Finally, Self Shielded Flux-Cored Structural Wires With Appeal

Overview
Operator appeal, that is. For decades, the welding industry has been moving away from the manual stick process to the semi-automatic self-shielded flux-cored wire process for general structural and steel erection applications. The gradual transition was born from simple economics; stick is inefficient compared to self-shielded wires (65% vs. 80%) and “arc-on” time much lower (25% vs. 35%). The numbers thrown out are estimates only – a more accurate comparison requires the exact products being compared - but the general point made holds water. Furthermore, if you consider that the cost of mild steel fabrication is at least 80% labor and the balance materials, it is clear that a continuous wire feeding process is far more productive than stick. The structural contractor who estimates a job using wire instead of stick is far more likely to win the bid. So why doesn’t everybody use self shielded wires for outdoor structural jobs?

The New Generation
Lincoln Electric was one of the first manufacturers to come out with an E71T-8 wire that ran well, Innershield NR-233, and more recently Hobart Brothers introduced the outstanding Fabshield XLR-8. These wires have changed, or are in the process of changing, the way structural fabricators are fabricating because, lo and behold, welders are embracing them. The issues with the first generation have largely been solved or at least minimized. While the welding technique is still unique and requires some practice, the sensitivity to voltage and electrical stickout is minimal making the “window” of procedural operability much wider and more forgiving. Additionally, and unlike the first generation, the weld bead (with the right welding procedure) tends to be flat, not ropey, and proper wet-in at the toes of the weld much easier to attain.

The Caveat
E71T-8 (AWS designation) wires have been the out of position structural wire of choice because of their outstanding mechanical properties but, until the last 5 years or so, have been notoriously difficult to weld when compared to structural stick electrodes like 7018. In short, their operator appeal was poor due to extreme voltage and electrical stickout sensitivity and the unconventional welding technique (like torch angle) required for satisfactory results. Structural contractors like happy welders, and the first generation of E71T-8 wires ran so poorly and required such a high level of training that a conversion to them was at least frustrating and at most impossible.

The Bottom Line
Often in the welding world there are tradeoffs and you have to be willing to give up something to gain something. If you want to run aluminum wire to increase travel speed/deposition rate, for example, don’t expect the deposit to look like a beautiful, stacked dimes TIG weld. In my judgment, though – and I do not have a bias toward certain manufacturers, just a bias toward the best products for our customers - there is no downside that comes with the upside of Lincoln’s Innershield NR-233 or Hobart’s Fabshield XLR-8. They are “best in class” and should be considered by any structural fabricator running first generation E71T-8 wires or manual stick electrodes. The bottom line is that these wires may improve your bottom line.

Did you know? General Air can save you money by implementing fabrication solutions that increase output and reduce labor costs. Contact our Productivity Enhancement Team at 303.892.7003 for a FREE consultation.