members
   - Installing quality systems targeted at zero defects
   - Adherence to Manpower Budgets
3. Train, Coach and Mentor team in quality techniques and application of those techniques
4. Identify and implement improvement activities surrounding Safety, Quality and Productivity
5. Motivate team members to high performance targets.
6. Continuously seek talented team members for further development and growth within the organization
7. Develop, Organize and report on Key Performance Indicators to VP of Manufacturing
8. Participates in continuous learning activities focused on improved individual and team performance.
9. Works closely with peers to development long term strategies that drive the company to be best in class.

Skills Required Performing the Essential Duties of the Job:
1. Strong proficiency in Leadership and communication skills
2. Ability to effectively Plan long and short term strategies for a Dept.
3. Ability to generate action plans to implement planned strategies
4. Proficient in Microsoft Office
5. Ability to understand and interpret customer quality expectations and translate them into simple effective systems for conformance.

Educational requirements needed to perform the duties of the job:
1. Leadership training for managers
2. College Degree or Equivalent experience is preferred

Specific training requirements:
1. ISO/TS including core tools
2. Visual ERP – Manufacturing window, Material Planning window, Scheduling window
3. The Company Emergency Response Planning
4. The Company standard reporting and interpretation
5. The Company PPE assessments and application
6. Team problem solving
7. AIAG standards for automotive quality tools

Key performance indicators:
1. Customer quality ratings
2. Adherence to manpower budget
3. Containment of quality issues internally
4. Successful retention of ISO and TS standards
5. Supplier quality cost recovery

To be considered for this opportunity, please email an updated copy of your resume to Suzanne George at sgeorge@ddiversified.com.

Genesis Systems Group

Genesis Systems Group is dedicated to maximizing the return on investment you have made in robotic solutions. At Genesis, we believe “hands on” is the best form of training. Within hours, your team member will know how to manipulate the robot. By lunch he or she will have entered their first program and be well on the way to improving productivity, decreasing downtime, cutting manufacturing costs and enhancing safety within the plant.

Our training center doesn’t just train your team to use a robot. We train your team to program and operate a system. Our training center has fully integrated systems equipped with welding equipment, auxiliary axis positioners, torch cleaning stations, alignment stations, operator stations and safety equipment.

(continued on page 9)
The most reliable, easy-to-use Gun Changer. Ever.

A more reliable fail-safe. A patented “springless” mechanical fail-safe is guaranteed to work, even with loss of air pressure.

A more reliable locking mechanism. 7,000 pounds of locking force guarantees that signals pass flawlessly, even with heavy accelerations and payloads.

A more flexible utility solution. Widest choice of modules (power, fluid/oil, signal, and more) with common mounting features for greater flexibility.

With patented advances in the locking mechanism and failsafe, and new flexible module mounting and integrated robot mounting patterns, we’ve created the most reliable, easy-to-use Welding Gun Changer. Ever.

The QC-210 Welding Gun Changer. The new standard from ATI.

Introducing the Next Generation of Ultralight Power Supplies

RoMan Manufacturing’s Ultralight Power Supplies have thermal switch protection, a secondary pick-up coil, and are fully encapsulated to ensure long life.

**TDC-7367**
- Weight: 15.5 Kilograms (33 lbs)
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- 90 KVA @ 50% duty cycle
- Secondary no load DC voltage of 10.3 Volts
- Water-cooled, 75 LPM minimum
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**TDC-7220**
- Weight: 15 Kilograms (33 lbs)
- 600 Volt, 1000 Hz
- 85 KVA @ 50% duty cycle
- Secondary no load DC voltage of 10.6 Volts
- Water-cooled, 6 LPM minimum
- @ 30°C maximum inlet temperature

Reduce Cycle Times

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With Dengesha’s Upper Electrode Weld Nut Feeding, reduced weld cycle times and faster feed rates are just the beginning. A patented new linkage design with fewer moving parts provides performance that is more reliable. Only one feed action is now required to deliver and place the nut. Plus, now you can take advantage of deep-draw and channel welding. There are numerous other features & benefits:

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DENGESHA AMERICA
Engineering Resistance Welding Value
The AWS-Detroit section held its annual student night on September 08, 2016 at the ABC Building of Oakland Community College – Auburn Hills Campus in Auburn Hills, MI.

This year the section was able to award 37 scholarships totaling $60,000 to students from 10 different schools. The recipients of the 2016 – 2017 Scholarships will be attending Ferris State University, Lansing Community College, LeTourneau University, Madonna University, Monroe Community College, Oakland Community College, Schoolcraft Community College, Siena Heights University, Washtenaw Community College and Wayne County Community College District.

