

Welding Gases



Stargon™ AL Welding Blend
Improve Aluminum Welding Performance
and Travel Speeds

Typical Applications:

- Automotive, truck and trailer manufacturing
- Ship and boat hulls
- Truck bodies and tool boxes
- Loading ramps
- Rail car structures and panels
- Radiators and heat transfer equipment
- General aluminum fabrication

Praxair's *Stargon* AL welding blend for aluminum helps fabricators improve weld quality in GMAW and GTAW processes.

Designed And Optimized For Aluminum GMAW And GTAW Welding Processes

Praxair's *Stargon* AL welding blend is an advanced shielding gas for welding aluminum. *Stargon* AL blend is a carefully prepared proprietary blend of argon with precisely controlled ppm (parts per million) additions of active gases, and it is versatile for use in both GMAW and GTAW processes.

When compared to pure argon, *Stargon* AL blend provides better arc control, penetration and weld puddle placement, resulting in improved weld speeds and weld quality.

By increasing arc stability, arc energy and overall arc performance, Praxair's *Stargon* AL blend improves bead appearance, can reduce the cleaning zone, and provides better wetting and weld penetration – increasing process weld quality and operator appeal.

Stargon AL Welding Blend Performance With GMAW

Stargon AL welding blend increases arc stability, energy and performance in GMAW processes, which provides better wetting, fusion and penetration. It also improves weld quality, bead appearance and operator appeal.

Features:

- Improved weld fusion and penetration
- Better arc stability
- Improved wetting
- Reduced spatter
- Smoother looking welds

Bead Appearance



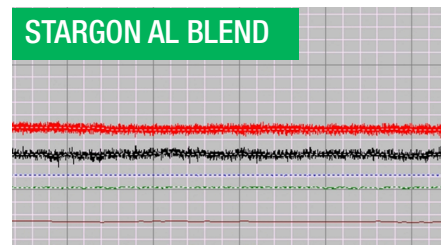
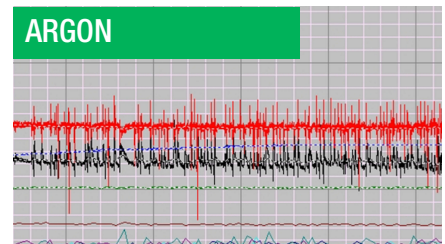
Stargon AL gas blend provides a consistent, regular arc with reduced surface tension for better wetting and a smoother bead.

Weld Penetration

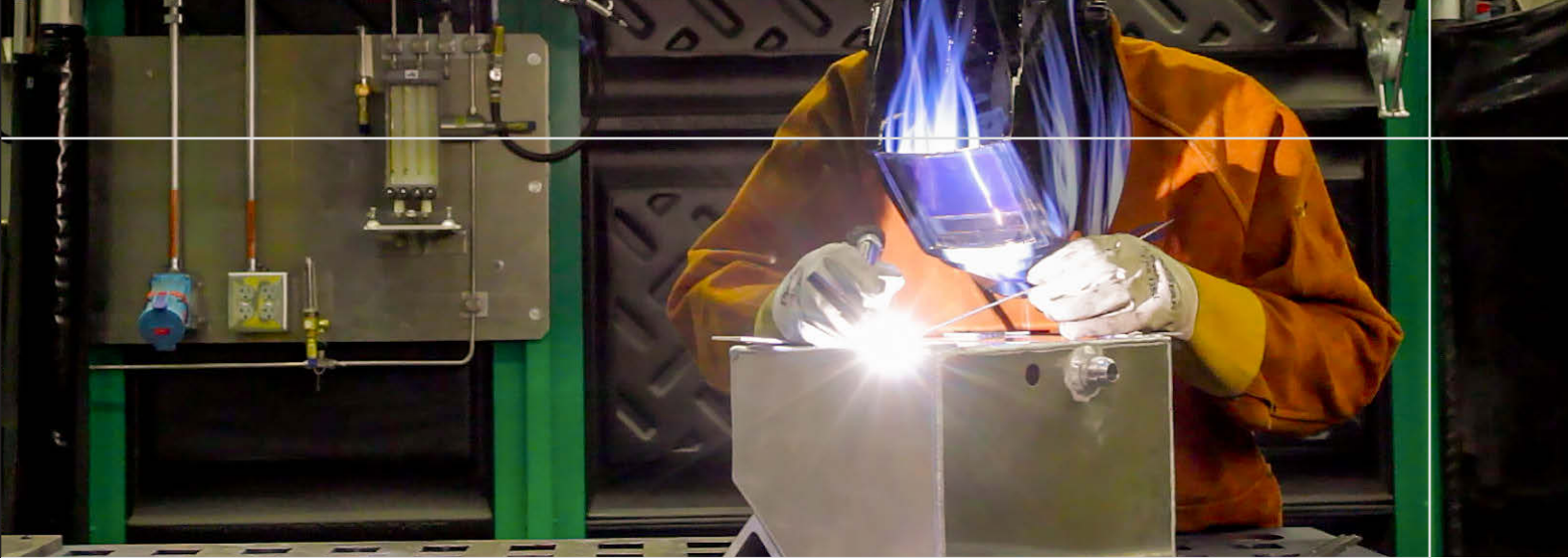


Stargon AL gas blend provides greater penetration than argon.

Arc Stability



Stargon AL gas blend provides improved stability when compared to argon, as seen in the arc monitoring signals above.



