American Welding Society®
DETROIT SECTION

e-Bulletin

OCTOBER 2023

Inside This Issue

Check out the latest videos published by the American Welding Society on its YouTube page.

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

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OCTOBER TECHNICAL NIGHT CANCELED

Chairman's Message
John Pippin

Hello Detroit Section and Friends,

I would like to start with our Student Night event held September 28, at the Macomb Community College (MCC) South Campus. The Detroit Section again was able to pass out $60,000+ in scholarships. Please see the details on page 9.

Reports say we had a great FABTECH in Chicago during September 11-14. I would like to take a moment and recognize the Retirement of Past Chairman Don DeCorte 2005-2006 from Roman Manufacturing Company. Congratulations Don and enjoy.

We also had the return of the international Schweissen & Schneiden show in Essen, Germany. I had the chance to both work and walk the show. The show was a great success, glad to see it return.

We are just over one year away from Sheet Metal Weld Conference XX, "Expanding beyond the Body Shop to cover the Electric Revolution." Save the dates! (See below.)

Our Mission *is to advance the science, technology and application of welding and allied joining and cutting processes worldwide, including brazing, soldering and thermal spraying. AWS Detroit provides support for the industry in many ways, including: • Institutional Grants (endowment based); • Scholarships through Application (endowment based); • Scholarships through aptitude (HSWC); • Vocational Support (case by case but budgeted each year), Institution (e.g. supply gas and materials), Local Contest (e.g. travel expense), International Contest (e.g. travel expense); • Student Memberships (evaluated each year); • Student Chapter (evaluated each year); • Technical and Educational Opportunities.*

2023-24 Patron's Fund Donations

Our goal at the AWS Detroit Section is "to advance the science, technology and application of welding." We accomplish this by promoting education and section participation.

It is time again this year to ask you for your generosity in contributing to the Patron's Fund. We will, as always, 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.

To be a Patron, simply send a check made out to the American Welding Society Detroit Section for a minimum of $125 or visit our website **CLICK HERE** at the bottom of the scholarship page there is a "Pay Now" button. I encourage you to please consider a contribution of more than the $125 minimum, and here's why.

The last four years were remarkable years for Patron contributions. Through you, our Patrons, we were able to raise over $10,000 last year. Over the last four years the Patrons have helped us raise over $40,000. This year again my goal is $15,000. That may sound ambitious, but I'm sure that many, if not all of you, have had an opportunity to interview applicants for welding related positions within your company. If so, you've probably noticed that although the ambition may be there with these potential new hires, the skill sets may not. That's where the funding comes in. The cost of education is high, and with your help we can provide students that are seeking careers in welding related positions with financial assistance to improve those skills. This creates a stronger, better educated, workforce and a more efficient and profitable company for you. Additionally, you'll be recognized in the industry for your contributions. Patrons are made known to the membership in the monthly technical bulletin, to the industry on the AWS website, and are further acknowledged with a listing in the annual Ladies Night Program.

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.

I thank you in advance for your contribution, and await your rapid response for the 2023/2024 season.

Payments can be made online **CLICK HERE** or by mailing a check payable to: AMERICAN WELDING SOCIETY DETROIT SECTION.

Mail to: Steve Gucciardo
4133 Highcrest Dr.
Brighton, MI 48116-7708

Warmest regards,
Steve Gucciardo
AWS Detroit Section-Patron's Committee, Chair
810-623-6508
gucciardos@shapecorp.com

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Patron's Fund Donations

Thank you for your support! ONE HUNDRED PERCENT of the Patron's Fund Donations are directed to scholarships for students who are pursuing careers in Welding Engineering and Welding Technology. To become a Patron, contact Steve Gucciardo, AWS Detroit Section-Patron's Committee Chair, 810-623-6508 or email gucciardos@shapecorp.com