The section’s scholarships are made available to Michigan and select Canadian residents and/or students enrolled in a welding or welding related programs at a college or university in the State of Michigan and the following counties in the province of Ontario; Essex, Chatham-Kent, and Sarnia-Lambton. The candidates all submitted an application, including transcripts of their academic achievement, and a brief letter about their background, their goals and ambitions, and any additional factors that would help the Section Scholarship Committee determine eligibility for an award.

The section also received a $3,000 grant from the ZF Community Care Fund. The fund was established to positively impact the communities in which ZF operates by supporting non-profit programs, or programs affiliated with non-profit organizations that focus on the enrichment of education, STEM (science, technology, engineering and math) and the community.

Mark Rotary, Engineering Manager for Chassis System Development North America with ZF North America, Inc. has been an AWS Detroit section member for over 25 years and knows firsthand all of the positive things the section does for the community. In addition to the grant, ZF allows employees to take 8 hours each year to volunteer their time to a non-profit organization. Mark took advantage of that for the annual High School Welding Contest in May.

The Section also heard from David L. McQuaid, P.E., AWS National President. Mr. McQuaid delivered a talk on the subject of ‘Heat Straightening and Weld Repairs.’
THE CONNECTING MASTERPIECE

Eisele LIQUIDLINE – The most comprehensive line of push-in fittings and threaded connections for cooling water circuits.

Combined with flame-retardant and robust ProWeld tubes LIQUIDLINE is your ideal solution for welding applications.

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October Hotline
(continued from page 4)
Contact Jane Gumpert to schedule your class today! Schedule your training by October 15th and complete it by the end of December 2016 to receive the 10% discount.

CLASS SCHEDULE
Basic Robot Training
• October 10 - October 13, 2016
• October 31 - November 3, 2016
• November 28 - December 1, 2016
Advanced Robot Training
• October 3 - October 6, 2016
• November 7 - November 10, 2016
• December 5 - December 8, 2016
Maintenance Training
• October 17 - October 20, 2016
• November 14 - November 17, 2016
• December 12 - December 15, 2016
CRAW Training
• October 24 - October 28, 2016
Custom Class - call for availability
• Week of December 19, 2016

Fronius USA promotes Melissa Parker to Online & Used Equipment Sales Manager
This newly created position is still in development phase, but the focus is to better utilize sales of used demo equipment and to pursue online sales in the future. Melissa has been with Fronius USA since July 2008 when she started in our Finance Department as our Accounts Receivables Clerk in Brighton MI. In 2010 she became the Presales National Expert for the Perfect Welding Division and in 2012 also joined our Inside Sales Support department.

CenterLine (Windsor) Limited Appoints Account Manager
WINDSOR, CANADA, SEPTEMBER 13, 2016. CenterLine (Windsor) Ltd. is very pleased to announce the appointment of Mr. Matt Height to the position of Account Manager. Matt has over 35 years of experience in resistance welding and joining technologies beginning with his first industry position with Savair in 1982. Since that time, Matt has developed his career skills with positions as a Weld Gun Product Development Supervisor and Sales Manager with CM Smillie, and experience with sheet metal fastening and robotics technology sales with positions at Applied Robotics, Henrob Corporation and BTM Corporation.
Matt has now come full circle is very happy to join Centerline, as a member of their USA affiliate, Centerline Welding Products. He’s also very proud of his 25 year active membership with the Detroit Section – American Welding Society where he’s held a variety of positions on their executive committee.
CenterLine (Windsor) Ltd. is a recognized industry leader in the design, manufacture and supply of a full range of products and services satisfying welding, metalforming and cold spray applications for the automotive, mass transit, aerospace and defense industries. With nearly 60 years in business, CenterLine is continuing to develop advanced technologies and processes to assist its customers in maintaining their competitive advantage. For more information visit CenterLine’s website at www.cntrline.com.

