



Buried arc GMAW Application in Hybrid Laser Arc Welding.

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Abstract:

Hybrid laser arc welding combines the high-energy focus of a laser beam with the robustness of the GMAW process and presents enhanced gap bridging capability and process stability, along with higher welding speed, deeper penetration and other advantages through each processes individually. Despite its high performance, industrial application may be limited due to cost and availability of high power laser sources for welding. In this study, the application of buried arc GMAW was evaluated in HLAW and compared with the performance of non-buried arc hybrid welding and laser welding. The laser power required for full penetration and bead characteristics were evaluated. The results suggest that the application of buried arc GMAW in hybrid laser arc welding may be a feasible alternative for process performance enhancement and reducing laser source acquisition cost.



Biography:

Natalia Wendt Dreveck is a researcher at SENAI Innovation Institute for Laser Processing, located in Joinville, Brazil. She focuses her studies in laser welding, hybrid laser arc welding and laser based additive manufacturing processes. In 2019, she completed her master's degree in materials science and engineering focusing on hybrid laser and arc welding.

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