

PRAXAIR'S STARGON™ – ARGON/CARBON DIOXIDE/OXYGEN BLEND FOR ALL FORMS OF GMAW (MIG/MAG WELDING)

Praxair's Stargon™ gas blend is a precise mixture of argon, carbon dioxide and oxygen. It is designed for use as a universal shielding gas for carbon steel welding applications. It operates well in all types of metal-transfer (i.e short-circuiting, pulsed and conventional spray, high deposition rotary arc).

Praxair's Stargon blend produces good arc characteristics and excellent weld metal mechanical properties with a wide variety of steels. Used in spray transfer, Praxair's Stargon blend provides high deposition rates and higher travel speeds than carbon dioxide. It also works well for out-of-position pulsed spray and short arc welding.

Product Features

- Multipurpose/Universal.
- "One gas mix does it all."
- Good wetting characteristics.
- Low oxidizing potential.
- Controlled CO₂ and O₂ additions.
- High productivity/ideally suited for robotics.
- Low fume levels.

Benefits

- Can be used for all types of GMAW/wide operating range.
- Optimized mix for a variety of shop applications.
- Good bead profile.
- Excellent surface appearance.
- Permits a short, controllable arc length for use on thin gauge material; optimum penetration.
- 20-30% improvement in weld travel speed vs. CO₂.
- 50-100% lower fume levels when compared with CO₂ shielding.

Typical Applications

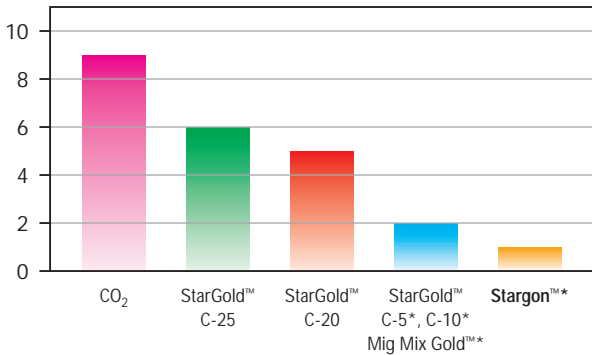
- Short arc, pulsed and spray arc transfer for joining various thickness steel sections for mobile cranes, earth-moving and farm equipment.
- For thin gauge carbon steel pipe used in sprinkler systems, auto-body repair.
- Universal performance features make Praxair Stargon gas blend ideal for robotic arc applications.
- Can be used with specially formulated flux-cored and metal-cored wires.

Performance Characteristics

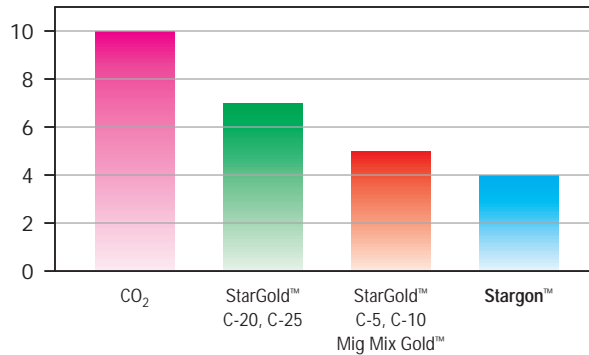
Illustrated below are comparisons between shielding gas blends used with ER70S-3 and ER70S-6 solid wire electrodes over a range of current levels.

They are intended to provide suggestions for gas blend selection based on the criteria indicated.

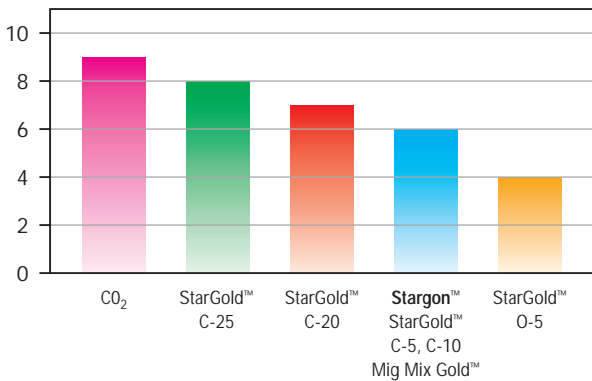
Spatter (10 = most, 1 = least) * Spray arc transfer



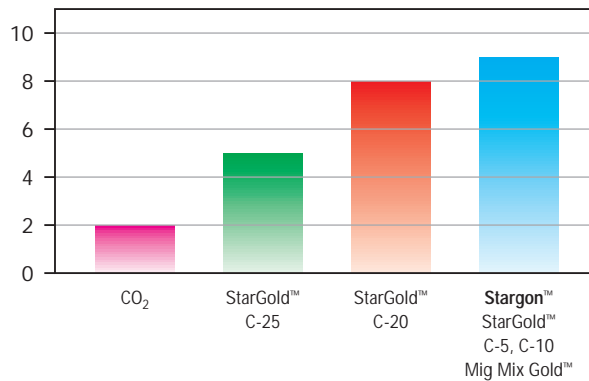
Fume (10 = most, 1 = least)



Penetration (10 = most, 1 = least)



Travel Speed (10 = most, 1 = least)



Note: The selection of the appropriate shielding gas can become quite complex due to the large variety of operating conditions (base metal, chemistry and thickness, metal transfer, wire

selection, welding position, etc). Please consult with your Praxair representative for the best option available for your application.

Welding Conditions Selection Table

Wire diameter (inches)	Wire feed speed (ipm)	Current level (amps)	Voltage (volts)*
0.035 (1.0 mm)	150-280	100-175 (short arc)	15-19
0.035 (1.0 mm)	350-550	180-205 (spray)	25-27
0.045 (1.2 mm)	300-500	250-310 (spray)	27-31
0.063 (1.6 mm) metal-cored	150-300	250-400 (spray)	29-32

*Voltage level for 60 Hz power supply. With 50 Hz, add 3 volts.



Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810-5113
Tel: 1-800-PRAXAIR
Fax: 1-800-772-9985
Internet: www.praxair.com
e-mail: info@praxair.com

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