

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

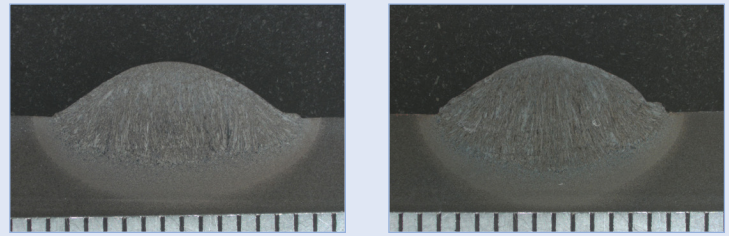
Stainless and Carbon Steel:

- 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.



Copyright 2026 Nippon Sanso Matheson, Inc. All Rights Reserved. All contents of this document are subject to change without notice and do not represent a commitment on the part of Nippon Sanso Matheson, Inc. Every effort is made to ensure the accuracy of this information. However, due to differences in actual and ongoing operational processes and product improvements and revisions, Nippon Sanso Matheson, Inc. cannot guarantee the accuracy of this material, nor can it accept responsibility for errors or omissions. This document is intended to serve as a general orientation and cannot be relied upon for a specific operation. No warranties of any nature are extended by the information contained in these copyrighted materials

All names, products, and services mentioned herein are the trademarks or registered trademarks of their respective organizations and are the sole property of their respective owners. Nippon Sanso Matheson and the Nippon Sanso Matheson logo are registered trademarks of Nippon Sanso Matheson, Inc.

Printed in USA TB166 3/2026



Tel: 877-684-4427
Email: mathesonsales@us.nipponsanso.com
www.us.nipponsanso.com