

MATHESON *Select*® Shielding Gas HC-1018 for FCAW on Carbon and Stainless Steels; GMAW on Galvanized Steel

Superior quality using stainless and carbon steel flux cored wires. Significantly reduced post-weld cleanup on galvanized material.

MATHESON *Select*® HC-1018 is a preferred alternative to 25% CO₂ in Argon because of its versatility, stronger and wider arc, faster travel speeds, and reduced fume emission.

Typical challenges when welding on steels

- With stainless steel, 25% CO₂ can produce high amounts of fume and hexavalent chromium emission
- On carbon steel, 25% CO₂ will be slower and will have a larger heat affected zone
- With galvanized steel, 25% CO₂ produces large droplets of spatter, which can lead to significant cleanup issues

Key Benefits of HC-1018

- Ideal for spray application over a wide range of voltages
- Wider, increased arc energy

Stainless and Carbon Steel:

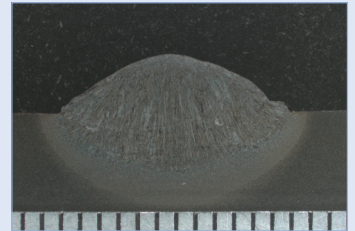
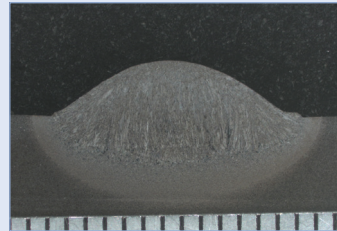
- Lower fumes and hexavalent chromium emissions
- Smooth and stable arc
- Low oxidation potential
- Improved wettability and bead profile
- Increased travel speeds

Galvanized Steel:

- Reduced porosity
- Decreased surface tension improves droplet transfer
- Reduced overall spatter and fumes are particularly apparent with galvanized material
- Spatter globules are smaller and cool before contact, which simplifies cleanup
- Reduced cleanup leads to reduced cost and improved operator appeal

MATHESON *Select*® HC-1018

75%Ar / 25%CO₂



Welds in carbon steel using normal spray arc. MATHESON *Select*® HC-1018 (left) shows improvements in weld shape compared to 75%Ar / 25%CO₂ (right).

Other Benefits

- Excellent mechanical properties with all materials
- Minimized vaporization of zinc oxides on galvanized materials
- Longer cylinder fill life - blended and homogeneously mixed to enable more complete usage of cylinder contents



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.

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Printed in USA TB168 4/2021



American Welding Society
Sustaining Company Member



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