

StarGold™
LowHY 15

StarGold™
LowHY 25

PRAXAIR
Making our planet more productive

Reach for the Gold; *StarGold™ LowHY* Helps Reduce Weld Hydrogen Levels

For many years the welding industry has accepted the use of low hydrogen SMAW electrodes as a way to achieve good weld performance in challenging applications and environments. Praxair's focus on achieving greater welding productivity, while still meeting high weld quality standards, has resulted in the development of *StarGold LowHY* shielding gases. These blends help achieve low weld hydrogen levels when used with a variety of welding processes and a range of consumables.

Welds made using flux-cored and metal-cored wires with conventional shielding gases can have higher levels of weld hydrogen due to their specific formulations. In some instances, their tubular design may make them susceptible to moisture pick-up which can increase weld deposit hydrogen and the potential for cracking.



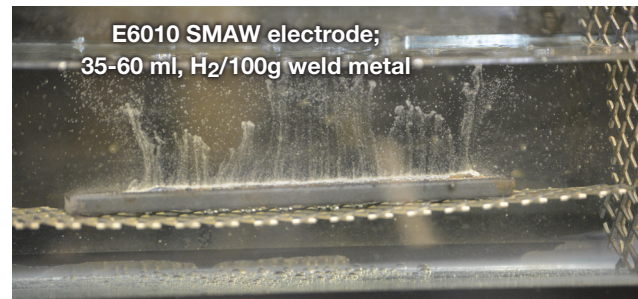
***StarGold LowHY* shielding gas blends help provide improved results for fabricators who:**

- Are concerned about achieving lower hydrogen content in the weld metal
- Want assurance that hydrogen levels can remain low even when storage of welding consumables may be subjected to extended atmospheric exposure
- Are welding in a humid environment
- Want to increase weld deposition rates while maintaining low hydrogen levels
- Desire more crack-resistant welds because of severe service conditions

The condition of the materials joined (surface contamination) and the environment in which welding is performed (higher humidity levels) can also increase weld hydrogen levels. *StarGold LowHY* shielding gas blends can lower these hydrogen levels and increase a weld's resistance to cracking even at high weld metal deposition rates.

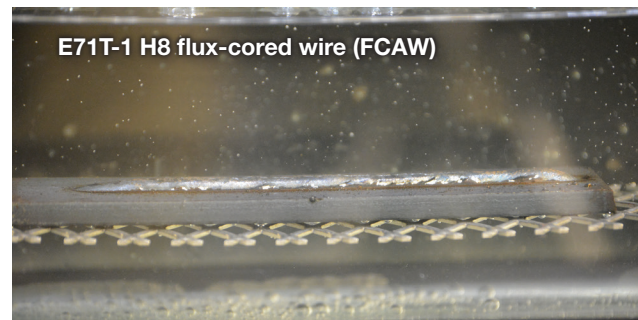
Praxair's *StarGold LowHY* shielding gases can help to reduce weld hydrogen levels from 20-50% using normal welding practices. This benefit can be realized without sacrificing good wire performance characteristics for both in and out of position welding.

***Praxair's StarGold LowHY* Shielding Gases: Help Lower Hydrogen Levels While Maintaining High Levels of Productivity**



E6010 SMAW electrode;
35-60 ml, H₂/100g weld metal

Significant amounts of hydrogen can be seen diffusing from this weld when it is placed in a warmed bath of mineral oil.



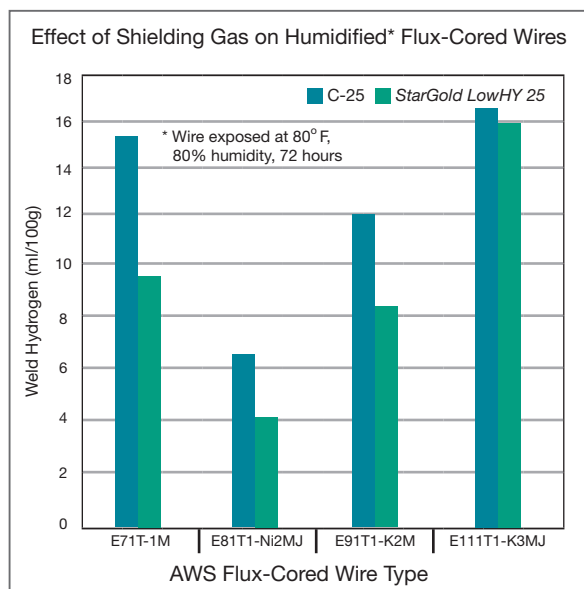
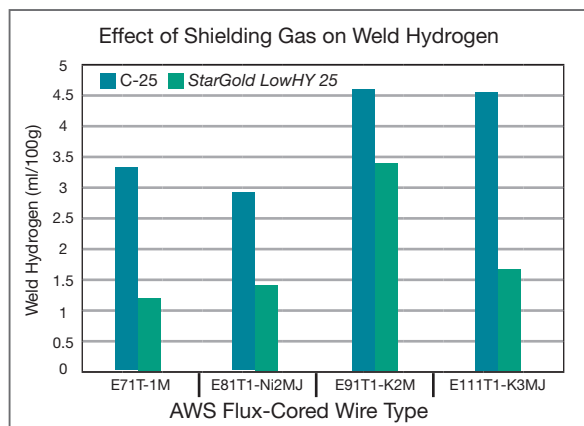
E71T-1 H8 flux-cored wire (FCAW)

No observable hydrogen bubbles from a low hydrogen weld deposit typically produced with *StarGold LowHY* shielding gas blends used with either flux-cored or metal-cored wire.

StarGold LowHY Gas Blends – Optimized for Welding a Range of Higher Strength Steels

Praxair's advanced shielding gases for joining medium and high alloy steels can be used to help lower weld metal hydrogen levels while still maintaining high levels of productivity. The stable arc and good performance characteristics produced also result in lower spatter levels and easier slag removal – that means higher deposition efficiency and greater productivity!

As shown below, reduced weld hydrogen levels can be achieved under conventional shop conditions as well as in high humidity environments where the potential for an increased level of weld hydrogen is likely.



Here are some of the benefits you may find when using StarGold LowHY:

- Lower weld hydrogen levels when using a wide range of tubular consumables and a variety of welding parameters
- Good arc stability/performance with high productivity flux and metal-cored wires
- Reduced spatter levels/less time required for post weld clean up and easier slag removal
- Lower weld hydrogen levels when welding in a high humidity environment or when using consumables that have been stored for extended periods prior to use
- Improved deposition efficiency and better deposition rate when compared with SMAW and GMAW for out-of-position welding
- Very good multi-pass welding performance
- Reduced fume levels when compared to the same consumables using CO₂ shielding gas blends
- All-process capability with one gas blend
- Less operator skill required when compared with SMAW

Top-to-Bottom Quality and Consistency

Praxair's StarGold LowHY shielding gases are carefully mixed to provide consistency at every cylinder pressure, resulting in exceptional mixture integrity from full to empty.

In addition to being available in cylinders, StarGold LowHY shielding gases can also be blended on-site using a bulk gas supply and Praxair's proprietary mixing system. Choose the mode of gas supply that suits your fabrication needs.

Canadian Welding Bureau Certification

Independent certification of Praxair's StarGold LowHY gas blends has been conducted using a range of consumable wires. These combinations have been validated for use to CSA fabrication standard W48-06. See your Praxair representative for the latest list of approved combinations.