AWS Detroit Section Presents

Holiday Party

@ Legendary Axe in Westland

Saturday, Dec 2nd, 2023

1pm to 4pm

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October Hotline

How the Section Functions - Section Operations Manual

The Section Operations Manual provides an overview of the activities and timelines important to the Detroit Section of the American Welding Society (AWS-Detroit). The purpose of the manual is: (1) to make the overall program visible, (2) to improve continuity of purpose when new members join the Executive Committee, and (3) to build upon our successes. All committee members should familiarize themselves with the entire manual and Section Bylaws but especially with those areas for which they are responsible. The manual is organized according to the structure of the Executive Committee. Appendices follow covering Section history, geography, awards, award recipients, scholarships, information available from AWS National, Section Bylaws, revision history, and an index. Section Officers and Executive Committee members are authorized and responsible to fulfill the intent of activities defined in the Operations Manual within the budget issued by the Finance Committee and approved by the Executive Committee. Significant deviations from the intent or content of this manual or the budget must be brought to the attention of the Executive Committee for approval. Any proposed amendments to the operations manual are made, and all changes will be presented to the executive committee, usually at the April meeting, so that the proposed amendments can be discussed and the leadership committee can approve these amendments before the end of this fiscal year in May.

Ladies Night

You heard it here first! The 2024 date for AWS Detroit's Ladies Night will be April 13th. The event will be held at The International Banquet Center, 400 Monroe Street, Detroit Athenaeum Hotel.

Sheet Metal Welding Conference XIX

The initial planning for the Sheet Metal Welding Conference has kicked off. Andrea Orr is seeking volunteers to help with several topics and exhibits for the event in October of 2024.

Thank You AMERICAN WELDING SOCIETY

Jessica Duff
White lake, MI
Ferris State University
Welding Engineering Technology
Detroit Section Scholarship
District 11 - 011-Detroit

Thank you for choosing me to receive this scholarship. I am so incredibly grateful that I have been chosen. This will help me in so many ways to further my education and enhance my love for welding engineering. The generosity and support will help me achieve my academic and career goals. Thank you for taking time to consider me and my application and for investing in my future.

Ask the Welding Engineer

By Donald F. Maatz, Jr.

Q: ***"Is it recommended to preheat weldments like weld nuts? I've heard some say not to because it burns the projections of the nut. Then I've heard others say we need to because we are welding AHSS and it's stronger than mild steel."***

A: "In our previous column (ATWE Sep-23) we looked at what was meant by the term pre-heat, and what impact it might have on the projection welding (PW) process.

Once the projections start to flatten, their surface contact area increases. However, what is the implication of this occurrence? At this point, it would be good time to take a brief look at one important and easily measurable aspect applicable to resistance projection (and spot) welding - current per unit area. As the name implies, it is just the secondary current passing through the electrode contact face or projections, divided by their area. Once you start doing a bit of math on actual projection weld nuts (think M6 thru M12), for most steel grades numbers like 400-800 Amps/mm2 start to crop up. So far so good. However, what if we increase the contact area of the projection, even by a little bit? While each case is unique, it may be possible to illustrate the issue with the weld nuts themselves.

For the sake of example, let us use an actual industry standard weld nut and see what happens when the area of the projection itself is allowed to float, just within the stated dimensional tolerance - forget the application of pre-heat. For this example, we will use an M8 three-projection weld nut. The projections are shaped like a truncated cone, which implies they have both a major and minor diameter. For this discussion, we will focus on just the major.

The stated range for the major diameter is 4.0 – 4.3 mm. If we increase the size of the projections on one weld nut to the next from 4.0 mm to 4.3 mm we have a 7.5% increase in diameter, with a change of only 0.3 mm. The area at 4.0 mm = 12.6 mm2, and increases to 14.5 mm2 with the increase to 4.3 mm. The resultant area increase is 15.2%. If we were welding at 500 Amps/mm2, an increase in projection area as has been illustrated will result in the current per unit area falling to 434 Amps/mm2, a reduction of 13.2%. This is the same as decreasing the current from 20 kA down to 17.3 kA for a constant projection geometry. At this point, it does not take much imagination to realize what the potential outcome might be with dropping the current by over 13%, particularly when the heating associated with Joules Law is based on the value of the current squared. Finally, these types of geometry changes are more than possible when a pre-heat is applied to the PW process.

