

RSR takes on Production Challenges – 2026 Q3 Edition

As the automotive industry continues to experience changes in design philosophy the need for robust joining solutions is higher than ever. New material families, manufacturing processes, part geometries and performance requirements are challenging the current joining landscape and especially those requiring mixed material joints for low ductility materials. We are taking this discussion with us to 21st edition of the AWS Sheet Metal Welding Conference (SMWC) in Novi, Michigan from November 3-5.



American Welding Society

Two years ago, an initial look into this space occurred when the RSR team presented **“Resistance Spot Riveting of Thick Wall Castings and Ultra High Strength Steels for Next Generation Body Structures”**. Initial feasibility of the technology and combinations were shown with a long development list to move the technology towards production readiness. Aluminum and magnesium castings were tested, cross sectioned and mechanically test with positive results but more questions had to be asked.



Figure 1 – Cross section of 3.8 mm Aluminum Die Casting joined to 2.0 mm Press Hardened Steel using RSR from 2024



Figure 2 – Untreated RSR Samples that were salt spray tested and then pulled in tensile shear, to be presented at SMWC

Now we are looking to fill the gaps when we present **“Advancing Mixed-Material Joining for Gigacast Structures: Robust Integration of Resistance Spot Riveting (RSR) in Sheet Metal Production”** on November 4, 2026. Join us during the aluminum gigacasting joining sessions where we will discuss the most pressing issues facing OEM's today, such as production disturbances and manufacturing flexibility.

In this session we will address topics such as disturbance conditions, corrosion and the necessary process monitoring and guidance to assist with mass production adoption.

While our talk will be focused on gigacasting joining, our team will be on site and ready to discuss the latest joining challenges facing our industry. Whether it is Magnesium, composites, ultra-high strength steels or more, see how RSR can create a robust production process for future architectures. Join us at the Vendor Night on November 4th as well to get hands on with us for all things RSR!

For more info about the conference, visit: [SMWC - AWS Detroit Section](#)

Want to learn more about this topic or RSR? Have feedback on the topic? Do you have a topic or development request for us?

Please reach out to your RSR representative. We would be happy to meet and discuss solutions for all your joining challenges!