Editor’s Note:
Wow! This season has gotten off with quite the section events! First, our scholarship night in September, now we have our SMWC workshop and the conference in October, and then, in November, we have an Education night scheduled. And, this is just the beginning!
If you haven’t had the chance to and are interested in either the Workshop, the Conference or both at the Sheet Metal Weld Conference, PLEASE go to the website and register. It allows us to make sure we have more than enough food, refreshments, accommodations and fun stuff (ie: pens, notebooks, etc.) to keep as a memento of your education here with us! We have a lot of great speakers lined up, so please take advantage of this conference that is right here in Metro Detroit!
For those of you who are new to the e-bulletin, welcome, and for my faithful readers/followers, a HUGE THANK YOU for your readership and support!
Let us know what you think of our bulletin and the content. We are always open to new/fresh ideas. Comments and/or constructive criticism only makes our e-bulletin better, so if you want more articles, more pictures, more links, whatever, let us know.
Thank you and have a great October – hope to see many of you at our Sheet Metal Welding Conference! And, don’t forget that this is typically the month that “the frost is on the pumpkin,” so start getting that cold weather gear ready!
As always, until next month...
Keep On Welding!
Robin Michon – e-bulletin editor (Robin.Michon@kukanao.com)
Hello, Donnie. Welcome to the AWS Detroit Section’s Meet our Member Column. Thank you for spending some time with us this month. If you don’t mind, please tell us a little bit about yourself.

Hello! My name is Donnie Crist, and I am an Accounts Manager/Welding Engineer for RoMan Manufacturing.

If you wouldn’t mind, Donnie, would you tell us a little about your position? My position at RoMan Manufacturing gives me the opportunity to work for a great family owned business. I earn a living doing what I have been interested in from the time I was 14 years old. I meet new people, and get to help be part of the solution for resistance welding processes around the world.

That’s great! It sounds like you found a real “career” doing something that you enjoy! Donnie, why did you join AWS?

I joined AWS because I was encouraged to do so by my high school metals and welding teacher. He saw it as a great opportunity to get students in rural northern Michigan interested in a great career.

What is your favorite AWS event?

I really enjoy AWS Ladies Night, as does my wife. It gives me an opportunity to introduce my better half to people I spend a lot of time with outside the home.

What do you like to do outside of work?

Outside of work I enjoy being involved with my children’s sporting events (football, wrestling, and cheer leading). I have a 4th and 5th grader that keep my wife and I very busy. I also enjoy staying physically active and waterfowl hunting.

I like to ask our Members if they have a funny story or moment either on the job or in school or training that they could share with us.

Through the past 14 years and following vehicle launches across the country I have many good stories. One that I can share...relates to a weld gun verification we were conducting on a new launch. We were conducting the verification on an underbody sub assembly line and the guys were experiencing low current faults on every gun they tried to verify. The micro-ohm meter ended up pointing us in the correct direction as someone had gone through approximately 60 weld guns and wrapped all of the threaded electrode holders in Teflon tape. It delayed our activity but we had a good laugh.

What is your most memorable moment?

Professionally I don’t know that I have just one memorable moment. Generically, my most memorable moment to this point would be successfully launching vehicles with a lot of great people across the industry. You end up sharing a lot of blood, sweat and tears during launches and it really can bring out the best in people. Personally, my most memorable moments were the birth of both children.

We like to showcase the “personal side” of our members – that we aren’t JUST WELDERS... LOL! Is there anything that’s near/dear to your heart that you don’t mind sharing with us?

My family, sports, fishing and hunting are all very near and dear to my heart.

Have you had anyone that “mentored” you and you’d like to recognize?

I have four people that stand out as mentors in my professional career. Mike Bost (High School Metals/Welding teacher), Kurt Hofman (RoMan Mfg.), Mike Soter (SDK Engineering) and Don DeCorte (RoMan Mfg), and Don Maatz (R&E Engineering). All great people who took the time to teach, explain, and further my career.

How did you get your start in welding?

My dad owned a Hydraulic Dredging company and was a former Iron Worker. Needless to say, anyone who has heavy equipment and a back ground in welding is going to have welding equipment around the shop. Dad started me out and then I moved onto vocational classes at Cheboygan Area High School. Once high school was complete I moved onto Ferris State University and earned my Bachelor’s degree from the welding program.

What do you see as the biggest challenge for the welding community in the future?

The biggest challenge I see for the welding community is the lack of emphasis on trades in general and specifically welding related vocational classes for high school students. Funding for programs has either been slashed or completely cut in order to further other programs. This leaves a huge void for students to become interested and learn skills needed for the basis of manufacturing.

What would you tell someone who may be “on the fence” about getting into welding as a career?

It’s a great career, and if you apply yourself you will always be in demand with the ability to make a great living in just about any corner of the world if desired.

Finally, if you weren’t involved in the welding industry, what would be your dream job?

My dream job would be playing baseball or a professional hunting guide.

Donnie, Thank you, again for taking some time to spend with us and share some of your personal welding experiences with us! You didn’t mention, but I’d like to acknowledge that you are also on the AWS Detroit Executive committee this year, and that you are doing an excellent job as our e-bulletin advertising rep. Thank you!

