



HI-ALLOY 77

MAGNESIUM ALLOY

DESCRIPTION: Hi-Alloy 77 is a general purpose alloy for oxy-acetylene or TIG welding of various magnesium alloys. This product is a low temperature alloy that melts and flows at 1140° F which makes it a very wise choice for thin sheets or sections of magnesium.

TYPICAL APPLICATIONS: Hi-Alloy 77 is excellent for fabrication and repair of sheet metal, shipping dockboards, industrial hand trucks, wagons, and carts.

PROCEDURES: Carefully clean the base metal surfaces to be joined. Material 1/8" or more in thickness should be "V-ed" or double "V-ed".

For oxy-acetylene application, adjust torch for neutral to slightly carburizing flame, preheat part to 400° F, sprinkle on Hi-Alloy 77 flux, continue to heat broadly or indirectly to avoid charring the flux, when flux turns clear and liquefies melt a drop of 77 alloy onto the joint area and continue to heat, when the drop flows add additional alloy moving continuously through the joint.

For TIG welding, A/C current with EWP is generally preferred, especially on sections over 3/16", but on thinner sections DC Reverse with EWTH-2 is sometimes used because of its excellent cleaning action. Preheat to 200-300° F, maintain a very short arc, and weld with continuous stringer beads. Use multiple beads where thicker deposits are needed. The use of starting and stopping plates or welding center to edge beads may help minimize cracking.

Check manufacturers specifications for specific preheats and post weld heat treatment.

SIZES AVAILABLE: 3/32 1/8

TENSILE STRENGTH: Up to 40,000 psi

YIELD STRENGTH: Up to 23,000 psi

ELONGATION: Up to 10%

MELTING TEMPERATURE: 1140° F