MATHESON Select® Shielding Gas
He-25 for GTAW and GMAW on Aluminum

Faster travel speed and reduced porosity
This mixture of Helium and Argon enables higher arc energy than possible with 100% Argon. As a result, porosity is reduced, weld shape and penetration are improved, and higher travel speed is made practical. MATHESON Select® He-25 is also ideal for use on most other non-ferrous materials.

Typical challenges when welding on aluminum
• 100% Argon used on aluminum can often lead to porosity in the weld root
• Finger-shaped penetration is common with 100% Argon
• The low arc energy of 100% Argon fails to adequately clean out the oxides on aluminum surface, allowing them to be driven into and contaminate the weld

Key Benefits of He-25
• Higher arc energy leads to reduced porosity
• Higher arc energy allows faster travel speed
• Higher arc energy yields better penetration characteristics
• Higher arc energy promotes cleanup of oxides on the aluminum surface
• Faster travel speeds result in a reduced heat affected zone
• Better arc starting (GTAW)
• Better mechanical properties
• Improved bead appearance
• Lower ozone formation

Other Benefits
• Excellent arc stability
• Excellent wetting out characteristics
• Wider arc plasma allows larger gap and less demanding fit-up
• Less sensitive to arc voltage disruptions
• Certified homogenous mixture produces consistent results throughout the life of the cylinder
• More versatile than 100% Argon, He-25 can also be applied in fabrication with copper, magnesium, titanium, zirconium, and nickel-steel alloys (ask about application advantages on these materials)

All MATHESON Select® Shielding Gas Mixtures are certified to AWS A5.32 and ISO 14.175 Standards - the best choice for mixture quality, welding efficiency, and to ensure compliance in certified welding operations.