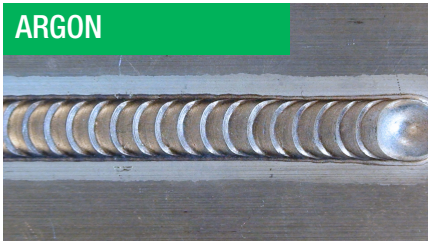
Stargon AL Welding Blend Performance With GTAW

Stargon AL welding blend powerfully impacts the GTAW processes. The improved arc stability, energy and performance provide significant gains in weld placement and bead appearance, the reduction of the cleaning zone, and improved weld fusion and penetration, as well as faster travel speeds.

Features:

- Excellent arc stability
- Reduced cleaning zone
- Improved weld fusion and penetration
- Smoother welds
- Improved wetting

Bead Appearance



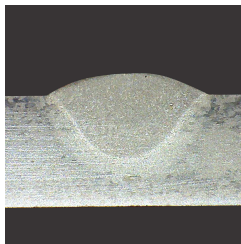
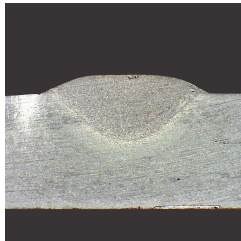
ARGON



STARGON AL BLEND

Welds made with Stargon AL gas blend result in a smaller cleaning zone with a smoother weld surface.

Weld Penetration



Stargon AL gas blend provides greater penetration than argon.

Arc Stability



ARGON



STARGON AL BLEND

Stargon AL gas blend provides improved stability with less arc wander, as seen in the above pictures.

Improve Aluminum Welding Performance With Praxair's Stargon AL Welding Blend



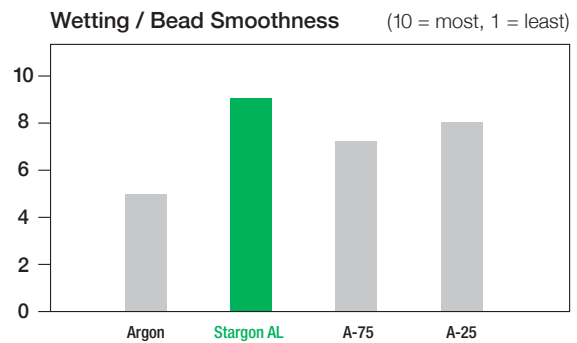
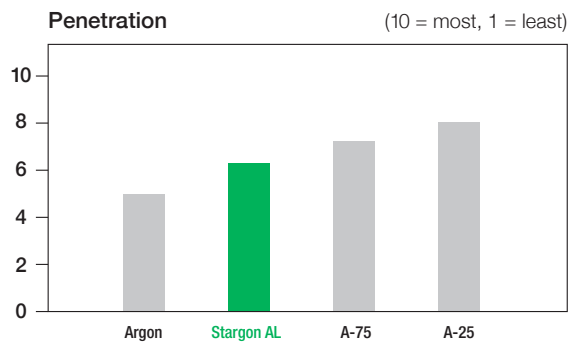
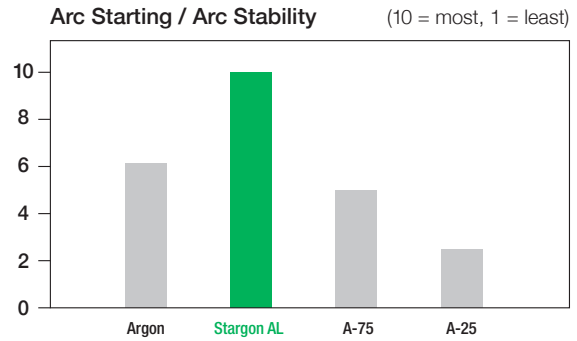
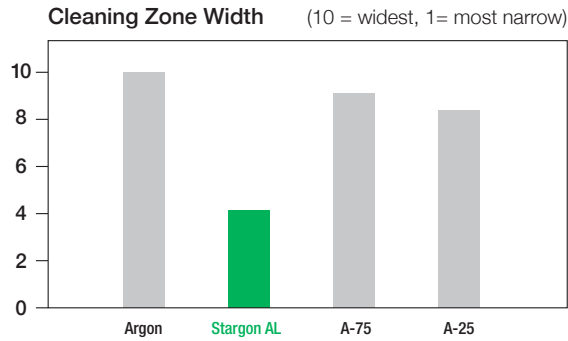
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Performance Characteristics

The charts below compare Praxair's *Stargon AL* and other gas blends. To discover the best shielding gas options for your application, contact your local Praxair representative.



TIG Welding Suggested Parameters

SHIELDING GAS	Aluminum thickness (inches)	Tungsten Electrode Diameter (inches)	Current Level (amps)	Filler Diameter (inches)	Gas Flow (cfh)
Stargon AL	1/16-1/8	1/16-3/32	60-150	3/32-1/8	15-20
	3/16	1/8	180-220	1/8	20-25
	1/4	3/16	220-300	1/8-3/16	25-30
	3/8	3/16-1/4	280-370	3/16	30-35

MIG Welding Suggested Parameters

SHIELDING GAS	Wire Diameter (inches)	Aluminum thickness (inches)	Wire Feed Speed (ipm)		Amps		Volts	
			4xxx	5xxx	4xxx	5xxx	4xxx	5xxx
Stargon AL	3/64	3/32	170	220	110	120	25	24
		1/8	270	330	150	160	26	25
		1/4	320	370	190	220	26	25
		3/8	390	450	220	230	27	25
	1/16	1/4	170	200	200	210	26	24
		3/8	200	230	230	240	27	25
		1/2	240	270	260	270	28	26
		3/4	260	300	280	290	29	27
		1	280	320	300	310	30	28

The charts above provide approximate welding parameters as starting points only. Qualified welding procedures utilizing test practices should be developed for actual production weldments.