With the aforementioned in mind, it is easy to see how the application of pre-heat to a PW schedule can have some potentially profound effects on the projection welding process. From my perspective, it should be used in both a judicious and methodical manner so that results can be quantified and the desired weld performance and quality targets achieved. Also, please note I have not really mentioned the base material in this discussion. My rational is twofold 1) The application of a pre-heat to the PW process can have a significant impact on the projections themselves, irrespective of the base material type, and 2) The AHSS specified in the question typically require PW schedules utilizing more force with potentially longer weld times, and with thicker gauges (think >1.5 mm), higher currents. Finally, on rare occasions (dare I say it) a Post-Weld Heat Treatment (PWHT)."

References:
1) Resistance Welding Manual, revised 4th Edition
2) AWS C1.1M/C1.1:2019, Recommended Practices for Resistance Welding

If you have more questions about this topic, contact Don Maatz at: R&E Engineering Services
A subsidiary of R&E Automated Systems, LLC
70701 Powell Road, Bruce Township, MI 48065
Office: (586) 228-1900; Direct: (734) 793-2304
dmaatz@reautomated.com

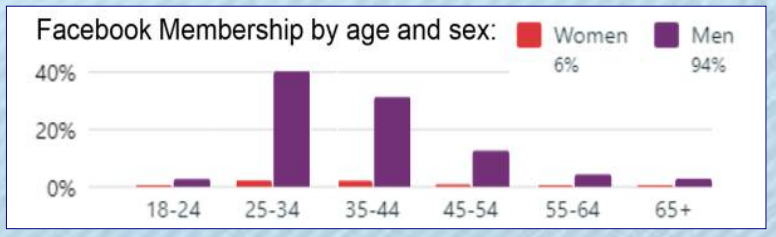
Donald F. Maatz, Jr. is with R&E Engineering Services and serves in the capacity of Laboratory Manager. He is past-chairman of the AWS-Detroit Section, serves on the D8 and D8.9 Automotive Welding Committees, is chair of the D8D, and an advisor to the C1 Resistance Welding Committee, is an AWS endorsed CWI and vice-chairman of the Certified Resistance Welding Technician working group, and an instructor for the RWMA School. He is a graduate of Ohio State with a BS in Welding Engineering.

Social Media Update

If anyone has anything they would like posted to Facebook and/or LinkedIn please send it to Christian Megna: christian.a.megna@gmail.com

As of 10/03/2023, during the past 30 days **LinkedIn** page has had:

- 1 posts - 0% change past 7 days
- 78 post views - **16%** change past 7 days
- 2,726 total members: 21 active members - **16%** change past 7 days; 28 new members



As of 10/03/2023, during the past 28 days **Facebook** page has had:

- 1 posts in past 28 days
- 13 new page likes - **13.4%** change past 28 days
- 127 page visits - 0% change past 28 days
- Posts reached 964 people
- 26 people engaged with posts **68.3%**
- 7,924 total page likes
- 9,376 page followers - △9

AWS DETROIT SECTION EXECUTIVE COMMITTEE

For Advertising Opportunities Contact Brian Pearch
bpearch@rivian.com or 734-497-2087

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AWS Detroit Scholarship Awards Night September 2023

The AWS Detroit Section hosted the 2023 Scholarship Night at Macomb Community College on September 28th. Multiple scholarships were handed out, as well as Wayne State University, who received the Welder Workforce Grant for 2023. (See page 9 for Scholarship winners.)

Presenters: Todd Horseman, Phil Temple, Warren Peterson

The 2023 scholarship awards recipients

The Scholarship Awards Night

Thank You AMERICAN WELDING SOCIETY

Gage Davis
Grayling, MI
Ferris State University
Welding Engineering Technology
Detroit Section Scholarship
District 11 - 158-Northern Michigan

I would like to thank the Detroit Section of AWS for choosing me as a recipient of their very generous $1,500 scholarship. I am very grateful for this award as it will help me continue my education at Ferris State University to obtain my bachelor's degree in Welding Engineering Technology. I am very passionate about my field of study and appreciate that this scholarship will help me achieve my goal of becoming a productive member in the welding industry. Thank you again for selecting me to receive this scholarship.

