



## STOCKED SPECIAL PURPOSE GRADES

**COPPER FREE** Mild steel and low-alloy GTAW, GMAW and SAW for excellent x-ray quality welds and lower welding fumes. Many Midalloy low alloy "copper free" wires offer "low residuals" with x-factors  $\leq 15$  and J-factors under 130. All Midalloy "copper free" products come with MTRS showing actual chemical analysis at no extra charge.

**CRYOGENIC CONSUMABLES** Midalloy 308L"LF" and 316L"LF", low ferrite cryogenic wires are available in GTAW, GMAW, SAW and FCAW. These wires are pre-impact tested at  $-320^{\circ}$  F for cryogenic applications requiring impact toughness and high strength at low temperatures.

**Midalloy 209** (ER209) is a nitrogen strengthened, austenitic stainless steel grade exhibiting high strength and good toughness over a wide range of temperatures. Used primarily to weld Armco Nitronic® 30 band Nitronic® 50 base metals. Available in GTAW and GMAW.

**Midalloy 218** (ER218) is a nitrogen strengthened, high manganese and silicon, austenite stainless steel grade exhibiting high strength and good toughness over a wide range of temperatures. Primarily used to weld Armco Nitronic® 60 base materials. Available in GTAW and GMAW.

**Midalloy 2209** (ER2209) is a duplex grade used to weld standard duplex stainless steels such as 2205 (UNS 31803) and other duplex stainless, such as 2304, 2101 and 3RE60. It overmatches the base metal by 2-3% in nickel content to give the correct balance of austenite and ferrite in the microstructure in the as-welded condition. Available in GTAW, GMAW, FCAW, SAW and SMAW.

**Midalloy 2594** (ER2594) is a super duplex stainless steel used to weld super duplex stainless steels such as SAF 2507 (UNS 32750) and other 25% chromium duplex stainless steels. (ie. UNS 32760, UNS 32550 and UNS 31260). Available in GTAW, GMAW, SAW, SMAW and FCAW.

**Midalloy 307Si** (ER307Si) is an austenitic stainless grade with little or no ferrite. This grade is an excellent choice for dissimilar welds such as carbon steel to stainless steel, that requires PWHT, as well as corrosion resistance up to  $1560^{\circ}$  F. It is the primary product used to weld armor plate, manganese steel and wear plates to themselves and to other carbon and alloy steels. Also used for furnace components and as a buttering alloy under hard facing alloys. Available in GMAW and FCAW.

**Midalloy 310HC** (ER310HC) is a fully austenitic stainless steel grade for repairing high alloy heat and corrosion resistant castings of the same general composition, designated H K by the Alloy Casting Institute. Available in GTAW, GMAW and SMAW.

**Midalloy 316LMn** (ER316LMn) Din 1.4455 is an austenitic stainless steel wire primarily used in the cryogenic industry to obtain impact toughness and high strength. Midalloy 316LMn will join type 201, 304L, 316L, as well as 3% and 9% nickel alloy steels. All weld metal results performed at  $-320^{\circ}$  F and  $-452^{\circ}$  F give impact strengths of 25 ft. lbs. and 15 mils of lateral expansion. Available in GTAW, GMAW and SAW.

**Midalloy 320LR** (ER320LR) is vacuum melted to reduce levels of carbon, phosphorus and sulfur, which reduces microfissuring. Midalloy 320LR welds metals with similar composition, such as 20CB-3 in wrought and cast forms. Available in GTAW, GMAW and SMAW.

**Midalloy 2535R** (ER2535R) is designed to weld heat resistant steel castings of similar chemistry. Developed from 800 type alloys with increased chromium and nickel content for improved oxidation resistance. For applications up to  $1100^{\circ}$  C and resistant to severe thermal shock and fatigue. The major application for this alloy is centrifugally cast tubes for the petrochemical industry. Available in GTAW and GMAW.

**SPECIAL MELTS** When necessary Midalloy can provide special melts of filler material to meet a customer's exact specification. We use our experience and contacts with a worldwide group of premium alloy mills to produce excellent products for the most critical applications. Working on new product development is our specialty.