If you’d like to be featured in our MEET OUR MEMBERS column, please contact Daniel Galither at galither.daniel@towerinternational.com and let him know you are interested in being featured. We love to hear from all of our members, and see what a great pool of knowledge and backgrounds we all have to share.
Co-op Welding Students, Summer Interns and Part-time Welders
Contact Pat Bell:
patricia.bell@detroitk12.org
or (313) 282-8171 in Detroit
**Ask the Welding Engineer**

*By Donald F. Maatz, Jr.*

**Q:** “We were looking at changing our steel source for several of the parts we produce. However, one of the new materials is not approved by the automotive OEM. What approval process are they talking about as the proposed replacement appears to be the same as our existing one?”

This month we will review a few of the elements that can come into play with Gas Metal Arc Welding (GMAW) during the characterization process. To help with this I have reached out to Ashley Jones (CWI), a member of the AWS-Detroit Executive Committee, for assistance.

**A:** **Characterization Methodology (GMAW)**

While the predominate method utilized by all of the automotive OEM manufacturers for material welding characterization is still RSW, the GMAW process has begun to be utilized more often, particularly when the materials in question are the Advanced High-Strength Steels (AHSS). This is no surprise as the GMAW process has been a part of the automotive manufacturing process for many years and AHSS are now being utilized in new and unique ways in both automotive Body-In-White and Chassis structure assemblies.

Unlike the RSW characterization process, the automotive OEM’s have adopted GMAW weldability characterization have taken a more generic approach towards the process. A partial list of the GMAW manufacturing elements that are often specified for welding characterization would include:

- **Welding Wire:** Just as with electrode caps, the list of possible welding wire types and sizes is long and varied. From the specified thickness, actual electrode construction (solid or composite), or even the coating of the wire, the list of variables is potentially never ending. It does help that the AWS has standardized classifications for GMAW weld electrodes (i.e. AWS A5.18/A5.18M:2005 for solid carbon steel electrodes, etc.) but many of the industry tests (e.g. the European based SEP 1220-5) do not reference these type of standards. In their place you will often see an ISO/DIN standard that may, as an example, specify a 1.0 mm wire (0.039”) – Not typically readily available at your local welding distributor.

- **Shielding Gas:** The mandated shielding gases for a GMAW welding characterization are typically much more straightforward and in line with what one would see on any shop floor. Examples include 90/10, 75/25 or 98/2. Again, be aware that some of the overseas standards may ask for something slightly different (i.e. 82/18 as specified in the SEP 1220-5).

- **Machine Operation / Transfer Mode:** The machine operation and transfer modes permitted can vary by each procedure. Some procedures may limit the method of machine operation (eq. short-arc, pulsed), the transfer mode (typically constrained by the welding gas) or mandate some other element that at first blush makes little sense (1.0 mm solid wire on a 0.65 mm HDG lap weld anyone?).

- **Weld Parameters:** The welding characterization process is meant to, in so far as is possible, treat each material the same so that any potential differences are brought to light. Nowhere is this idea more clearly shown than in the constraints placed upon the procedurally mandated welding parameters. Typically this means that one or more of the welding parameters associated with the GMAW process is going to be constrained to a single value for the material being tested. From our experience while many elements affect the ability to achieve a weld that meets the requirements of the standard, a mandated travel speed is often the most constraining element to be specified. This parameter constraining methodology can be difficult to grasp initially but is actual essential for the welding characterization process to be successful.

- **Measurable Weld Characteristics:** Once all of the above are taken into consideration the actual welding of the test samples can begin. It is at this point that the various welding criteria mandated by the specific procedure come into play. There may be limits on measurable characteristics such as weld reinforcement, porosity (both visible and internal), leg length, or depth of penetration. Taken as a whole, obtaining a weld that meets the requirements of the qualification standard can sometimes be a challenge.

An important point to keep in mind is that no one characterization evaluation can cover all possibilities. In fact, despite the performance of a thorough weldability characterization, it may be difficult to predict the necessary weld setup parameters for production operations. The reason for this is that each test is a singular condition among many possibilities and cannot account for the potential litany of material combinations, gap or fit-up concerns, general condition of the tooling, or other production variables. However, if the weldability characterization is conducted in a consistent manner, the process will allow for the determination of significant material traits that, when compared to other similar materials, can reveal where deviation from the norm has occurred and thus permit the OEM to screen for potential issues.

We will look at the laser welding (LW) process as it relates to material welding characterization in a future column.

If you have more questions about this topic, Ashley can be reached at:

R&E Engineering Services
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(586) 228-1900 – Office
awebel@reautomated.com

**References:**

1) AWS A5.18/A5.18M:2005