

NickelRod 55 & 99 Comparison

For Cast Iron



	Nickel Rod 99	Nickel Rod 55
General Description	High nickel, extruded electrode for production and repair of cast iron. Fabrication and repair. Pump housings, valves, castings, cast and malleable fittings.	Lower nickel content electrode for production, salvage and repair of all cast irons. Fabrication and repair. Pump housings, valves, castings, cast and malleable fittings.
Weld Deposit	Good machinability. Very hard weld deposit -- predominantly nickel.	More easily machineable. High strength.
Build Up, Fill holes, Repair Cracks	In all types of cast iron	Gray or alloyed cast irons
Out of Position Characteristics	Very good	Good
Requires Dismantling of Parts	Often not required	Often required
Color Match	Close color match to cast irons	Close color match to cast irons
Tensile Strength	Up to 50,000 PSI	Up to 70,000 PSI
AWS A5.15	ENiCl	EniFeCl
Pre-Heating	Not necessary, although for large parts, suggest pre-heating to 350F. min.	Min. pre-heat of 350 F required.
Weld fusion zone	Broader. Larger HAZ.	More narrow. Reduces hard areas of HAZ to a minimum
Cost	Higher because of high nickel content.	More economical because lower nickel content.

Suggested welding procedure:

- Use AC or DC reverse polarity.
- Vee out cracks with Aufhauser Groovees Cutting and Gouging Electrode or by grinding.
- Pre-heat heavy castings to 350 F min. for best results with Nickel Rod 55. Only necessary for large parts with Nickel Rod 99.
- Direct the arc on deposited metal with the electrode at a slight angle in the direction of travel
- With Nickel Rod 99, use a short arc; use stringer beads; skip or back-step weld and peen to relieve stresses; cool casting slowly
- With Nickel Rod 55, peen lightly between passes and use a skip or back-step welding technique
- Cool casting slowly with either rod