Congratulations to the Detroit Section 2023 – 2024 Scholarship Winners

This year the AWS Detroit Section has awarded 33 welding scholarships totaling $64,000. These scholarships are made available to Michigan 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, 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 33 recipients of the 2023 – 2024 Scholarships will be attending:

- Ferris State University
- Monroe County Community College
- Oakland Community College
- Schoolcraft Community College
- St. Clair County Community College
- University of Michigan - Dearborn
- Wayne State University

2023 - 2024 American Welding Society-Detroit Section Scholarship Winners

AWS-Detroit Section, District 11 Fred Ellicott Scholarship for Arc Welding
Anthony Reszke, Ferris State University

AWS-Detroit Section, District 11 Dietrich Roth Scholarship for Resistance Welding
Ian McArthur, Ferris State University

The Amos and Marilyn Winsand Scholarship, funded by the AWS Foundation
Michael Garzelloni, Wayne State University

The Robert P. and Mardell D. Wilcox Scholarship, funded by the AWS Foundation
Cameron Scharboneau, Wayne State University

The Mardell D. Wilcox Scholarship, funded by the AWS Foundation
Gabrielle Lulis, St. Clair County Community College

The Robert L. Wilcox Scholarship
Jordan Martz, University of Michigan-Dearborn

The James W. Mitchell Scholarship
Collin Pratt, Ferris State University

AWS-Detroit Section Awardees

Sfaa Alaboody - Schoolcraft College
Gage Davis - Ferris State University
Kyle Drouillard - Ferris State University
Jessica Duff - Ferris State University
Luke Fountain - Ferris State University
Connor Gibbs - Ferris State University
Sophia Gugel - Oakland Community College
Victoria Hall - Ferris State University
Forrest Hamilton - Ferris State University
Christian Hutnik - Ferris State University
Ryan Konieczny - Ferris State University
Cody Langlois - Ferris State University
Seth LeFevre - Ferris State University
Brendan LeTissier - Ferris State University
Travis Lindquist - Monroe County Community College
Anthony Lizzio - Ferris State University
Gabrielle Lulis - St Clair County Community College
Devon Macdonald - Ferris State University
Abigail Markel - Ferris State University
Ian McArthur - Ferris State University
Logan Pethers - Ferris State University
Anthony Proffer - Ferris State University
Caleb Reimer - Ferris State University
Cole Rickert - Ferris State University
Cameron Scharboneau - Wayne State University
Trevor Townson - Ferris State University
Ethan Tupper - Ferris State University
Lance Wheeler - Ferris State University
Zackary Wright - Ferris State University
Madison Wutke - Wayne State University

Congratulations to all awardees! The scholarship process for the 2024-2025 school year will begin in December 2023.

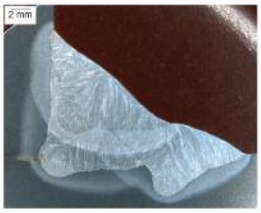
Donald F. Maatz, Jr., Section Scholarship Chairman

Thank You
AMERICAN WELDING SOCIETY

Kyle Drouillard
South Rockwood, MI
Ferris State University
Welding Engineering Technology
Detroit Section Scholarship
District 11 - 046-Northwest Ohio

Thank you for the generous scholarship! I am very honored to have been selected as a recipient of this scholarship. Thus far I have received my associate in applied science in Welding Technology in the spring of 2022, and I will be finishing the bachelor program for Welding Engineering Technology this upcoming Spring (2024). This past year I learned a lot about how to apply technology and critical thinking in a manufacturing and engineering setting. Additionally, I learned about resistance welding processes and where/how it is utilized in various industries. With the award of this scholarship, you have reduced my financial burden, which allows me to focus more on my classes and labs. I aim to do my best within the welding program, retaining knowledge and a competitive GPA.

Sincerely,
Kyle Drouillard



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